

DRAFT

**Meridian South Campus Specific Plan and Village West Drive
Extension Draft Subsequent EIR**

State Clearinghouse No. 2020059028

Prepared for:

March Joint Powers Authority

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Table of Contents

<u>Section</u>	<u>Page No.</u>
ACRONYMS AND ABBREVIATIONS	ACR-i
1 EXECUTIVE SUMMARY	1-1
1.1 Introduction.....	1-1
1.2 Document Organization	1-1
1.3 Project Background.....	1-2
1.4 Project Description	1-3
1.4.1 Project Overview	1-3
1.4.2 Project Objectives	1-5
1.5 Areas of Known Controversy.....	1-6
1.6 Required Permits and Approvals.....	1-7
1.7 Impacts Determined to be Significant.....	1-10
1.8 Effects Found Not to be Significant.....	1-10
1.9 2003 Focused EIR Mitigation Measures	1-10
1.10 Summary of Environmental Impacts and Mitigation.....	1-18
1.11 Summary of Project Alternatives	1-54
1.11.1 Alternatives Evaluated.....	1-54
1.11.2 Environmentally Superior Alternative	1-56
2 INTRODUCTION	2-1
2.1 Purpose and Scope	2-1
2.2 Compliance with CEQA.....	2-1
2.2.1 Format	2-1
2.2.2 Environmental Procedures.....	2-3
2.2.3 Incorporated by Reference.....	2-4
2.2.4 NOP Comments and Scoping Meeting	2-5
2.3 References Cited	2-5
3 PROJECT DESCRIPTION	3-1
3.1 Project Location.....	3-1
3.2 Project Background.....	3-1
3.3 Project Objectives.....	3-2
3.4 Existing Conditions	3-3
3.4.1 Roadways	3-3
3.4.2 Park, Trail, and Open Space System	3-3
3.4.3 Buildings.....	3-4
3.5 Proposed Project	3-5
3.5.1 Project Characteristics	3-5
3.5.2 Project Construction	3-7

3.5.3 California Environmental Quality Act 3-9

3.5.4 Requested Approvals and Entitlements 3-10

4 ENVIRONMENTAL ANALYSIS 4-1

4.1 Aesthetics 4.1-1

4.1.1 Existing Conditions..... 4.1-1

4.1.2 Relevant Plans, Policies, and Ordinances 4.1-3

4.1.3 Thresholds of Significance 4.1-3

4.1.4 Impacts Analysis 4.1-4

4.1.5 Mitigation Measures..... 4.1-6

4.1.6 Level of Significance After Mitigation 4.1-6

4.1.7 Cumulative Effects..... 4.1-6

4.1.8 References Cited 4.1-7

4.2 Air Quality..... 4.2-1

4.2.1 Existing Conditions..... 4.2-2

4.2.2 Relevant Plans, Policies, and Ordinances 4.2-9

4.2.3 Thresholds of Significance 4.2-15

4.2.4 Approach and Methodology 4.2-19

4.2.5 Impacts Analysis 4.2-25

4.2.6 Mitigation Measures..... 4.2-44

4.2.7 Level of Significance After Mitigation 4.2-48

4.2.8 Cumulative Effects..... 4.2-51

4.2.9 References Cited 4.2-51

4.3 Biological Resources 4.3-1

4.3.1 Existing Conditions..... 4.3-1

4.3.2 Relevant Plans, Policies, and Ordinances 4.3-15

4.3.3 Thresholds of Significance 4.3-20

4.3.4 Impacts Analysis 4.3-21

4.3.5 Mitigation Measures..... 4.3-32

4.3.6 Level of Significance After Mitigation 4.3-35

4.3.7 Cumulative Effects..... 4.3-36

4.3.8 References Cited 4.3-37

4.4 Energy 4.4-1

4.4.1 Existing Conditions..... 4.4-2

4.4.2 Relevant Plans, Policies, and Ordinances 4.4-3

4.4.3 Thresholds of Significance 4.4-10

4.4.4 Impacts Analysis 4.4-10

4.4.5 Mitigation Measures..... 4.4-16

4.4.6 Level of Significance After Mitigation 4.4-16

4.4.7 Cumulative Effects..... 4.4-16

4.4.8 References Cited 4.4-17

4.5	Geology and Soils	4.5-1
4.5.1	Existing Conditions.....	4.5-1
4.5.2	Relevant Plans, Policies, and Ordinances	4.5-6
4.5.3	Thresholds of Significance	4.5-9
4.5.4	Impacts Analysis	4.5-10
4.5.5	Mitigation Measures.....	4.5-12
4.5.6	Level of Significance After Mitigation	4.5-13
4.5.7	Cumulative Effects.....	4.5-13
4.5.8	References Cited	4.5-13
4.6	Greenhouse Gas Emissions.....	4.6-1
4.6.1	Existing Conditions.....	4.6-2
4.6.2	Relevant Plans, Policies, and Ordinances	4.6-5
4.6.3	Thresholds of Significance	4.6-27
4.6.4	Approach and Methodology	4.6-28
4.6.5	Impacts Analysis	4.6-32
4.6.6	Mitigation Measures.....	4.6-46
4.6.7	Level of Significance After Mitigation	4.6-50
4.6.8	Cumulative Effects.....	4.6-50
4.6.9	References Cited	4.6-50
4.7	Hazards and Hazardous Materials	4.7-1
4.7.1	Existing Conditions.....	4.7-2
4.7.2	Relevant Plans, Policies, and Ordinances	4.7-2
4.7.3	Thresholds of Significance	4.7-4
4.7.4	Impacts Analysis	4.7-5
4.7.5	Mitigation Measures.....	4.7-5
4.7.6	Level of Significance After Mitigation	4.7-6
4.7.7	Cumulative Effects.....	4.7-6
4.7.8	References Cited	4.7-7
4.8	Hydrology and Water Quality.....	4.8-1
4.8.1	Existing Conditions.....	4.8-1
4.8.2	Relevant Plans, Policies, and Ordinances	4.8-9
4.8.3	Thresholds of Significance	4.8-18
4.8.4	Impacts Analysis	4.8-19
4.8.5	Mitigation Measures.....	4.8-31
4.8.6	Level of Significance After Mitigation	4.8-32
4.8.7	Cumulative Effects.....	4.8-33
4.8.8	References Cited	4.8-34
4.9	Land Use and Planning.....	4.9-1
4.9.1	Existing Conditions.....	4.9-1
4.9.2	Relevant Plans, Policies, and Ordinances	4.9-2
4.9.3	Thresholds of Significance	4.9-7

4.9.4	Impacts Analysis	4.9-8
4.9.5	Mitigation Measures.....	4.9-22
4.9.6	Level of Significance After Mitigation	4.9-23
4.9.7	Cumulative Effects.....	4.9-23
4.9.8	References Cited	4.9-24
4.10	Noise	4.10-1
4.10.1	Acoustic Terminology and Existing Conditions.....	4.10-1
4.10.2	Relevant Plans, Policies, and Ordinances.....	4.10-11
4.10.3	Thresholds of Significance	4.10-19
4.10.4	Impacts Analysis	4.10-23
4.10.5	Mitigation Measures.....	4.10-70
4.10.6	Level of Significance After Mitigation	4.10-71
4.10.7	Cumulative Effects.....	4.10-71
4.10.8	References Cited	4.10-72
4.11	Recreation.....	4.11-1
4.11.1	Existing Conditions.....	4.11-1
4.11.2	Relevant Plans, Policies, and Ordinances.....	4.11-2
4.11.3	Thresholds of Significance	4.11-5
4.11.4	Impacts Analysis	4.11-5
4.11.5	Mitigation Measures.....	4.11-7
4.11.6	Level of Significance After Mitigation	4.11-7
4.11.7	Cumulative Effects.....	4.11-7
4.11.8	References Cited	4.11-7
4.12	Transportation	4.12-1
4.12.1	Existing Conditions.....	4.12-2
4.12.2	Methodology.....	4.12-12
4.12.3	Relevant Plans, Policies, and Ordinances.....	4.12-18
4.12.4	Thresholds of Significance	4.12-29
4.12.5	Impacts Analysis	4.12-33
4.12.6	Project Design Feature, Improvement Measures, and Mitigation Measures	4.12-71
4.12.7	Level of Significance after Mitigation	4.12-92
4.12.8	Cumulative Effects.....	4.12-93
4.12.9	References Cited	4.12-94
4.13	Tribal Cultural Resources.....	4.13-1
4.13.1	Existing Conditions.....	4.13-2
4.13.2	Relevant Plans, Policies, and Ordinances.....	4.13-11
4.13.3	Thresholds of Significance	4.13-13
4.13.4	Methodology.....	4.13-14
4.13.5	Impacts Analysis	4.13-14
4.13.6	Mitigation Measures.....	4.13-15
4.13.7	Level of Significance After Mitigation	4.13-17

4.13.8	Cumulative Effects.....	4.13-18
4.13.9	References Cited	4.13-18
4.14	Utilities and Service Systems.....	4.14-1
4.14.1	Existing Conditions.....	4.14-1
4.14.2	Relevant Plans, Policies, and Ordinances	4.14-9
4.14.3	Thresholds of Significance	4.14-16
4.14.4	Impacts Analysis	4.14-17
4.14.5	Mitigation Measures.....	4.14-27
4.14.6	Level of Significance After Mitigation	4.14-27
4.14.7	Cumulative Effects.....	4.14-28
4.14.8	References Cited	4.14-30
4.15	Wildfire	4.15-1
4.15.1	Existing Conditions.....	4.15-1
4.15.2	Relevant Plans, Policies, and Ordinances	4.15-6
4.15.3	Thresholds of Significance	4.15-13
4.15.4	Impacts Analysis	4.15-13
4.15.5	Mitigation Measures.....	4.15-15
4.15.6	Level of Significance After Mitigation	4.15-15
4.15.7	Cumulative Effects.....	4.15-15
4.15.8	References Cited	4.15-16
5	OTHER CEQA CONSIDERATIONS	5-1
5.1	Introduction.....	5-1
5.2	Effects Found Not to Be Significant	5-1
5.2.1	Agricultural Resources.....	5-1
5.2.2	Cultural Resources	5-1
5.2.3	Mineral Resources.....	5-1
5.2.4	Population and Housing.....	5-2
5.2.5	Public Services.....	5-2
5.3	Significant and Unavoidable Environmental Effects	5-2
5.4	Significant Irreversible Changes.....	5-3
5.5	Growth-Inducing Impacts	5-4
5.6	References Cited	5-5
6	ALTERNATIVES	6-1
6.1	Introduction.....	6-1
6.2	Project Objectives.....	6-1
6.3	Alternatives Considered But Rejected	6-3
6.3.1	Alternate Site	6-4
6.3.2	No Development	6-4
6.4	Alternatives Under Consideration.....	6-4
6.4.1	Existing Conditions.....	6-5

6.4.2	Alternative 1 – No Project	6-6
6.4.3	Alternative 2 – South Campus Re-Entitlement Only	6-19
6.4.4	Alternative 3 – Business Park.....	6-31
6.5	Evaluation of Alternatives	6-43
6.6	Environmentally Superior Alternative	6-43
7	LIST OF PREPARERS	7-1
7.1	Lead Agency.....	7-1
7.2	Dudek.....	7-1
7.3	Subconsultants.....	7-1

Appendices

A	IS-NOP-Scoping Letters
B	Air Quality
C	Health Risk Assessments
D	Biological Resources
E	Energy Calculations
F	Geology
G	GHG Report
H	Hazards
I	Hydro-Water Quality
J	Noise Study
K	Transportation
L	Tribal Cultural Resources
M	Water Supply Assessment-Utilities

Figures

3-1	Project Location.....	3-13
3-2	Existing Conditions.....	3-15
3-3	Proposed Project	3-17
3-4A	Originally Approved South Campus Configuration	3-19
3-4B	Currently Approved South Campus Configuration.....	3-21
3-4C	Proposed South Campus Configuration.....	3-23
3-5	Commercial Plot Plan.....	3-25
3-6	Building D Plot Plan.....	3-27
3-7	Dog Park and Paseo Plot Plan.....	3-29
3-8	Transportation Element Amendment.....	3-31
3-9	Tentative Tract Map	3-33
3-10	Village West Drive Extension Plan	3-35

4-1 Cumulative Projects 4-5

4.2-1 Sensitive Receptor Locations 4.2-55

4.3-1 Vegetation Communities and Land Uses within the South Campus Specific Plan Biological Study Area..... 4.3-39

4.3-2 Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area 4.3-41

4.3-3 Aquatic Resources Delineation for the Village West Drive Extension Project Biological Study Area..... 4.3-43

4.5-1 Existing Topography 4.5-15

4.8-1 Master Drainage Plan Areas..... 4.8-37

4.8-2 Proposed Water Quality Features, North Portion of Phase II..... 4.8-39

4.8-3 Proposed Water Quality Features, South Portion of Phase II 4.8-41

4.9-1 March ARB/Inland Port Air Installation Compatible Use Zone Noise Contours..... 4.9-25

4.9-2 March ARB/Inland Port Airport Land Use Compatibility Plan 4.9-27

4.9-3 Truck Route Plan 4.9-29

4.10-1 March Air Reserve Base Noise Contours 4.10-73

4.10-2 Noise Measurement Locations 4.10-75

4.10-3 Noise Sensitive Receiver Locations 4.10-77

4.10-4 Operational Noise Source Locations..... 4.10-79

4.10-5 Construction Noise Source Locations 4.10-81

4.10-6 Nighttime Construction Activity Locations 4.10-83

4.12-1 Study Area..... 4.12-97

4.12-2 March Joint Powers Authority General Plan Circulation Element..... 4.12-99

4.12-3 March Joint Powers Authority General Plan Roadway Cross-Sections..... 4.12-101

4.12-4 March Business Center General Plan Amendment Roadway System 4.12-103

4.12-5 County of Riverside General Plan Circulation Element..... 4.12-105

4.12-6 County of Riverside General Plan Roadway Cross-Sections..... 4.12-107

4.12-7 City of Riverside General Plan Circulation Element 4.12-109

4.12-8 City of Riverside General Plan Roadway Cross-Sections 4.12-111

4.12-9 City of Moreno Valley General Plan Circulation Element 4.12-113

4.12-10 City of Moreno Valley General Plan Roadway Cross-Sections 4.12-115

4.12-11 March Business Center Truck Routes..... 4.12-117

4.12-12 Existing Transit Routes 4.12-119

4.12-13 Existing Pedestrian Facilities Exhibit..... 4.12-121

4.12-14 Site Adjacent Roadway and Site Access Recommendations 4.12-123

4.14-1 Water System 4.14-31

4.14-2 Sewer System 4.14-33

4.14-3 Storm Drain System 4.14-35

Tables

1-1 2003 Approved, Current, and Proposed South Campus Land Uses..... 1-4

1-2 Summary of Project Impacts 1-19

1-3 Alternative 1 Build-Out Land Uses 1-54

1-4 Alternative 2 Build-Out Land Uses 1-55

1-5 Alternative 3 Build-Out Land Uses 1-56

1-6 Comparison of Project and Alternatives Impacts 1-56

3-1 Existing South Campus Development..... 3-4

3-2 2003 Approved, Current, and Proposed South Campus Land Uses..... 3-5

3-3 Construction Schedule..... 3-7

3-4 Construction Equipment Assumptions..... 3-8

4-1 Related Projects 4-3

4.2-1 Project Area Air Quality Monitoring Summary 2017 – 2019..... 4.2-4

4.2-2 South Coast Air Basin Attainment Classifications..... 4.2-5

4.2-3 Ambient Air Quality Standards.....4.2-10

4.2-4 South Coast Air Quality Management District Air Quality Significance Thresholds.....4.2-15

4.2-5 Maximum Daily Localized Construction Emissions Thresholds.....4.2-17

4.2-6 Maximum Daily Localized Operational Emissions Thresholds4.2-18

4.2-7 Construction Schedule.....4.2-20

4.2-8 Construction Equipment Assumptions.....4.2-20

4.2-9 Maximum Daily Construction Emissions – Without Mitigation.....4.2-28

4.2-10 Proposed Project Land Uses Operational Emissions4.2-31

4.2-11 Built/Entitled Land Uses Operational Emissions4.2-31

4.2-12 Proposed Project + Built/Entitled Land Uses Operational Emissions.....4.2-32

4.2-13 2003 Approved South Campus EIR Operational Emissions.....4.2-33

4.2-14 Proposed Project Net Emissions4.2-33

4.2-15 Localized Significance Summary of Construction – Without Mitigation4.2-34

4.2-16 Localized Significance Summary of Operations – Without Mitigation4.2-36

4.2-17 Carbon Monoxide Model Results4.2-38

4.2-18 Maximum Daily Construction Emissions – With Mitigation4.2-49

4.3-1 Vegetation Communities and Land Uses within the South Campus Specific Plan Biological Study Area..... 4.3-2

4.3-2 Special-Status Wildlife Species with Potential to Occur within the South Campus Specific Plan Biological Study Area 4.3-4

4.3-3 Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area 4.3-7

4.3-4 Special-Status Wildlife Species with Potential to Occur within the Village West Drive Extension Project Biological Study Area.....4.3-10

4.3-5	Jurisdictional Wetlands and Non-Wetland Waters Summary within the Village West Drive Extension Project Biological Study Area.....	4.3-12
4.3-6	CDFW Jurisdictional Wetlands Summary within the Village West Drive Extension Project Biological Study Area	4.3-13
4.3-7	Vegetation Communities/Land Use Project Impacts for the South Campus Specific Plan	4.3-27
4.3-8	Vegetation Communities/Land Use Project Impacts Within the Village West Drive Extension Project Site	4.3-28
4.4-1	Hours of Operation for Construction Equipment.....	4.4-12
4.4-2	Construction Equipment Diesel Demand	4.4-13
4.4-3	Construction Worker Vehicle Gasoline Demand	4.4-13
4.4-4	Construction Vendor Truck Diesel Demand.....	4.4-14
4.4-5	Petroleum Consumption – Operation	4.4-15
4.6-1	Global Warming Potential and Atmospheric Lifetime of Select Greenhouse Gases.....	4.6-4
4.6-2	Top Greenhouse Gas Producing Countries and the European Union	4.6-5
4.6-3	Construction Schedule.....	4.6-28
4.6-4	Construction Equipment Assumptions.....	4.6-29
4.6-5	Amortized Annual Construction Emissions.....	4.6-32
4.6-6	Proposed Project Land Uses Operational Greenhouse Gas Emissions (without Mitigation)	4.6-33
4.6-7	Built/Entitled Land Uses Operational Greenhouse Gas Emissions (without Mitigation)	4.6-33
4.6-8	Proposed Project + Built/Entitled Land Uses Greenhouse Gas Emissions	4.6-33
4.6-9	2003 Approved South Campus Greenhouse Gas Emissions.....	4.6-34
4.6-10	Proposed Project Net Greenhouse Gas Emissions	4.6-34
4.6-11	2008 Scoping Plan Consistency Summary.....	4.6-36
4.6-12	2017 Scoping Plan Consistency Summary.....	4.6-38
4.6-13	Climate Action Plan Consistency	4.6-43
4.6-14	Project Consistency with the SCAG Connect SoCal RTP/SCS.....	4.6-45
4.6-15	Proposed Project Land Uses Operational Greenhouse Gas Emissions (with Mitigation)	4.6-50
4.8-1	Identified Receiving Waters.....	4.8-4
4.9-1	2003, Current and Proposed South Campus Land Uses	4.9-8
4.9-2	Project Consistency with 2016 RTP/SCS Goals.....	4.9-9
4.9-3	Project Consistency with the SCAG Connect SoCal RTP/SCS.....	4.9-10
4.9-4	South Campus Land Use Changes Consistency with March JPA General Plan Goals	4.9-12
4.10-1	Typical Noise Levels.....	4.10-2
4.10-2	Noise Level Increase Perception.....	4.10-5
4.10-3	Typical Levels of Ground-Borne Vibration and Human Response.....	4.10-7
4.10-4	24-Hour Ambient Noise Level Measurement Results.....	4.10-8
4.10-5	Land Use Compatibility for Community Noise Environments	4.10-12
4.10-6	Summary of Applicable Operational Noise Standards.....	4.10-16
4.10-7	Summary of Applicable Construction Noise Standards	4.10-18

4.10-8	Vibration Noise Standards.....	4.10-19
4.10-9	Significance of Permanent Noise Increase Impacts at Noise-Sensitive Receivers.....	4.10-20
4.10-10	Significance Thresholds Summary.....	4.10-22
4.10-11	Off-Site Roadway Parameters Used in Noise Modeling.....	4.10-23
4.10-12	Existing (No Project) Noise Contours	4.10-25
4.10-13	Existing With Project Conditions Noise Contours	4.10-28
4.10-14	Opening Year Cumulative (2024) Without Project Noise Contours	4.10-30
4.10-15	Opening Year Cumulative (2024) With Project Noise Contours.....	4.10-32
4.10-16	Horizon Year (2040) Without Project Noise Contours	4.10-34
4.10-17	Horizon Year (2040) With Project Noise Contours.....	4.10-36
4.10-18	Traffic Noise Level Changes Existing Versus Existing With Project.....	4.10-38
4.10-19	Traffic Noise Level Changes Year 2024 Versus Year 2024 With Project.....	4.10-42
4.10-20	Traffic Noise Level Changes Year 2040 Versus Year 2040 With Project.....	4.10-45
4.10-21	Hourly Average Noise Level Measurement Results for Reference Sound Sources	4.10-49
4.10-22	Percentile Reference Noise Level Measurements Results for Reference Sound Sources.....	4.10-50
4.10-23	Project Operational Noise Levels (Daytime)	4.10-50
4.10-24	Project Operational Noise Levels (Nighttime).....	4.10-53
4.10-25	Operational Noise Level Compliance (Daytime)	4.10-56
4.10-26	Operational Noise Level Compliance (Nighttime)	4.10-56
4.10-27	Project Operational Noise Level Contributions (Daytime).....	4.10-58
4.10-28	Project Operational Noise Level Contributions (Nighttime)	4.10-58
4.10-29	Construction Reference Noise Levels.....	4.10-60
4.10-30	Daytime Construction Equipment Noise Level Summary (dBA L_{eq})	4.10-61
4.10-31	Daytime Construction Equipment Noise Level Summary (dBA L_{max}).....	4.10-62
4.10-32	Nighttime Concrete Pour Equipment Noise Levels	4.10-63
4.10-33	Daytime Construction Noise Level Compliance With Standards.....	4.10-64
4.10-34	Nighttime Construction Noise Level Compliance With Standards	4.10-66
4.10-35	Unmitigated Daytime Temporary Construction Noise Level Increases	4.10-67
4.10-36	Unmitigated Nighttime Temporary Construction Noise Level Increases	4.10-67
4.10-37	Construction Activity Vibration Levels	4.10-69
4.12-1	Intersection Analysis Locations	4.12-5
4.12-2	Freeway Mainline Segment Analysis Locations.....	4.12-6
4.12-3	Intersection Analysis for Existing (2019) Conditions	4.12-8
4.12-4	Existing Conditions Peak-Hour Freeway Off-Ramp Queuing.....	4.12-11
4.12-5	Existing Conditions Freeway Segment Analysis.....	4.12-11
4.12-6	Signalized Intersection LOS Thresholds	4.12-15
4.12-7	Unsignalized Intersection Level of Service Thresholds.....	4.12-16
4.12-8	Traffic Signal Warrant Analysis Locations.....	4.12-16

4.12-9	Description of Freeway Mainline Level of Service.....	4.12-17
4.12-10	Description of Freeway Merge/Diverge Level of Service	4.12-18
4.12-11	LOS Standards by Jurisdiction ¹	4.12-30
4.12-12	City of Riverside – Standards	4.12-32
4.12-13A	2016 RTP/SCS Consistency Analysis	4.12-34
4.12-13B	Project Consistency with the SCAG Connect SoCal RTP/SCS.....	4.12-34
4.12-14	Proposed Project Trip Generation Summary	4.12-37
4.12-15	Existing plus Project Intersection Analysis.....	4.12-42
4.12-16	Existing plus Project Freeway Segment Analysis.....	4.12-45
4.12-17	Opening Year Cumulative (2024) Peak Hour Intersection Analysis.....	4.12-50
4.12-18	Opening Year Cumulative (2024) Freeway Segment Analysis	4.12-53
4.12-19	Horizon Year (2040) Peak Hour Intersection Analysis.....	4.12-59
4.12-20	Horizon Year Traffic Conditions Freeway Segment Analysis.....	4.12-62
4.12-21	Employment Estimates	4.12-64
4.12-22	Project HBW VMT per Employee.....	4.12-64
4.12-23	Project VMT per Employee Comparison.....	4.12-65
4.12-24	Existing plus Project Peak-Hour Freeway Off-Ramp Queuing.....	4.12-68
4.12-25	Opening Year Cumulative (2024) with Project Peak-Hour Freeway Off-Ramp Queuing.....	4.12-69
4.12-26	Horizon Year (2040) with Project Peak-Hour Freeway Off-Ramp Queuing.....	4.12-70
4.12-27	Intersection Analysis for Horizon Year (2040) Conditions with Improvements.....	4.12-79
4.12-28	Freeway Facility Analysis for Horizon Year (2040) Conditions With Improvements.....	4.12-82
4.12-29	Summary of Improvements by Analysis Scenario and Project Fair Share.....	4.12-83
4.12-30	Cumulative Western Riverside Council of Governments VMT.....	4.12-93
4.13-1	Previously Recorded Cultural Resources Within the Project Site.....	4.13-5
4.13-2	Summary of Native American Outreach.....	4.13-6
4.13-3	Assembly Bill 52 Native American Heritage Commission–Listed Native American Contacts.....	4.13-10
4.14-1	Normal Year Supply and Demand Comparison	4.14-3
4.14-2	Multiple-Dry Years Supply and Demand Comparison	4.14-3
4.14-3	Existing and Approved Wastewater Generation	4.14-5
4.14-4	Existing On-Site Solid Waste Output	4.14-8
4.14-5	Projected On-Site Wastewater Generation	4.14-19
4.14-6	2003 Approved South Campus Wastewater Generation	4.14-19
4.14-7	Proposed Project Net Wastewater Generation.....	4.14-20
4.14-8	Projected On-Site Solid Waste Output	4.14-25
4.14-9	2003 Approved South Campus vs. Proposed Project Solid Waste	4.14-26
4.15-1	Fire History within 5 Miles of the South Campus Specific Plan and Village West Drive Extension Project site.....	4.15-4
6-1	Comparison of Project and Alternatives Impacts	6-3

6-2 Existing South Campus Development..... 6-6

6-3 Alternative 1 Build-Out Land Uses 6-6

6-4 Alternative 1 Operational Emissions..... 6-8

6-5 Alternative 1 and Proposed Project Operational Emissions Comparison..... 6-9

6-6 Alternative 1 Trip Generation Summary..... 6-14

6-7 Summary of Alternative 1 Success at Meeting Project Objectives 6-18

6-8 Alternative 2 Build-Out Land Uses 6-19

6-9 Alternative 2 Operational Emissions..... 6-21

6-10 Alternative 2 and Proposed Project Operational Emissions Comparison..... 6-22

6-11 Alternative 2 Trip Generation Summary..... 6-26

6-12 Summary of Alternative 2 Success at Meeting Project Objectives 6-30

6-13 Alternative 3 Build-Out Land Uses 6-31

6-14 Alternative 3 Operational Emissions..... 6-33

6-15 Alternative 3 and Proposed Project Operational Emissions Comparison..... 6-34

6-16 Alternative 3 Trip Generation Summary..... 6-39

6-17 Summary of Alternative 3 Success at Meeting Project Objectives 6-42

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
ADT	average daily traffic
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AFB	Air Force Base
AFY	acre-feet per year
AICUZ	Air Installation Compatible Use Zone
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
AQMP	Air Quality Management Plan
ARB	Air Reserve Base
BAU	business as usual
bgs	below ground surface
BMP	best management practice
BO	Biological Opinion
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CadnaA	Computer Aided Noise Abatement
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California Lawrence Berkeley National Laboratory Greenhouse Gas Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CIWMB	California Integrated Waste Management Board
CMP	Congestion Management Program
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers

Acronym/Abbreviation	Definition
County	County of Riverside
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DPM	diesel particulate matter
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHSZ	fire hazard severity zone
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
GCC	global climate change
GHG	greenhouse gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWP	global warming potential
HAP	hazardous air pollutant
HBW	home-based work
HCM	Highway Capacity Manual
HCOC	Hydrologic Conditions of Concern
HDT	heavy-duty truck
HFC	hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
I	Interstate
IEPR	Integrated Energy Policy Report
in/sec	inches per second
IPA	Inland Port Airport
IRWMP	Integrated Regional Water Management Plan
ITE	Institute of Transportation Engineers
JPA	Joint Powers Authority
LBNL	Lawrence Berkeley National Laboratory
LCFS	Low-Carbon Fuel Standard
L _{DN}	day/night average sound level
L _{eq}	noise equivalent sound level
LID	low-impact development
LOS	level of service
LST	localized significance threshold
MDP	Master Drainage Plan
mgd	million gallons per day

Acronym/Abbreviation	Definition
MM	mitigation measure
MMT	million metric tons
MPO	metropolitan planning organization
MS4	municipal separate storm sewer system
MSHCP	Multiple Species Habitat Conservation Plan
MT	metric ton
MWELO	Model Water Efficient Landscape Ordinance
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning
NDC	nationally determined contribution
NPDES	National Pollutant Discharge Elimination System
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOP	Notice of Preparation
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NWW	Non-Wetland Water
O ₃	ozone
OHWM	ordinary high water mark
OPR	Governor's Office of Planning and Research
PCB	polychlorinated biphenyl
PDF	Project Design Feature
PFC	perfluorocarbon
PM ₁₀	particulate matter with an aerodynamic diameter equal to or less than 10 microns
PM _{2.5}	particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
Project	South Campus Specific Plan and Village West Drive Extension Project
PSM	Process Safety Management
RCEM	Roadway Construction Emissions Model
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCFD	Riverside County Fire Department
RCHCA	Riverside County Habitat Conservation Agency
RCRA	Resource Conservation and Recovery Act
RFS	Renewable Fuel Standard
RivTAM	Riverside County Transportation Analysis Model
RMP	Risk Management Plan
RMS	root mean square
RPS	Renewables Portfolio Standard
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin

Acronym/Abbreviation	Definition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SEIR	Subsequent Environmental Impact Report
SF ₆	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SHS	State Highway System
SKR HCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SO ₂	sulfur dioxide
SoCalGas	Southern California Gas Company
SO _x	sulfur oxides
SP	service population
SRA	Source Receptor Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAZ	Traffic Analysis Zone
TCR	tribal cultural resource
TDM	Transportation Demand Management
TIA	Traffic Impact Analysis
TMDL	total maximum daily load
TUMF	Transportation Uniform Mitigation Fee
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VA	United States Department of Veterans Affairs
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCRWA	Western Riverside County Regional Wastewater Authority
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments
WSA	Water Supply Assessment
WWRF	Western Water Recycling Facility

1 Executive Summary

1.1 Introduction

This Subsequent Environmental Impact Report (SEIR) has been prepared by the March Joint Powers Authority (March JPA) as lead agency pursuant to the California Environmental Quality Act (CEQA) Public Resources Code Section 21000 et seq., and the CEQA Guidelines (California Code of Regulations, Section 15000 et seq.). This SEIR has been prepared to evaluate the environmental effects of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project). The purpose of this SEIR is to focus the discussion on those potential effects on the environment of the Project that the lead agency has determined may be significant. In addition, feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

The Project site is located within the southwestern portion of the March JPA jurisdiction. More specifically, the Project site is located in the South Campus of the Meridian Business Center, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the Project site. The Village West Drive extension component of the Project is located to the east and south of South Campus.

1.2 Document Organization

This SEIR is organized as follows:

Chapter 1, Executive Summary, outlines the conclusions of the environmental analysis and provides a summary of the proposed Project and the Project alternatives analyzed in the SEIR. This section also includes a table summarizing all environmental impacts identified in the SEIR along with the associated mitigation measures proposed to reduce or avoid each impact.

Chapter 2, Introduction, serves as a forward to the SEIR, introducing the Project, the applicable environmental review procedures, and the organization of the SEIR.

Chapter 3, Project Description, provides a thorough description of the Project setting, objectives, characteristics, operation, and construction of the proposed Project and required discretionary approvals.

Chapter 4, Environmental Impact Analysis, describes the potential environmental impacts of the proposed Project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 4 is organized by 15 environmental issue areas as follows:

- Aesthetics
- Air Quality
- Biological Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

For each environmental issue area, the analysis and discussion are organized into the following subsections:

- Existing Conditions – This subsection provides information describing the existing setting on or surrounding the Project site that may be subject to change as a result of the implementation of the Project. The setting discussion also describes the comparative conditions that exist between the environmental baseline from the 2003 March Business Center Specific Plan and Focused Environmental Impact Report (SCH No. 2002071089) (2003 Focused EIR) and any physical changes up until the Notice of Preparation was sent to responsible agencies and the State Clearinghouse.
- Relevant Plans, Policies, and Ordinances – This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the proposed Project.
- Thresholds of Significance – This subsection identifies a set of thresholds by which the level of impact is determined.
- Impacts Analysis – This subsection provides a detailed analysis regarding the environmental effects of the proposed Project, and whether the impacts of the proposed Project would meet or exceed the thresholds of significance.
- Mitigation Measures – This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse Project impacts.
- Level of Significance After Mitigation – This subsection discusses whether Project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the SEIR. If applicable, this subsection also identifies any residual significant and unavoidable adverse impacts of the proposed Project that would result even with implementation of all feasible mitigation measures.
- Cumulative Effects – This subsection includes an evaluation of the potential cumulative impacts of the proposed Project in combination with identified related projects.
- References Cited – This subsection includes a list of all references cited within the preceding discussion and analysis.

Chapter 5, Other CEQA Considerations, addresses impact areas determined to be less than significant through the Initial Study process, significant environmental effects that cannot be avoided, the significant irreversible environmental changes that would result from implementation of the proposed Project, and growth-inducing impacts associated with the proposed Project.

Chapter 6, Alternatives, discusses alternatives to the proposed Project, including a No Project Alternative. This chapter describes the rationale for selecting the range of alternatives discussed in the SEIR and identifies the alternatives considered by March JPA that were rejected from further discussion as infeasible during the scoping process. Lastly, Chapter 6 includes a discussion of the environmental impacts of the alternatives that were carried forward for analysis and identifies the Environmentally Superior Alternative.

Chapter 7, List of Preparers, gives names and contact information of those responsible for writing this SEIR.

Appendices include various technical studies prepared for the proposed Project, as listed in the Table of Contents.

1.3 Project Background

In 1993, the federal government mandated the realignment of March Air Force Base and a substantial reduction in its military use. In April 1996, March Air Force Base was re-designated an Air Reserve Base. Approximately 4,400

acres of land that had historically supported March Air Force Base were no longer needed to support the March Air Reserve Base. The cities of Moreno Valley, Perris, and Riverside, and the County of Riverside formed the March JPA to oversee the dispensation and management of the surplus land. A General Plan and Master Environmental Impact Report (EIR) were prepared and adopted/certified in 1999 for the JPA planning area, which includes the March Air Reserve Base.

The 2003 Focused EIR, which guides land use decisions within a 1,290-acre portion of the JPA planning area, was adopted and certified in 2003. Within the March Business Center Specific Plan, two separate “campuses,” North Campus and South Campus, were identified, along with the potential for a possible third campus. The South Campus components of the March Business Center Specific Plan, identified as Phase III, have been analyzed under both CEQA and the National Environmental Policy Act in the following documents:

- Final Environmental Impact Statement: Disposal of Portions of March Air Force Base (February 1996)
- Final Environmental Impact Report for the March Air Force Base Redevelopment Project (June 1996)
- Redevelopment Plan for the March Air Force Base Redevelopment Project (June 1996)
- March Joint Powers Authority Development Code (July 1997)
- General Plan of the March Joint Powers Authority (September 1999)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (September 1999)
- March Business Center Specific Plan (February 2003)
- March JPA General Plan Amendment (February 2003)
- March Business Center Design Guidelines (November 2003)
- Addenda to the certified 2003 Focused EIR, focused on the South Campus, including:
 - Meridian South Campus Specific Plan Amendment SP-1, A6 – Parcel Delivery Terminal Project Addendum (September 2017)
 - Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018)

1.4 Project Description

1.4.1 Project Overview

The proposed Project would involve amending the South Campus Specific Plan, which is a portion of the March Business Center Specific Plan, to shift the mix of land uses (see Figure 3-3, Proposed Project) to result in similar environmental impacts compared to (1) the South Campus development originally approved in 2003 (2003 Approved South Campus) (as shown in Figure 3-4A, 2003 Approved South Campus Configuration); and (2) the currently approved South Campus development (Current South Campus) (as shown in Figure 3-4B, Currently Approved South Campus Configuration). The 2003 Focused EIR was a project-level EIR that analyzed the March Business Center Specific Plan, which included the South Campus. This SEIR will consider the environmental impact “delta” between the environmental impacts of the 2003 Approved South Campus that were already evaluated and accounted for in the 2003 Focused EIR and the proposed South Campus Specific Plan.¹ However, any environmental issues that were not addressed in the previous environmental documents for the South Campus Specific Plan (i.e., energy impacts and the Village West Drive extension), will be evaluated anew. The proposed Project is shown in Figure 3-3, Proposed Project, and a comparison to the 2003 Approved South Campus and Current South Campus is provided in Table 3-2.

¹ *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949.

A comparison of the land uses proposed as part of the Project to the land uses authorized under the 2003 Approved South Campus and Current South Campus is provided in Table 1-1.

Table 1-1. 2003 Approved, Current, and Proposed South Campus Land Uses

Use	2003 Approved South Campus (acres)	Current South Campus (acres)	Proposed South Campus (acres)	Change from Current Approval (acres)
Office	43.9	32.0	4.6	-27.4
Commercial	12.5	6.4	23.5	+17.1
Mixed Use	48.5	23.3	27.8	+4.5
Business Park	263.2	232.1	170.8	-61.3
Industrial	146.8	134.5	200.3	+65.8
Park/Open Space	111.6	125.0	140.3	+15.3
Public Facilities**	0	0	0.9	+0.9
Total Net Acres	626.5	553.3	568.2	+14.9*

Notes:

* Change in total net acres due to inclusion of 10-acre lot previously excluded, reconfiguration of internal road system, and rounding differences.

** The requested land use change is to make the land use designation consistent with the existing electrical substation.

The 2003 Focused EIR evaluated impacts of the 2003 Approved South Campus's 514.9 acres of developable land and 111.6 acres of Park/Open Space. As shown in Table 1-1, the proposed Project would reduce developable acreage by 87.9 acres to 427 acres and increase Park/Open Space by 28.7 acres to 140.3 acres. The proposed Project thus significantly reduces the developable acreage.

The proposed Project also includes Plot Plan approvals for the following components of the South Campus buildout. Each of these are discussed below:

- **Commercial Parcel:** Commercial development, totaling 14,267 square feet, has been constructed on the northern 3.5 acres of the parcel located at the southeast intersection of Orange Terrace Parkway and Van Buren Boulevard. The proposed Project seeks approval to construct additional commercial use, specifically a grocery store, in the southern 9.4 acres of that Commercial parcel. A total of 61,336 square feet of additional Commercial use with a total of 345 parking spaces would be constructed (PP 20-03). The proposed Project also seeks approval of a conditional use permit to allow alcohol sales at the grocery store. This area was designated as Office in the 2003 Approved South Campus, as well as in the Current South Campus.
- **Building D:** The proposed Building D (PP 20-04) would be constructed west of Coyote Bush Road and north of Krameria Avenue on a parcel that is 36.5 acres in size. The building would be an 800,000-square-foot industrial warehouse located across the street from the existing Building C. This area was designated as Business Park and Mixed Use in the 2003 Approved South Campus and the Current South Campus.
- **Dog Park and Paseo:** A 6.2-acre dog park and paseo (PP 20-05) would be constructed on the eastern side of Barton Street across from the Santa Inez Way and Barton Street intersection. The dog park and paseo would extend to Caroline Way and provide an open space connection to Krameria Avenue. This area was designated as Business Park and Commercial in the 2003 Approved South Campus and the Current South Campus.
- **Caroline Way:** Caroline Way would be constructed from the west end of Krameria Avenue north to the end of the proposed Building D where it would turn to the right and connect with Coyote Bush Road. This road

would generally be in the same location as the previously planned roadways for the 2003 Approved South Campus and Current South Campus.

- **Village West Drive Extension:** The improved portions of Village West Drive currently terminate at Lemay Drive, south of Krameria Avenue. The proposed Project would include improvements to and the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. This improvement is included as part of PP 20-03, discussed above. The improved Village West Drive would require the removal of an abandoned water tank currently owned by Western Municipal Water District that formerly served March Air Force Base, followed by the construction of two through lanes, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway. The total roadway width would be 54 feet, and the improvements are expected to be for 4,330 linear feet (approximately 1,720 linear feet of which is the existing roadway that runs in front of the Westmont Village retirement community). The extension would require an amendment to the Transportation Element of the March JPA General Plan. Note that extension of Village West Drive would require an easement from the United States Department of Veterans Affairs (VA). The VA has discussed accessing its future Cemetery expansion area via an under- or over-pass across Village West Drive; however, the timing of the VA's development of its Cemetery expansion area is unknown. An under- or over-pass improvement is neither planned nor approved and the VA is considering alternatives.

Additionally, the SEIR analyzes up to 700,000 square feet of high-cube cold storage warehousing within the South Campus Specific Plan. The proposed Project is requesting text revisions to the definitions of “Wholesale, Storage and Distribution – Medium” and “Wholesale, Storage and Distribution – Heavy” to accommodate the cold storage use.

The proposed Project also is requesting a text revision to the definition of “Business Enterprise” in the Specific Plan. The Business Enterprise land use typically includes wholesale, storage, and warehousing services and storage and wholesale to retailers from the premises of finished goods and food products. Business Enterprise uses are permitted in the Business Park, Industrial, and Mixed Use land designations. As currently defined, the Business Enterprise use is typically conducted within an enclosed building, occupying 50,000 square feet or less of building space. The proposed Project would revise the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

Additionally, the proposed Project requests the text addition of a definition for “Grocery Store” in the Specific Plan along with the inclusion of “Grocery Store” as a permitted use not requiring a use permit within the Commercial land use designation within the Specific Plan. Alcohol sales at grocery stores would still require a use permit.

1.4.2 Project Objectives

The proposed Project requests an amendment to the existing South Campus components of the Meridian Business Center Specific Plan (South Campus Specific Plan) to shift land uses between parcels. The proposed Project would not develop any land within the South Campus Specific Plan area that was not already approved for development, nor would the Project encroach upon the March Air Reserve Base or its operations. The Meridian Business Center Specific Plan project objectives identified in the 2003 Focused EIR included the following:

- Implement the goals, objectives, and policies of the March JPA General Plan
- Provide increased job opportunities for local residents through the provision of employment-generating uses
- Establish an attractive business park development that will blend the natural and built environment and create a high-quality business park development

- Provide for the design, development, and operation of a business park consisting of industrial, research and development, office, commercial, and open space uses
- Establish a land use and facility plan that assures project viability in consideration of existing and anticipated economic conditions
- Ensure a business park development that conforms to the March JPA goals and values and the protection of adjacent land uses from incompatibility
- Develop the property with land uses that are compatible with the March Air Force Base Reuse plan
- Encourage the use of alternative modes of transportation through the provision of a pedestrian circulation system that is both safe and comfortable
- Ensure that businesses within the March Business Center Specific Plan provide a range of job types for the community's residents
- Provide a circulation system that facilitates movement and access needs of automobiles, pedestrians, and bicyclists
- Minimize impacts from construction of the development to sensitive biological resources

To reflect the evolving community priorities and environmental regulatory landscape, the Project's proposed mix of uses has been designed to reduce the environmental impacts compared to the 2003 Approved South Campus, as well as the Current South Campus. As such, the objectives of this Project are as follows:

- Respond to community requests for community serving land uses, including a dog park and additional retail uses, such as restaurants and stores.
- Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.
- Site community serving uses in locations easily accessible from Van Buren Boulevard.
- Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.
- Implement the goals, objectives, and policies of the March JPA General Plan.
- Provide increased job opportunities for local residents through the provision of employment-generating businesses.
- Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.
- Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient, and comfortable.
- Provide a range of job types for the community's residents.
- Minimize impacts from construction of the development to sensitive biological resources.
- Implement the terms and conditions agreed upon in the September 12, 2012, Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in *Center for Biological Diversity v. Jim Bartel, et al.*

1.5 Areas of Known Controversy

A public scoping period was held to solicit input on the scope of the analysis for the SEIR between May 18 and June 19, 2020. Additionally, a virtual scoping meeting conducted via Zoom was held by March JPA on June 9, 2020. The

purpose of this meeting was to seek input from public agencies and the general public regarding the potential environmental impacts of the proposed Project. Approximately 11 people attended the scoping meeting and 10 written comments were received during the scoping period. Comment letters are included in Appendix A of this SEIR. The public comments, questions, and concerns that were received at the scoping meeting, as well as in writing, generally pertained to the following topics:

- Construction truck traffic
- Changes to traffic patterns and roadways since the preparation of the 2002 traffic impact analysis
- Changes to traffic and travel patterns with the proposed Village West Drive Extension to Nandina Avenue
- Tribal consultations requirements, pursuant to Assembly Bill 52 and Senate Bill 18
- Solid waste generation and landfills serving the Riverside County area
- Air quality impacts from construction and operation
- Preference for specific commercial tenants

1.6 Required Permits and Approvals

To facilitate Project approval, the following would be required; details for each component are provided below.

- **General Plan Amendment:** GP 20-01
- **Specific Plan Amendment (SP-1, Amendment 8):** SP 20-01
- **Plot Plan:** PP 20-03 45,000-square-foot Grocery Store and two shop buildings and Village West Drive extension
- **Plot Plan:** PP 20-04 Building D South Campus and Caroline Way
- **Plot Plan:** PP 20-05 South Campus Dog Park and Paseo
- **Conditional Use Permit:** CUP 20-02 for Alcohol sales at 45,000-square-foot Grocery Store
- **Tentative Parcel Map:** TPM 20-02 South Campus

General Plan Amendment

The following are proposed changes to the General Plan Land Use Map:

- Increase of 15.3 acres of Parks/Open Space
- Increase of 65.8 acres of Industrial
- Increase of 17.1 acres of Commercial
- Increase of 4.5 acres of Mixed Use
- Increase of 0.9 acres of Public Facilities
- Reduction of 27.4 acres of Office
- Reduction of 61.3 acres of Business Park

Per Table 1-1, under the proposed Project, the totals would be 4.6 acres of Office, 23.5 acres of Commercial, 27.8 acres of Mixed-Use, 170.8 acres of Business Park, 200.3 acres of Industrial, 140.3 acres of Park/Open Space, and 0.9 acres of Public Facilities. The amendment would modify Figures 1-4A, 1-4B, 2-1A, 2-1B, 2-3A, and 2-3B of the General Plan.

Additionally, an amendment to the Transportation Element of the General Plan will be required for roadway alignment changes and the Village West Drive extension Transportation Element Amendment. The revised street configuration is shown in Figure 3-8, Transportation Element Amendment. Through these revisions, the following changes are incorporated:

- Remove Street K, Street Q, Street T, and Street U
- Reconfigure Street Y and rename as Caroline Way
- Reconfigure Street P and rename as Gless Ranch Road
- Prohibit trucks on Gless Ranch Road
- Extend Village West Drive south to Nandina Avenue

Specific Plan Amendment

The following Specific Plan changes would result in a revised March Business Center Specific Plan (SP-1, Amendment #8) through modification of the land use designation and zoning of several areas and will specifically modify Figures II-1A, II-1B, II-3, II-4, II-5A, II-5B, II-5C, III-1B, V-1, V-2, V-II, V-3, V-4, V-5A, V-5B, V-5C, V-5C1, V-5E, V-5E1, V-5F, V-5G, V-6, VI-1, VI-2, VI-3, and VI-4 of the March Business Center Specific Plan (SP-1).

- Increase of 15.3 acres of Parks/Open Space
- Increase of 65.8 acres of Industrial
- Increase of 17.1 acres of Commercial
- Increase of 4.5 acres of Mixed Use
- Increase of 0.9 acres of Public Facilities
- Reduction of 27.4 acres of Office
- Reduction of 61.3 acres of Business Park

Under the proposed Project, the totals would be 4.6 acres of Office, 23.5 acres of Commercial, 27.8 acres of Mixed-Use, 170.8 acres of Business Park, 200.3 acres of Industrial, 140.3 acres of Park/Open Space, and 0.9 acres of Public Facilities.

The proposed Project requests the following Specific Plan text amendments (shown as underlined text):

- Amend the definition of “Business Enterprise” as follows:
Business Enterprise: Activities typically include: wholesale, storage, and warehousing services and storage and wholesale to retailers from the premises of finished goods and food products. Activities under this classification are typically conducted in enclosed buildings and occupy 50,000 square feet or less of building space. Within the South Campus, activities under this classification may occupy 200,000 square feet or less of divisible building space. May include incidental display and retail sales from the premises, not to exceed 25% of the building.
- Amend the definition of “Wholesale, Storage and Distribution- Medium” as follows:
Wholesale, Storage and Distribution - Medium: Activities typically include: wholesale, storage and warehousing services, including cold storage, moving and storage services, storage and wholesaling to retailers from the premises of finished goods and food products, and distribution facilities for large scale

retail firms. Activities under this classification are typically conducted in enclosed buildings and occupy greater than 50,000 square feet of building space.

- Amend the definition of “Wholesale, Storage and Distribution – Heavy” as follows:
Wholesale, Storage and Distribution - Heavy: Activities typically include: warehousing, storage, freight handling, shipping, trucking services and terminals; storage and wholesaling from the premises of unfinished, raw or semi-refined products requiring further processing fabrication or manufacturing. Typically uses include, but are not limited to, trucking firms, cold storage, automotive storage or impound yards, and the wholesaling of metals, minerals and agricultural products.
- Add a definition for “Grocery Store as follows:
Grocery Store: Activities include retail sales of food products, produce, and household supplies, and may include prepackaged alcoholic beverages as an incidental commodity to the establishment.
- Add “Grocery Store” under Commercial Uses in Table III-1 and list as a permitted use (P) for the Commercial land use designation.
- Revise footnote 7 of Table III-1 as follows:
⁷ Within the Commercial zoning district, a use permit shall be required for single uses above 25,000 square feet of gross floor area, with the exception of grocery stores. A use permit is required for alcohol sales at grocery stores.

Tentative Parcel Map

A tentative parcel map for the proposed lots in the South Campus Specific Plan would be processed to create lots, as shown in Figure 3-9, Tentative Tract Map, in Chapter 3 of this SEIR.

Plot Plan Applications

Upon approval of the General Plan Amendment and Specific Plan Amendment, Plot Plan Applications would be submitted to allow the construction of the following:

- Plot Plan (PP 20-03) – Commercial: 61,336-square-foot Commercial development with a total of 345 parking spaces on the southern 9.4 acres of an existing Commercial parcel. This plot plan, as shown in Figure 3-5, Commercial Plot Plan, in Chapter 3 of this SEIR, would include the extension of Village West Drive to the south to provide a 54-foot roadway with two through lanes, a center striped median, a bike lane, and sidewalks on each side of the roadway between Van Buren Boulevard to the north and Nandina Avenue to the south.
- Plot Plan (PP 20-04) – Building D: 800,000 square foot industrial warehouse on a 36.5-acre parcel bound by Caroline Way, Krameria Avenue, and Coyote Bush Road. This plot plan would include the construction of Caroline Way street improvements.
- Plot Plan (PP 20-05) – Dog Park and Paseo development on 6.2 acres.

Conditional Use Permit (CUP 20-02)

A Conditional Use Permit is proposed to allow for alcohol sales at the speculative grocery store site proposed as part of Plot Plan 20-03.

1.7 Impacts Determined to be Significant

Table 1-2 provides a summary of the impact analysis related to the proposed Project. The table identifies a summary of the significant environmental impacts resulting from the Project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Chapter 4 of this SEIR. Table 1-2 also lists the applicable mitigation measures related to identified significant impacts from the proposed Project, as well as the level of significance after mitigation is identified. As discussed in Section 4.2, Air Quality, and Section 4.12, Transportation, impacts associated with operational air quality and transportation were identified as being significant and unavoidable. Cumulative impacts associated with operational air quality and transportation were also identified as being significant and unavoidable.

1.8 Effects Found Not to be Significant

As stated in Chapter 5 of this SEIR, the Initial Study (Appendix A) concluded that the Project would not result in significant impacts to agriculture and forestry resources, cultural resources, mineral resources, population and housing, and public services; therefore, these topics are not addressed in the SEIR as a separate environmental impact analysis section and are not summarized in Table 1-2. Although aesthetics, energy, greenhouse gas emissions, hazards and hazardous materials, noise, recreation, tribal cultural resources, utilities and service systems, and wildfire were found to be less than significant with no mitigation required, each is addressed in Chapter 4 as stand-alone sections. due to their lengthy discussions.

Several environmental topics were found to be less than significant with mitigation incorporated as described in this SEIR, including: construction air quality, biological resources, geology and soils, hydrology and water quality, and land use and planning.

1.9 2003 Focused EIR Mitigation Measures

In relying upon previously adopted mitigation measures for the South Campus Specific Plan, impacts related to aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources would be less than significant with implementation of mitigation. Additionally, most of the mitigation measures included in the 2003 Focused EIR are applicable to the proposed Project because they directly relate to buildout of the South Campus Specific Plan area. As such, the following mitigation measures from the previously certified 2003 Focused EIR are required and are incorporated into the proposed Project to reduce these potentially significant impacts. The Mitigation Monitoring and Reporting Program prepared and adopted for the Project will include the following mitigation measures from the 2003 Focused EIR:

Aesthetics

- I-1 All projects are required to comply with the Specific Plan Design Guidelines, landscape concept plan and Development Code, which will ensure the following:
- Conflicts and incompatibilities between land uses will not occur through the use of landscaped setbacks, buffers, site design, site orientation, architectural features, walls or fences, density/intensity reductions, reduced hours of operation for commercial and industrial uses, shielding of lighting, and the like.

- The enhancement and preservation of natural and man-made features, such as major roadways, rail lines, drainage courses, utility corridors, groups of rock outcroppings, and tree rows to create boundaries, entryways, and separate entities for distinct geographic portions of the Specific Plan.
- Preservation of Van Buren Boulevard and Alessandro Boulevard scenic corridors and enhancement of the gateway treatment at the Riverside National Cemetery.

Air Quality

- C-1** Preferential parking spaces shall be offered to car pools and van pools.
- C-2** Employers with 250 employees or more shall implement a compressed workweek schedule when feasible.
- C-3** Employers shall develop a trip reduction plan to increase vehicle occupancy.
- C-4** Employers shall provide on-site child care facilities when feasible.
- C-5** Design elements shall be designed to reduce vehicle queuing when entering and exiting parking structures.
- C-6** Projects shall provide for video conferencing facilities to the extent possible.
- C-7** Businesses shall minimize the use of fleet vehicles during smog alerts, and encourage the use of alternative fuel vehicles.
- C-8** Buildings shall be designed to reduce energy usage by utilizing solar or low emissions water heaters, double paned glass windows, using light colored roofing materials, orienting buildings north and increasing wall and attic installation above Title 24 requirements.
- C-9** CEQA Review of stationary source emissions other than natural gas and electricity shall be done on all projects with the possibility of emitting air pollutants. In addition, all projects involving stationary source emissions shall obtain permits to construct and operate from the SCAQMD.
- C-10** Trucks hauling dirt, sand, gravel or soil are to be covered and should maintain at least two feet of freeboard in accordance with Section 23114 of the California Vehicle Code.
- C-11** Construction access roads to the main roads should be paved to avoid dirt being carried on to the roadway.
- C-12** A construction relations officer should be appointed to act as a community liaison to oversee on-site construction activity and all emissions and congestion related matters.
- C-13** Restrict idling emission from trucks by using auxiliary power units and electrification at the industrial warehouse facilities
- C-14** Landscape with appropriate drought-tolerant species to reduce water consumption.

Biological Resources

- D-1** Prior to construction activity, the applicant shall coordinate with USFWS to assure that the requirements and stipulations of the 1999 Biological Opinion and the Biological Opinion Clarification Letter (September 6, 2002) are met. The 1999 Biological Opinion and the 1999 Biological Opinion Clarification Letter are included in Appendices A and B of the Biological Resources Review found in Appendix D of the 2003 Focused EIR. Mitigation for potential impacts to federal or state listed species shall be as per the 1999 Biological Opinion and the 1999 Biological Opinion Clarification Letter issued by USFWS. This mitigation shall include the replacement 35.2 acres of impacted occupied Stephens' kangaroo rat (SKR) habitat at a 1:1 ratio. As of September 2002, the March JPA is responsible for 14.2 acres of mitigation at a 1:1 ratio, as 21 acres of USFWS approved occupied habitat have previously been acquired by the March JPA and serve as mitigation for 21 acres of SKR occupied habitat. Other required mitigation (78.4 acres discussed in the 1999 BO Clarification letter) will be at a fee of \$500 per acre.
- D-2** Per the 1999 BO, avoid 13 acres of USFWS designated least Bell's vireo riparian habitat north and south of Van Buren Boulevard by utilizing 100-foot buffer zones in these areas.
- D-3** If construction activity is planned during nesting/breeding season, a qualified environmental scientist shall conduct a field review of the affected areas prior to vegetation clearing activity to assess the areas for occupancy by the least Bell's vireo.
- D-4** Prior to construction activity, the applicant shall coordinate with the L.A. District Corps office to assure conformance with the requirements of Section 404 of the Clean Water Act.
- D-5** Prior to construction activity, the applicant shall coordinate with the Santa Ana Water Quality Board (Region 8) to assure conformance with the requirements of Section 404/401 of the Clean Water Act and the State of California Porter Cologne Water Quality Control Act.
- D-6** Prior to activity within waters of the U.S., the applicant shall coordinate with the California Department of Fish and Game (Eastern Sierra and Inland Dessert Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements.

Cultural Resources

- L-1** If archaeological or paleontological resources are encountered at the time of grading or Project construction, all Project work in the area of the resource shall cease until the area has been surveyed by a qualified archaeologist or paleontologist in conformance with the Cultural Resource Management Plan.

Geology and Soils

- K-1** All grading should be performed in accordance with the grading guidelines outlined in the March JPA Development Code.
- K-2** All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the Preliminary Geotechnical Investigation: March Business Park Phase 1-3 prepared by Inland Foundation Engineering, Inc., dated July 10, 2002. This report

contains specific recommendations for mitigating geotechnical conditions related to soils earthwork, slope stability, and ground and surface waters. All recommendations contained in the report shall be incorporated into all final and engineering and grading plans.

- K-3** All future development shall use proper erosion control measures during and following construction.
- K-4** Revegetate graded area with native plants compatible to the area to prevent erosion.
- K-5** All future development of the project site shall adhere to the Uniform Building Code and State building requirements in effect at the time specific development is proposed.
- L-1** If archaeological or paleontological resources are encountered at the time of grading or project construction, all project work in the area of the resource shall cease until the area has been surveyed by a qualified archaeologist or paleontologist in conformance with the Cultural Resources Management Plan.

Greenhouse Gas Emissions

- C-1** Preferential parking spaces shall be offered to car pools and van pools.
- C-2** Employers with 250 employees or more shall implement a compressed workweek schedule when feasible.
- C-3** Employers shall develop a trip reduction plan to increase vehicle occupancy.
- C-4** Employers shall provide on-site child care facilities when feasible.
- C-5** Design elements shall be designed to reduce vehicle queuing when entering and exiting parking structures.
- C-6** Projects shall provide for video conferencing facilities to the extent possible.
- C-7** Businesses shall minimize the use of fleet vehicles during smog alerts, and encourage the use of alternative fuel vehicles.
- C-8** Buildings shall be designed to reduce energy usage by utilizing solar or low emissions water heaters, double paned glass windows, using light colored roofing materials, orienting buildings north and increasing wall and attic installation above Title 24 requirements.
- C-9** CEQA Review of stationary source emissions other than natural gas and electricity shall be done on all projects with the possibility of emitting air pollutants. In addition, all projects involving stationary source emissions shall obtain permits to construct and operate from the SCAQMD.
- C-12** A construction relations officer should be appointed to act as a community liaison to oversee on-site construction activity and all emissions and congestion related matters.
- C-13** Restrict idling emission from trucks by using auxiliary power units and electrification at the industrial warehouse facilities

- C-14** Landscape with appropriate drought-tolerant species to reduce water consumption.
- B-5** The March Business Center shall require implementation of parking ratios that limit the need for on-street parking. These ratios are identified in the Specific Plan.
- B-6** The project shall provide for bicycle facilities to accommodate non-motorized circulation on the site and connectivity to routes in the Cities of Riverside and Moreno Valley.
- B-10** The March JPA shall implement Transportation Demand Management (TDM) strategies to shift trips outside the standard commuting hours and/or to non- “drive alone” modes of travel. This is accomplished through various employer-initiated measures, such as flexible working house, encouragement of carpooling, and facilitating access for non-motorized (i.e., bicycling and walking) modes of travel. Section V of the Specific Plan outlines TDM requirements.
- B-11** The March JPA shall cooperate with the Riverside Transportation Agency (RTA) for the provision of bus service within the Specific Plan Area.
- H-4** The project applicant shall incorporate the following measures to help reduce the project’s potential solid waste impacts and to help in the County’s effort to comply with State law in diverting sold waste from landfill disposal:
- Green waste generated by the project should be kept separate from other waste types in order that it can be recycled through the practice of grass recycling (where lawn clippings from a mulching type mower are left on the lawn) or onsite composting or directed to local wood grinding and/or composting operations.
 - The use of mulch and/or compost in the development and maintenance of landscape areas is recommended.
 - Construction and demolition waste should be reduced and/or diverted from landfill disposal by the use of onsite grinders or by directing the materials to recycling facilities.
- H-5** The proposed project shall comply with the State Model Ordinance, implemented in 9/1/94 in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991, which requires that all commercial, industrial, and multi-family residential projects provide adequate area(s) for the collections and loading of recyclable materials. Prior to building permit issuance, the applicant shall submit a Recyclables Collection and Loading Area plot plan to the March JPA for review and approval.
- K-5** All future development of the project site shall adhere to the Uniform Building Code and State building requirements in effect at the time specific development is proposed.

Hazards and Hazardous Materials

- A-1** Development within the Clear Zone and Accident Potential Zones I and II will abide by building standards and codes, including height restrictions, restrictions on use, setbacks, population densities, insulation and materials, as outlined in the approved 1998 Air Installation Compatible Use Zone (AICUZ).

- A-2** As established in the Specific Plan, the project will comply with the policies and requirements of the Riverside County Airport Land Use Plan. Development plans will be submitted to the FAA for the review in accordance with FAR Section 77.13.2.i. Additional ALUC review will be required for objects taller than 50 feet in the Height Caution Zone shown on Figure IV.A-4 (of the 2003 EIR). Other land use controls (relating to safety (both in the air and on the ground) and noise) have been developed in consultation with the ALUC, and have been incorporated into the Specific Plan.
- E-1** No project facilities located within one-quarter mile of the existing school shall store, handle or use toxic or highly toxic gases as defined in the most currently adopted County fire code at quantities that exceed exempt amount as defined in the most currently adopted fire code.
- E-2** Facilities that store, handle or use regulated substances as defined in the California Health and Safety Code 25532 (g) in excess of threshold quantities shall prepare risk management plans (RMP) for determination of risks to the community. If in the event the RMP shows that the facility stores, handles or uses regulated substances in excess of the thresholds described above, the activity will be prohibited.

Hydrology and Water Quality

- F-1** Detention basins and improvements to the storm drain system shall be constructed to reduce peak flows to less than those associated with existing conditions in accordance with the approved Drainage Plan.
- F-2** The storm drain system shall include sediment basins near inlets to the system to intercept sediment in accessible areas where maintenance is practical.
- F-3** Activities requiring authorization under an NPDES permit shall not be conducted prior to authorization by the Santa Ana Regional Water Quality Control Board. Best management practices identified in the Storm Water Pollution Prevention Plan shall be implemented.

Land Use and Planning

- A-1** Development within the Clear Zone and Accident Potential Zones I and II will abide by building standards and codes, including height restrictions, restrictions on use, setbacks, population densities, insulation and materials, as outlined in the approved 1998 Air Installation Compatible Use Zone (AICUZ).
- A-2** As established in the Specific Plan, the project will comply with the policies and requirements of the Riverside County Airport Land Use Plan. Development plans will be submitted to the FAA for the review in accordance with FAR Section 77.13.2.i. Additional ALUC review will be required for objects taller than 50 feet in the Height Caution Zone shown on Figure IV.A-4 (of the 2003 EIR). Other land use controls (relating to safety (both in the air and on the ground) and noise) have been developed in consultation with the ALUC, and have been incorporated into the Specific Plan.
- A-4** Project detention basins shall have the following features to limit bird activity:
1. The basin shall drain within a six-hour period to reduce the potential for plant growth.
 2. Regular maintenance activities shall include the removal of vegetation with the exception of lot 49.

3. Detention basins shall be monitored regularly to determine if they attract waterfowl or other birds.
4. A plan to discourage bird activity shall be implemented if the basins are found to be an attraction to birds.

Noise

Short Term

- J-2** All construction equipment used for construction activities shall be fitted with exhaust muffling and noise control filter devices to reduce noise impacts.

Long Term

- J-3** Information and location of noise sensitive receptors shall be reviewed and updated by March JPA staff to ensure that all sensitive receptors that may be affected by the long-term implications of the proposed Specific Plan are identified. These sensitive receptors shall including the existing school.
- J-4** Building setbacks and methods of sound attenuation shall be considered and used where appropriate with specific development proposals in the planning area to limit stationary and vehicular long-term noise impacts upon sensitive noise receptors.
- J-6** Industrial and noise sensitive receptors (residential, schools, churches, hospitals, libraries, and senior housing) will be separated sufficiently to reduce the noise impact to sensitive receptors to an insignificant level.
- J-7** Separate residential uses and truck routes so that noise impacts will be contained without unnecessary lengthening truck trips.

Transportation

- B-1** The project shall contribute on a fair share basis toward the improvements identified in the Cumulative Impacts paragraph of Section IV.B of the 2003 Focused EIR.
- B-2** The project shall construct the transportation improvements identified in Figure IV.B-5 through IV.B-7 (see Section IV.B of the 2003 Focused EIR). To the extent that such improvements provide capacity benefits for local or regional (i.e., non-project) demand, the project is eligible for credits toward its contribution toward local and/or regional transportation impact fees, if any.
- B-3** March Business Center traffic volumes shall be monitored periodically to assure that the transportation infrastructure provides sufficient capacity to serve project volumes. Traffic monitoring shall occur at a minimum of five-year intervals.
- B-5** The March Business Center shall require implementation of parking ratios that limit the need for on-street parking. These ratios are identified in the Specific Plan.
- B-6** The project shall provide for bicycle facilities to accommodate non-motorized circulation on the site and connectivity to routes in the Cities of Riverside and Moreno Valley.

- B-7** March Business Center shall provide truck routes on internal roadways to limit impacts of trucks on adjacent residential communities.
- B-8** The project shall construct internal roadways in accordance with the County Road Improvement Standards and Specifications with additional landscaping as identified in the Riverside County Integrated Project (RCIP).
- B-10** The March JPA shall implement Transportation Demand Management (TDM) strategies to shift trips outside the standard commuting hours and/or to non- “drive alone” modes of travel. This is accomplished through various employer-initiated measures, such as flexible working hours, encouragement of carpooling, and facilitating access for non-motorized (i.e., bicycling and walking) modes of travel. Section V of the Specific Plan outlines TDM requirements.
- B-11** The March JPA shall cooperate with the Riverside Transportation Agency (RTA) for the provision of bus service within the Specific Plan Area.
- B-12** Signage shall be provided at the Van Buren Boulevard intersections with Coyote Bush Road and Orange Terrace to discourage truck traffic on residential streets in the Orangecrest Development. Furthermore, the March JPA, as a responsible party, shall encourage the City of Riverside and Riverside County to review and consider appropriate legislation to eliminate or curtail truck traffic, exempting local deliveries, on Alessandro Boulevard and Van Buren Boulevard west of the March Business Center Development.

Tribal Cultural Resources

- L-1** If archaeological or paleontological resources are encountered at the time of grading or Project construction, all Project work in the area of the resource shall cease until the area has been surveyed by a qualified archaeologist or paleontologist in conformance with the Cultural Resource Management Plan.

Utilities and Service Systems

- H-1** Provide the extension of utility infrastructure to serve the development, including over-sizing facilities for future needs.
- H-2** Construct the storm drain and flood control facilities, in accordance with the approved March Business Center Drainage Plan and Plan for March JPA Planning Area.
- H-3** All storm drain and flood control facilities shall be approved and operational prior to the issuance of certificates of occupancy for the associated development.
- H-4** The project applicant shall incorporate the following measures to help reduce the project’s potential solid waste impacts and to help in the County’s effort to comply with State law in diverting solid waste from landfill disposal:
- Green waste generated by the project should be kept separate from other waste types in order that it can be recycled through the practice of grass recycling (where lawn clippings from a mulching type mower are left on the lawn) or onsite composting or directed to local wood grinding and/or composting operations.

- The use of mulch and/or compost in the development and maintenance of landscape areas is recommended.
- Construction and demolition waste should be reduced and/or diverted from landfill disposal by the use of onsite grinders or by directing the materials to recycling facilities.

H-5 The proposed project shall comply with the State Model Ordinance, implemented in 9/1/94 in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991, which requires that all commercial, industrial, and multi-family residential projects provide adequate area(s) for the collections and loading of recyclable materials. Prior to building permit issuance, the applicant shall submit a Recyclables Collection and Loading Area plot plan to the March JPA for review and approval.

H-7 The proposed non-potable water system will meet “Purple” pipe standards for reclaimed water systems.

H-8 A fireflow standard of 4,000 gallons per minute shall be used for the water distribution network.

1.10 Summary of Environmental Impacts and Mitigation

Table 1-2 provides a summary of the impact analysis related to the Project. Table 1-2 identifies a summary of the significant environmental impacts resulting from the Project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Chapter 4 of this SEIR. Table 1-2 lists the applicable mitigation measures related to potentially significant impacts, as well as the level of significance after mitigation.

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
4.1 Aesthetics			
<p>AES-1. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?</p>	<p>South Campus Specific Plan Less than Significant</p>	<p>South Campus Specific Plan N/A</p>	<p>South Campus Specific Plan N/A</p>
	<p>Village West Drive Extension Less than Significant</p>	<p>Village West Drive Extension N/A</p>	<p>Village West Drive Extension N/A</p>
4.2 Air Quality			
<p>AQ-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?</p>	<p>South Campus Specific Plan Potentially Significant</p>	<p>South Campus Specific Plan <u>Construction Mitigation Measures</u> MM-AQ-1. Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Construction Management Plan to ensure that off-road diesel construction equipment rated at 50 horsepower or greater, complies with U.S. Environmental Protection Agency and California Air Resources Board (CARB) Tier 4 off-road emissions standards or equivalent, and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturers’ specifications. MM-AQ-2. Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Construction Management Plan to ensure the Project shall use “super-compliant” low-volatile organic compound (VOC) paints that have been reformulated to exceed the regulatory VOC limits put forth by South Coast Air Quality Management District’s Rule 1113. Super-compliant low-VOC</p>	<p>South Campus Specific Plan Less than Significant (Construction) Significant and Unavoidable (Operation)</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>paints shall be no more than 10 grams per liter of VOC. Alternatively, the applicant may use tilt-up concrete buildings that do not require the use of architectural coatings.</p> <p>MM-AQ-3. The Project shall provide a construction relations officer to act as a community liaison to oversee on-site construction activity and all emissions- and congestion-related matters. A phone number and email contact information for the construction relations officer shall be posted on signage at construction site entrance points.</p> <p>MM-AQ-4. Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Fugitive Dust Control Plan.</p> <p><u>Operational Mitigation Measures</u></p> <p>MM-AQ-5. Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than 5 minutes once the vehicle is stopped, the transmission is set to “neutral” or “park,” and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, March Joint Powers Authority shall conduct a site inspection to ensure that the signs are in place.</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>MM-AQ-6. Prior to tenant occupancy, the Project shall provide documentation to March Joint Powers Authority demonstrating that occupants/tenants of the Project site have been provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.</p> <p>MM-AQ-7. Prior to the issuing of each building permit, the Project shall provide plans and specifications to the March Joint Powers Authority that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.</p> <p>MM-AQ-8. Prior to the issuing of each building permit, the Project shall provide plans and specifications to the March Joint Powers Authority that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.</p> <p>MM-AQ-9. Once constructed, the Project shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.</p> <p>MM-AQ-10. Once constructed, the Project shall ensure that all building tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.</p> <p>MM-AQ-11. Upon occupancy, the Project shall require tenants that do not already operate 2010 and newer trucks to apply in good faith for funding to replace/retrofit their trucks, such as Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways.</p> <p>MM-AQ-12. Project tenants who employ 250 or more employees on a full- or part-time basis shall comply with South Coast Air Quality Management District (SCAQMD) Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Project tenants with less than 250 employees or tenants</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to March Joint Powers Authority. The tenant-implemented program would include, but not be limited to the following:</p> <ul style="list-style-type: none"> • Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees. • Create and maintain a “commuter club” to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work. • Inform employees of public transit and commuting services available to them (e.g., social media, signage). • Provide on-site transit pass sales and discounted transit passes. • Guarantee a ride home. • Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted. • Coordinate with the Riverside Transit Agency and employers in the surrounding area to maximize the benefits of the TDM program. <p>MM-AQ-13. Prior to the issuance of a building permit, the Project shall provide evidence to March Joint Powers Authority that loading docks are designed to be compatible with SmartWay trucks.</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>MM-AQ-14. Upon occupancy and annually thereafter, the Project shall provide information to all tenants, with instructions that the information shall be provided to employees and truck drivers as appropriate, regarding:</p> <ul style="list-style-type: none"> • Building energy efficiency, solid waste reduction, recycling, and water conservation. • Vehicle greenhouse gas emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting. • Participation in the Voluntary Inter-industry Commerce Solutions (VICS) “Empty Miles” program to improve goods trucking efficiencies. • Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling. • The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity. <p>MM-AQ-15. Prior to issuance of a building permit, the Project shall provide March Joint Powers Authority with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.</p> <p>MM-AQ-16. Prior to issuance of an occupancy permit, the March Joint Powers Authority shall confirm that signs clearly identifying approved trucks have been installed along the truck routes to and from the project site.</p> <p>MM-AQ-17. Prior to issuance of an occupancy permit, the Project shall install a sign on the property with telephone, email, and regular mail contact</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>information for a designated representative of the tenant who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the March Joint Powers Authority for perceived Code violations. The tenant’s representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The tenant’s representative shall endeavor to resolve complaints within 24 hours.</p> <p>MM-AQ-18. Prior to issuance of a building permit, the Project shall provide the March Joint Powers Authority with project specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer’s data. Electrical system upgrades that exceed reasonable costs shall not be required.</p>	
	<p>Village West Drive Extension Potentially Significant</p>	<p>Village West Drive Extension <i>Construction Mitigation Measures</i> See MM-AQ-1 through MM-AQ-4.</p>	<p>Village West Drive Extension Less than Significant</p>
<p>AQ-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?</p>	<p>South Campus Specific Plan Potentially Significant</p>	<p>South Campus Specific Plan See MM-AQ-1 through MM-AQ-18.</p>	<p>South Campus Specific Plan Less than Significant (Construction) Significant and Unavoidable (Operation)</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Village West Drive Extension Potentially Significant	Village West Drive Extension See MM-AQ-1 through MM-AQ-4.	Village West Drive Extension Less than Significant
AQ-3. Would the Project expose sensitive receptors to substantial pollutant concentrations?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
AQ-4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.3 Biological Resources			
BIO-1. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	South Campus Specific Plan Potentially Significant	South Campus Specific Plan MM-BIO-1. Least Bell's Vireo Avoidance and Minimization Measures. Least Bell's vireo have been documented adjacent to proposed South Campus Specific Plan Project work areas within the conservation easement and there is suitable habitat for the species along the Village West Drive Extension Project. Species-specific mitigation will include construction timing and noise restrictions in accordance with the <i>Center of Biological Diversity v. Jim Bartel et al.</i> Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR) and standard vireo noise avoidance techniques to avoid noise impacts on this species. The following avoidance and minimization measures shall be implemented during Project	South Campus Specific Plan Less than Significant

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>construction activities and confirmed by the March Joint Powers Authority (JPA):</p> <ol style="list-style-type: none"> 1) Preconstruction Least Bell’s Vireo Nesting Survey. Construction activities within 500 feet of the conservation area (see Figure 4.3-1) and suitable habitat for least Bell’s vireo (southern riparian forest and southern willow scrub) along the Village West Drive Extension Project (see Figure 4.3-2) shall commence outside of the nesting season for least Bell’s vireo (April 10 to July 31). If construction activities occur during the least Bell’s vireo nesting season, a qualified biologist shall conduct a focused least Bell’s vireo nesting bird survey within 3 days of the start. If least Bell’s vireo nests or occupied habitat are found within 500 feet of project activity, then the qualified biologist shall establish an avoidance buffer radius of 500 feet, or as approved by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), which shall be maintained and avoided during construction activities until the nest is determined by the biologist to no longer be active. <ol style="list-style-type: none"> a) If construction activity within 500 feet of the conservation area commences outside of the nesting bird season, then it is assumed that birds that nest within the conservation area during ongoing activity are unaffected by the Project. 2) Environmental Awareness Training. A qualified biologist shall prepare an environmental awareness training program that must be taken by all construction personnel working on 	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>projects within 500 feet of the conservation area prior to their involvement with activities on the project site. The training shall cover the following points: least Bell’s vireo natural history, protected species avoidance measures to be implemented by all personnel, and the role and responsibility of the biological monitor. The training shall be prepared in a digital format (e.g., Microsoft PowerPoint) that will allow the project contractor to administer it on a daily basis throughout construction, if needed, and a sign-in sheet indicating the personnel who have received the training shall be submitted to the March JPA as needed.</p> <p>3) Construction Monitoring. If least Bell’s vireo nests or occupied habitat are found during the initial survey, then a qualified biological monitor shall be present fulltime during initial grading activities within 1,000 feet of the nest/occupied habitat location or until they determine in their professional opinion that monitoring is no longer needed. The biological monitor shall be responsible for taking noise level measurements at the accessible edge of the habitat using a decibel meter. construction noise levels shall not exceed 60 A-weighted decibels sound equivalent level (dBA L_{eq}) hourly average in riparian habitats occupied by least Bell’s vireo unless authorized by the appropriate regulatory authorities (i.e., CDFW and USFWS). The biological monitor shall have the authority to stop work as needed to avoid indirect impacts to least Bell’s vireo due to noise level exceeding a 60 dBA L_{eq} hourly average or a noise level</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>authorized by the appropriate regulatory authorities (i.e., CDFW and USFWS). A weekly biological monitoring report shall be submitted to March JPA that shall include noise level data and any action taken to reduce noise. A post-construction biological monitoring report shall be prepared to document compliance with these requirements and shall be submitted to the satisfaction of the March JPA.</p> <p>MM-BIO-2. Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters. Prior to the start of all earth-moving activities (e.g., clear and grub, grading) adjacent to the conservation area and buckwheat scrub within the South Campus Specific Plan Project, and for work near the delineated jurisdictional waters (see Figure 4.3-3), southern riparian forest, and southern willow scrub on the Village West Drive Extension Project, and adjacent to suitable habitat for Stephen’s kangaroo rat (non-native grasslands), the project contractor shall demarcate the construction limits with temporary construction fencing so that sensitive habitats and jurisdictional waters are avoided by construction personnel and equipment. The fencing shall be maintained until construction is completed in those areas.</p> <p>MM-BIO-3. Burrowing Owl Avoidance and Minimization Measures. Prior to the initiation of construction activities, a qualified biologist shall conduct preconstruction surveys for burrowing owl within suitable habitat (non-native grassland, non-native grassland/paniculate tarplant, disturbed habitat, and ruderal areas) to determine presence/absence of the species. The survey shall</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>be conducted in accordance with the most current California Department of Fish and Wildlife (CDFW) protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Preconstruction surveys shall include suitable burrowing owl habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If burrowing owls are not detected during the clearance survey, no additional mitigation is required.</p> <p>If burrowing owl is located, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained between Project activities and nesting burrowing owls during the nesting season, unless otherwise authorized by CDFW.</p> <p>If burrowing owl is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow. Alternatively, a Burrowing Owl Relocation and Mitigation Plan may be prepared and submitted for approval by CDFW. Once approved, the Plan would be implemented to</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>relocate non-breeding burrowing owls from the Project site. The Plan shall detail methods and guidance for passive relocation of burrowing owls from the Project site, provide monitoring and management of the replacement burrow sites, reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprint. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.</p> <p>The Project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the March Joint Powers Authority, to document compliance with this mitigation measure.</p> <p>MM-BIO-4. Nesting Bird Avoidance and Minimization Measures. To avoid direct impacts to raptors and/or native/migratory birds (including loggerhead shrike and California horned lark), vegetation removal and grading activities should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a preconstruction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service as applicable for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the preconstruction survey, no further mitigation is required.	
	Village West Drive Extension Potentially Significant	Village West Drive Extension See MM-BIO-1 through MM-BIO-4.	Village West Drive Extension Less than Significant
BIO-2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
BIO-3. Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to,	South Campus Specific Plan No Impact	South Campus Specific Plan N/A	South Campus Specific Plan N/A

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
BIO-4. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
BIO-5. Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	South Campus Specific Plan No Impact	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension No Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
BIO-6. Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.4 Energy			
ENG-1. Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
ENG-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.5 Geology and Soils			
GEO-1. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	South Campus Specific Plan Potentially Significant	South Campus Specific Plan MM-GEO-1. Prior to the issuance of grading permits, the Project applicant shall submit evidence to the satisfaction of the March Joint Powers Authority (JPA) that all future grading and construction on the Project site shall comply with the geotechnical recommendations contained in the Geotechnical Exploration Update; Proposed Meridian South Campus Phase 1, Tract No. 30857-7, Riverside, California, dated February 11, 2016 (included as Appendix F1 of this Subsequent Environmental Impact Report [SEIR]); Geotechnical Exploration, Proposed Meridian Park South Campus-Phase II, County of Riverside, California, dated September 16, 2019 (included as Appendix F2 of this SEIR); and design-level geotechnical reports. Proposed tentative tract map (i.e., pertaining to grading) and construction approval letters from the March JPA Planning Director constitute evidence that all future grading and construction on the Project site would comply with the applicable geotechnical recommendations.	South Campus Specific Plan Less than Significant
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
4.6 Greenhouse Gas Emissions			
<p>GHG-1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</p>	<p>South Campus Specific Plan Less than Significant</p>	<p>South Campus Specific Plan</p> <p>MM-GHG-1. Prior to approval of building permits for business park and industrial uses, consistent with the County of Riverside’s Climate Action Plan criteria to install on business park and warehousing buildings or the collective business park and warehousing development such that solar photovoltaic (PV) panels provide 40% of the power needs of the Project, the March Joint Powers Authority (JPA) shall verify that the building plans include solar PV panels, either on site or off site, to provide 40% of the building’s power needs. The March JPA shall verify compliance before issuance of each certificate of occupancy. It is anticipated the Project will install approximately 12-megawatt of solar PV electricity generation. Note: A glare and glint study may be required by March Air Reserve Base for any new solar PV panels.</p> <p>MM-GHG-2. Prior to issuance of certificates of occupancy, the March Joint Powers Authority shall verify that the Project shall install Energy Star certified light bulb and light fixtures.</p> <p>MM-GHG-3. Prior to issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures shall install duct insulation rated R-6 to a minimum level of; modestly enhanced window insulation rated 0.28 or less U-factor and 0.22 or less SHGC; and Use of enhanced insulation with rigid wall insulation rated R-13 and</p>	<p>South Campus Specific Plan N/A</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>roof/attic insulation rated R-28 consistent with the County of Riverside’s Climate Action Plan criteria.</p> <p>MM-GHG-4. Prior to issuance of building permits and consistent with the County of Riverside’s Climate Action Plan criteria, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures include the following design elements: Construction of modest cool roof, defined as Cool Roof Rating Council (CRRC) Rated 0.15 aged solar reflectance and 0.75 thermal emittance; Use of heating, ventilation, and air conditioning (HVAC) equipment with a season energy efficiency ratio (SEER) of 14 or higher; Installation of blower door HERS verified envelope leakage of equivalent; Installation of water heaters with an energy factor of 0.72 or higher; All rooms shall have some form of daylighting (e.g., skylights or windows); At least 50% of artificial lighting in-unit fixtures shall be high efficiency; Waterless urinals and high efficiency toilets shall be used throughout the Project; and water efficient faucets shall be used throughout the Project.</p> <p>MM-GHG-5. Prior to the issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures provide electrical outlets at building exterior areas.</p> <p>MM-GHG-6. Prior to the issuance of building permits, the Project applicant shall prepare and submit landscape plans to the March Joint Powers Authority</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>that demonstrate that the landscape non-potable water system shall meet “purple” pipe standards.</p> <p>MM-GHG-7. Prior to the issuance of building permits, the Project applicant shall prepare and submit landscape plans to the March Joint Powers Authority that demonstrate that the Project shall exceed the County of Riverside’s Climate Action Plan requirement for water efficient landscaping by having no turf, with the exception of the dog park, and only drought tolerant plants and introducing additional water efficient irrigation controls such as smart irrigation controllers.</p> <p>MM-GHG-8. Prior to the issuance of building permits and verified before certificate of occupancy, the Project applicant shall prepare and submit plan to the March Joint Powers Authority that demonstrate the provision of circuitry and capacity for installation of electric vehicle charging stations consistent with the County of Riverside’s Climate Action Plan. Per information provided by the Project Applicant, the Project shall develop 20 charging stations.</p> <p>MM-GHG-9. Prior to the issuance of certificates of occupancy, the March Joint Powers Authority shall verify signage installation for 5% of vehicle/employee parking spaces reserved for preferential spaces for carpools and van pools.</p> <p>MM-GHG-10. Tenants with more than 10,000 square feet of office space shall provide video conferencing facilities. Tenant spaces below 10,000 square feet may pursue video conferencing as feasible.</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>MM-GHG-11. The Project shall provide short- and long- term bicycle parking facilities to meet peak season maximum demand (one bike rack space per 20 vehicle/employee parking spaces).</p> <p>MM-GHG-12. Prior to the issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate the provision of "end-of-trip" facilities including showers, lockers, and changing space (four clothes lockers and one shower provided for every 80-employee parking spaces, separate facilities for each gender for projects with 160 or more employee parking spaces).</p> <p>MM-GHG-13. Each tenant shall provide on-site food vending machines or refrigerator, microwave oven, and mail facilities (i.e., drop box) at the Project site. Each tenant with over 5,000 square feet of office space shall provide an on-site computer, internet connection, and other services for personal employee use. Projects shall also consider the provision of an ATM machine as feasible.</p> <p>MM-GHG-14. For any warehouse use, the loading docks shall be designed to accommodate SmartWay trucks. The March Joint Powers Authority shall require evidence of compliance prior to issuance of a certificate of occupancy for any warehouse use.</p>	
	<p>Village West Drive Extension Less than Significant</p>	<p>Village West Drive Extension N/A</p>	<p>Village West Drive Extension N/A</p>
<p>GHG-2. Would the Project conflict with an applicable plan, policy or regulation adopted</p>	<p>South Campus Specific Plan Less than Significant</p>	<p>South Campus Specific Plan See MM-GHG-1 through MM-GHG-14.</p>	<p>South Campus Specific Plan N/A</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
for the purpose of reducing the emissions of greenhouse gases?	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.7 Hazards and Hazardous Materials			
HAZ-1. Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.8 Hydrology and Water Quality			
HYD-1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	South Campus Specific Plan Potentially Significant	South Campus Specific Plan MM-HYD-1. Water Quality Management Plan Consistent with DRC Engineering’s Master Project Specific Water Quality Management Plan, Master Meridian Business Park Project, South Campus - Phase II (Appendix I1) for the northwestern part of the Project site, prior to issuance of a grading permit for any individual project development, a Water Quality Management Plan (WQMP) shall be developed, to the satisfaction of the March Joint Powers Authority (JPA), for individual projects proposed as part of the South Campus Specific Plan that are currently not covered under an existing WQMP. Regions currently not covered under a WQMP include the southwest, central, and eastern portions of the South Campus Specific Plan (Figure 4.8-1). In accordance with the March JPA’s guidance, future implementation projects will need to meet the requirements of the Santa Ana Municipal Separate Storm Sewer System (MS4) Permit, as well as the County of Riverside Water	South Campus Specific Plan Less than Significant

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>Quality Management Plan Guidance Document (County of Riverside 2012), such that the WQMP shall demonstrate that post-construction low-impact development (LID) best management practices (BMPs) are incorporated into the specific proposed project design and that these features would effectively reduce and/or eliminate water pollution caused by runoff flowing from developed sites into nearby receiving waters. LID Retention BMPs (infiltration only or harvest and use) shall be used unless it can be demonstrated that those BMPs are infeasible. Projects shall follow the LID hierarchy of infiltration, harvest and reuse, and biotreatment when selecting the final LID for the development. In addition, source control BMPs shall be implemented whenever possible.</p> <p>MM-HYD-2. Hydrology/Drainage Study Consistent with DRC Engineering, Inc.'s, Preliminary Hydrology Study, for: the Meridian Park South Campus Phase II (Appendix I2), for the northwestern portion of the Project site, prior to issuance of a grading permit for any individual project development, a Hydrology/Drainage Report shall be developed, to the satisfaction of the March Joint Powers Authority, for individual projects proposed within the South Campus Specific Plan area currently not covered under an existing Hydrology/Drainage Report. Regions currently not covered under a Hydrology/Drainage Report include the southwest, central and eastern segments of the South Campus Specific Plan (Figure 4.8-1). In accordance with the Riverside County Hydrology Manual, the Hydrology/Drainage Report shall demonstrate that stormwater runoff flow volume or</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		flow rate, associated with specific projects, would be less than or equal to existing conditions to prevent on- and off-site runoff and flooding. The Hydrology/Drainage Report shall comply with the Riverside County Flood Control and Water Conservation District Manual (RCFCWCD 1978) for storm drain planning and design calculations.	
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
HYD-2. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
HYD-3. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
a. result in substantial erosion or siltation on or off site;	South Campus Specific Plan Potentially Significant	South Campus Specific Plan See MM-HYD-2.	South Campus Specific Plan Less than Significant
	Village West Drive Extension Beneficial Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	South Campus Specific Plan Potentially Significant	South Campus Specific Plan See MM-HYD-2.	South Campus Specific Plan Less than Significant

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Village West Drive Extension Beneficial Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
c. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	South Campus Specific Plan Potentially Significant	South Campus Specific Plan See MM-HYD-1 and MM-HYD-2 .	South Campus Specific Plan Less than Significant
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
d. impede or redirect flood flows?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
HYD-4. In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
HYD-5. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.9 Land Use and Planning			
LU-1. Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation	South Campus Specific Plan Potentially Significant	South Campus Specific Plan See MM-AQ-1 through MM-AQ-18 . See MM-BIO-1 through MM-BIO-4 . See MM-GEO-1 .	South Campus Specific Plan Less than Significant

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
adopted for the purpose of avoiding or mitigating an environmental effect?		See MM-HYD-1 and MM-HYD-2 . See MM-NOI-1 . See MM-TRA-1 through MM-TRA-3 .	
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.10 Noise			
NOI-1. Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	South Campus Specific Plan Less than Significant	South Campus Specific Plan MM-NOI-1. Unless directed by an inspector or prior permission is obtained, if the proposed Project commences construction before the allowed construction commencement hour (7:00 a.m.) or commences construction on a Sunday, the March Joint Powers Authority can impose the following monetary penalty: \$10,000 for the first violation, \$15,000 for the second violation, and \$20,000 for the third violation.	South Campus Specific Plan Less than Significant
	Village West Drive Extension Less than Significant	Village West Drive Extension See MM-NOI-1 .	Village West Drive Extension Less than Significant
NOI-2. Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
NOI-3. Would the Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
NOI-4. Would the Project result in aircraft operations (i.e., aircraft landings and/or takeoffs) at the March Inland Port Airport between 10:00 p.m. and 6:59 a.m. that could expose people within the March Inland Port Airport’s vicinity to a significant risk of sleep disturbance due to noise, as based on a single event noise exposure level analysis?	South Campus Specific Plan No Impact	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension No Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
4.11 Recreation			
REC-1. Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension No Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
4.12 Transportation			
TRA-1. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
TRA-2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	South Campus Specific Plan Potentially Significant	South Campus Specific Plan PDF-TRA-1. Construction Traffic Management Plan Prior to the issuance of building permits, the Project applicant would be required to develop and implement a March JPA-approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access the Project site	South Campus Specific Plan Significant and Unavoidable (VMT)

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>during off-peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses.</p> <p>MM-TRA-1. VMT Reduction The Project applicant shall submit a Transportation Demand Management (TDM) plan prepared by a qualified transportation consultant acceptable to the March Joint Powers Authority (JPA) to reduce vehicle miles traveled. The TDM plan shall be approved by the March JPA prior to the issuance of the first occupancy permit. The TDM plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:</p> <ul style="list-style-type: none"> • Transit passes • Car-sharing programs • Telecommuting and alternative work schedules • Ride sharing programs 	
	<p>Village West Drive Extension Less than Significant</p>	<p>Village West Drive Extension N/A</p>	<p>Village West Drive Extension N/A</p>
<p>TRA-3. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p>	<p>South Campus Specific Plan Less than Significant</p>	<p>South Campus Specific Plan MM-TRA-2. To address trucks turning left from Coyote Bush Road onto Van Buren Boulevard, the March Joint Powers Authority shall adopt a new monetary fine schedule that imposes a penalty of \$2,000 for the first violation, \$5,000 for the second violation, and \$10,000 for the third violation.</p>	<p>South Campus Specific Plan Less than Significant</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>MM-TRA-3. Upon approval from the County of Riverside, the proposed Project shall install two display signs (one in each direction) on Van Buren Boulevard which that flash a drivers speed and flash “slow down” to drivers who are exceeding the allowed speed.</p>	
	<p>Village West Drive Extension Less than Significant</p>	<p>Village West Drive Extension N/A</p>	<p>Village West Drive Extension N/A</p>
<p>4.13 Tribal Cultural Resources</p>			
<p>TCR-1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <ul style="list-style-type: none"> a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of 	<p>South Campus Specific Plan Potentially Significant</p>	<p>South Campus Specific Plan MM-TCR-1. Prior to issuance of a grading permit, the Project Applicant/Developer shall retain a qualified archaeologist (Project Archaeologist) and a Tribal monitor from the Pechanga Band of Luiseño Indians (Tribe) to monitor all initial ground-disturbing activities, including, but not limited to clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, and structure demolition. The Applicant/Developer shall submit a fully executed copy of the contract for the retention of an archaeologist to the Planning Department to ensure compliance. The Applicant/Developer shall also secure an agreement with the Tribe for Tribal monitoring. The Applicant/Developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land owner/Applicant/Developer for the monitoring of the Project to the Planning Department and to the Engineering Department. The Applicant/Developer is also required to provide a minimum of 30 days advance notice to the Tribe of all mass grading and trenching activities.</p>	<p>South Campus Specific Plan Less than Significant</p>

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
<p>the resource to a California Native American tribe?</p>		<p>Prior to the commencement of ground-disturbing activities, the Project’s qualified archaeological Principal Investigator (Principal Investigator), meeting the Secretary of the Interior’s Professional Qualification Standards, in consultation with the Tribe, the March JPA, and construction manager, shall develop a cultural resource monitoring and treatment plan (CRMTP) prior to Project commencement. This CRMTP defines the process to be followed, upon discovery of cultural resources, to ensure the proper treatment, evaluation and management of cultural resources in the Project site, should they be encountered during construction.</p> <p>a. For purposes of CRMTP implementation, the Project area subject to monitoring is defined as:</p> <ul style="list-style-type: none"> o All areas within the Project boundary specifically in which ground-disturbing activities (e.g. including, but not limited to clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, and structure demolition) will occur, o • Any on-site or off-site ancillary Project use areas or facility locations are subject to the protocols outlined in the CRMTP. These include, but are not limited to, access roads, yards/support areas, easements, staging areas, and utility tie-ins. <p>b. The CRMTP shall include a requirement for all construction personnel to complete a Cultural Resources Worker Sensitivity Training (Training) prior to commencement of construction activities. The Training shall be conducted by a</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>qualified archaeologist (Project Archaeologist). The Training shall provide: (1) the types and characteristics of cultural materials that may be identified during construction and explain the importance of and legal basis for the protection of significant cultural resources; (2) proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities, including procedures for work curtailment or redirection; and (3) protocols for the contact of the site supervisor and archaeological and Tribal monitor upon discovery of a resource. All new construction personnel must take the training prior to beginning ground-disturbing activities.</p> <p>c. The following protocols shall be included in the CRMTP:</p> <ul style="list-style-type: none"> i. The Project Archaeologist and the Tribal monitor shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the Project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Project Archaeologist and the Tribal monitor, shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with the March JPA. ii. If during ground disturbance activities, potential cultural resources are inadvertently discovered, the Project Archaeologist and 	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>Tribal monitor shall immediately redirect grading operations in a 100-foot radius around the discovery and the following procedures shall be followed:</p> <ol style="list-style-type: none"> 1. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the Applicant/Developer, the Project’s archaeological Principal Investigator, the Tribal representative(s), the Project monitors, and the Planning Director to discuss the significance of the find pursuant to California Public Resources Code Section 21083.2. 2. At the meeting, the significance of the discovery shall be discussed and after consultation with the Project PI, Tribal representative(s), the Project monitors, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources. 3. Grading of further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. 4. Treatment and Disposition of the inadvertently discovered cultural resources shall be carried out in one or more of the following methods: <ul style="list-style-type: none"> • Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred 	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>method of preservation for cultural resources.</p> <ul style="list-style-type: none"> • During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the Project Archaeologist. If removal of artifacts from the Project site is necessary, each artifact shall be catalogued, and an inventory will be provided to the Tribal monitor upon each addition. No recordation of sacred items is permitted without the written consent of the Tribe • Following the completion of the Project, if the cultural resources are determined to be Native American in origin, the Applicant/Developer shall relinquish ownership of all cultural resources that are determined to be of Native American origin to the Tribe. • If the landowner and the Tribe cannot come to a consensus on the significance or the mitigation for the Native American cultural resource, these issues will be presented to the March JPA Planning Director (Director) for decision. The Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological resources, recommendations of the Project archaeological PI and shall consider the cultural and religious principles and practices of the Tribe. Notwithstanding 	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>any other rights available under the law, the decision of the Director shall be appealable to the March Joint Powers Authority Council.</p> <ul style="list-style-type: none"> • Onsite reburial of the discovered items. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. <p>d. Regardless of discovery, at the completion of all ground-disturbing activities, an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards shall prepare a Monitoring Report and submit said report to the March JPA, the Eastern Information Center (EIC) located at University of Riverside, Riverside and the Pechanga Band of Luiseño Indians Tribal Government. The report will document all monitoring efforts and be completed within 60 days of conclusion of all ground-disturbing activities.</p> <p>MM-TCR-2. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be</p>	

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. Human remains from other ethnic/cultural groups with recognized historical associations to the project area shall also be subject to consultation between appropriate representatives from that group and the Planning Director.	
	Village West Drive Extension Potentially Significant	Village West Drive Extension See MM-TCR-1 and MM-TCR-2 .	Village West Drive Extension Less than Significant
4.14 Utilities and Service Systems			
UTL-1. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
UTL-2. Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
UTL-3. Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A

Table 1-2. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?	Village West Drive Extension No Impact	Village West Drive Extension N/A	Village West Drive Extension N/A
UTL-4. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
4.15 Wildfire			
FIRE-1. Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A
FIRE-2. Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	South Campus Specific Plan Less than Significant	South Campus Specific Plan N/A	South Campus Specific Plan N/A
	Village West Drive Extension Less than Significant	Village West Drive Extension N/A	Village West Drive Extension N/A

1.11 Summary of Project Alternatives

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the Project should occur. As stated in this section of the CEQA Guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the Project. Each alternative should be capable of avoiding or substantially lessening any significant impacts of the Project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per CEQA Section 15126.6.

1.11.1 Alternatives Evaluated

This section discusses the alternatives to the Project, including the No Project Alternative, under consideration. The No Project (Currently Approved South Campus Specific Plan) Alternative, which is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines, examines the environmental impacts that would occur if the Project were not to proceed and the existing plan continued. The other alternatives are discussed as part of the “reasonable range of alternatives.” The alternatives addressed in this section are listed below, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – South Campus Re-Entitlement Only
- Alternative 3 – Business Park

Alternative 1 – No Project

Under Alternative 1, the No Project Alternative, build out of the remainder of the South Campus Specific Plan area would occur as currently approved, including all previously approved revisions to the 2003 Approved South Campus. As such, the changes when compared to the proposed Project are shown in Table 1-3 and would occur under existing approved (Alternative 1) build-out conditions.

Table 1-3. Alternative 1 Build-Out Land Uses

Use	Alternative 1 (acres)	Proposed Project (acres)	Alternative 1 vs. Proposed Project (acres)
Office	32.0	4.6	+27.4
Commercial	6.4	23.5	-17.1
Mixed Use	23.3	27.8	-4.5
Business Park	232.1	170.8	+61.3
Industrial	134.5	200.3	-65.8
Park/Open Space	125.0	140.3	-15.3
Public Facilities	0	0.9	-0.9
Total Net Acres	553.3	568.2	-14.9*

Note:

* Change in total net acres due to inclusion of 10 acres of Lot 31 for proposed Project, reconfiguration of internal road system and rounding differences

As such, Alternative 1 would result in the following differences when compared to the proposed Project:

- Increase in 27.4 acres of Office use
- Increase in 61.3 acres of Business Park use
- Reduction in 17.1 acres of Commercial use
- Reduction in 4.5 acres of Mixed Use
- Reduction in 65.8 acres of Industrial use
- Reduction in 15.3 acres of Park/Open Space use
- Reduction in 0.9 acres of Public Facilities use

Under Alternative 1, the proposed Village West Drive Extension would not be implemented. Additionally, the revisions to the definitions of “Business Enterprise”, “Wholesale, Storage and Distribution – Medium” and “Wholesale, Storage and Distribution – Heavy” would remain unchanged and no definition would be added for “Grocery Store.”

Alternative 2 – South Campus Re-Entitlement Only

Under Alternative 2, the South Campus Re-Entitlement Only Alternative, the build out of the remainder of the South Campus Specific Plan area would occur in a manner identical to the proposed Project; however, no Village West Drive Extension would occur. As such, the changes when compared to the proposed Project are shown in Table 1-4 and would occur under Alternative 2 build-out conditions.

Table 1-4. Alternative 2 Build-Out Land Uses

Use	Alternative 2 (acres)	Proposed Project (acres)	Alternative 2 vs. Proposed Project (acres)
Office	4.6	4.6	0
Commercial	23.5	23.5	0
Mixed Use	27.8	27.8	0
Business Park	170.8	170.8	0
Industrial	200.3	200.3	0
Park/Open Space	140.3	140.3	0
Public Facilities	0.9	0.9	0
Total Net Acres	568.2	568.2	0

Alternative 3 – Business Park

Under Alternative 3, Business Park, the build out of the remainder of the South Campus Specific Plan area, with the exception of the 9.4 acre proposed Grocery Store, would occur as Business Park. The existing Open Space/Park (i.e., park and trail system, conservation easement, basin), Industrial and Commercial projects which have been constructed/entitled, would remain, as would the Industrial and Commercial land use designations for those sites. As such, the changes when compared to the proposed Project are shown in Table 1-5 and would occur under Alternative 3 build-out conditions.

Table 1-5. Alternative 3 Build-Out Land Uses

Use	Alternative 3 (acres)	Proposed Project (acres)	Alternative 3 vs. Proposed Project (acres)
Office	0	4.6	-4.6
Commercial	12.9	23.5	-10.6
Mixed Use	0	27.8	-27.8
Business Park	306.44	170.8	+135.64
Industrial	119.06	200.3	-81.24
Park/Open Space	129.8	140.3	-10.5
Public Facilities	0	0.9	-0.9
Total Net Acres	568.2	568.2	0

As such, Alternative 3 would result in the following differences when compared to the proposed Project:

- Increase in 135.64 acres of Business Park use
- Reduction in 4.6 acres of Office use
- Reduction in 10.6 acres of Commercial use
- Reduction in 27.8 acres of Mixed Use
- Reduction in 81.24 acres of Industrial use
- Reduction in 10.5 acres of Park/Open Space use
- Reduction in 0.9 acres of Public Facilities use

Additionally, under Alternative 3, the proposed Village West Drive Extension would not be implemented.

1.11.2 Environmentally Superior Alternative

Table 1-6 provides a summary of the alternatives impact analysis considered in this SEIR and compares each impact of the areas of potential environmental effects to the proposed project.

Table 1-6. Comparison of Project and Alternatives Impacts

Environmental Topic	Project Impact	Alternative 1 No Project	Alternative 2 South Campus Re- Entitlement Only	Alternative 3 Business Park
Aesthetics	Less than Significant	▲	▼	▲
Air Quality	Significant and Unavoidable (operational NOx)	▲	=	▲
Biological Resources	Less than Significant with Mitigation	=	▼	=
Energy	Less than Significant	▲	=	▲
Geology and Soils	Less than Significant with Mitigation	▼	=	▼

Table 1-6. Comparison of Project and Alternatives Impacts

Environmental Topic	Project Impact	Alternative 1 No Project	Alternative 2 South Campus Re- Entitlement Only	Alternative 3 Business Park
Greenhouse Gas Emissions	Less than Significant	▲	=	▲
Hazards/Hazardous Materials	Less than Significant	=	=	=
Hydrology/Water Quality	Less than Significant with Mitigation	▲	▲	▲
Land Use/Planning	Less than Significant with Mitigation	▼	=	=
Noise	Less than Significant	▼	▼	=
Recreation	Less than Significant	▼	=	▼
Transportation	Significant and Unavoidable (VMT)	▲	=	▲
Tribal Cultural Resources	Less than Significant	=	▼	=
Utilities/Service Systems	Less than Significant	▼	▼	▲
Wildfire	Less than Significant	=	=	=

Notes:

- ▲ Impacts would be greater than those of the proposed Project.
- = Impacts would be comparable to those of the proposed Project
- ▼ Impacts would be reduced when compared to those of the proposed Project.

As indicated in Table 1-6, Alternative 2, the South Campus Re-Entitlement Only Alternative, would result in the fewest environmental impacts, and therefore would be considered the Environmentally Superior Alternative.

Alternative 2 was found to be environmentally superior over the proposed Project (see Table 1-6) because it had the most reductions in impacts from the proposed Project. Alternative 2 was found to result in fewer air quality, biological resources, noise, tribal cultural resources, and utilities and service systems impacts. Under Alternative 2, comparable impacts to aesthetics, energy, geology and soils, GHG emissions, hazards and hazardous materials, recreation, transportation, and wildfire would occur when compared to the proposed Project, and Alternative 2 would achieve all of the Project objectives. While Alternative 2 would be the Environmentally Superior Alternative, this alternative would prevent the beneficial hydrology and water quality and wildfire impacts associated with improving Village West Drive and would not provide the through connection between Van Buren Boulevard and Nandina Avenue via an improved roadway.

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2 Introduction

2.1 Purpose and Scope

The purpose of this Subsequent Environmental Impact Report (SEIR) is to evaluate and disclose the potential environmental consequences of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project). The proposed Project constitutes a “project” as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15378. The March Joint Powers Authority (JPA) is the lead agency preparing this SEIR in accordance with the CEQA statutes (California Public Resources Code, Section 21000 et seq.) and the March JPA’s 2019 Local CEQA Guidelines.

The proposed Project involves amending the South Campus Specific Plan, which is a portion of the Meridian Business Center Specific Plan (originally called the March Business Center), in order to shift the mix of land uses, which will result in similar environmental impacts as compared to (1) the South Campus development originally approved in 2003 (2003 Approved South Campus); and (2) the currently approved South Campus development (Current South Campus). This SEIR will consider the environmental impact “delta” between the environmental impacts of the 2003 Approved South Campus that were already evaluated and accounted for in the 2003 Focused Environmental Impact Report (2003 Focused EIR) and the proposed South Campus Specific Plan.¹ However, any environmental issues that were not addressed in the previous environmental documents for the South Campus Specific Plan (i.e., energy impacts and the Village West Drive extension), will be evaluated anew.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

2.2 Compliance with CEQA

2.2.1 Format

This chapter of this SEIR sets forth the summary requirements of CEQA as required by Section 15123 of the CEQA Guidelines. Chapter 3, Project Description, also complies with CEQA project description requirements by discussing the Project location (Section 3.1), providing a statement of the document’s purpose and intended use (Section 3.5), and identifying the Project objectives (Section 3.3).

Issues identified in the Initial Study prepared for the Project by the March JPA that were found to have no impact or a less than significant impact are provided in Appendix A, Initial Study and Notice of Preparation, of this document. This SEIR has been formatted to tier from previously prepared EIRs and address the issues found to be potentially

¹ *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949.

significant in the Initial Study. For the issue areas found to be potentially significant in the Initial Study, there is a corresponding SEIR section.

Each SEIR section includes an existing setting discussion that describes the physical environmental conditions within the Project area, as they existed at the time the Notice of Preparation (NOP) was prepared, in May 2020.

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” As the 4th District Court of Appeals opined in *Sierra Club v. City of Orange* (163 Cal.App.4th 523, 543 [2008]):

“When a lead agency is considering whether to prepare an SEIR, it is specifically authorized to limit its consideration of the later project to effects not considered in connection with the earlier project. [CEQA Guidelines, § 15162(a)(1).]” (*Temecula Band of Luiseño Mission Indians v. Rancho Cal. Water Dist.* (1996) 43 Cal.App.4th 425, 437, 50 Cal.Rptr.2d 769; see also *Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1477, 277 Cal.Rptr. 481 [“we are satisfied that the project before the board was a modification of the existing ... project, not an entirely new project”]; *Fund for Environmental Defense v. County of Orange* (1988) 204 Cal.App.3d 1538, 1544, 252 Cal.Rptr. 79 [“ [Public Resources Code] Section 21166 comes into play precisely because in-depth review has already occurred, the time for challenging the sufficiency of the original EIR has long since expired ([Public Resources Code] § 21167, subd. (c)), and the question is whether circumstances have changed enough to justify repeating a substantial portion of the process' ”].)

The “without Project” condition will reflect the 2003 Approved South Campus as evaluated by the 2003 Focused EIR and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. The SEIR will consider the environmental impact “delta” between the environmental impacts that were already evaluated and accounted for in the 2003 Focused EIR and the proposed Project. *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis.

Using traffic as an example, the SEIR compares the South Campus traffic analyzed in the 2003 Focused EIR with the traffic anticipated under the proposed Project. Where this comparison shows the Project having additional environmental impacts, the SEIR evaluates whether those additional impacts are significant and provides any feasible mitigation measures. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against the existing physical conditions.

The March JPA determines whether an impact is considered to be significant (14 CCR 15125[a]). Section 15125(d) of the CEQA Guidelines requires that an EIR “discuss any inconsistencies between the project and applicable general plans and regional plans,” which will be addressed in Section 4.9, Land Use and Planning. Each SEIR section identifies thresholds of significance as well as includes an analysis to determine the amount and degree of impact relative to each significance threshold that is associated with the Project. For all significant environmental impacts, mitigation measures, where feasible, are required in order to reduce the impacts to a less-than-significant level.

The analysis of impacts and identification of mitigation measures are derived from technical reports that are included as technical appendices to this SEIR and from other informational resources as listed at the end, in the references subsection, within each section of this document.

2.2.2 Environmental Procedures

The basic purposes of CEQA are the following (14 CCR 15002):

1. Inform governmental decision makers and the public about the potential significant environmental effects of proposed activities;
2. Identify the ways that environmental damage can be avoided or significantly reduced;
3. Prevent significant, unavoidable damage to the environment by requiring changes in the project through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The EIR process typically consists of three parts: (1) the NOP (including the Initial Study), (2) the Draft EIR, and (3) the Final EIR. Pursuant to Section 15063 of the CEQA Guidelines, the March JPA prepared an Initial Study (Environmental Checklist) for the Project in order to determine if the Project would have a significant effect on the environment. The NOP was intended to encourage interagency communication concerning the proposed action and provide sufficient background information about the proposed action so that agencies, organizations, and individuals could respond with specific comments and questions on the scope and content of the EIR. Based on the analysis contained in the Initial Study/NOP, the March JPA concluded that a SEIR should be prepared tiering from previously prepared and certified March JPA General Plan and 2003 Focused EIRs for the overall Meridian Business Center Specific Plan development. The NOP for the SEIR and a description of potential adverse impacts were distributed to the State Clearinghouse, responsible agencies, and other interested parties on May 18, 2020. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. On June 9, 2020, during the 30-day public review period of the NOP, March JPA held a Scoping Meeting to gather additional public input on the Project. Copies of the NOP (including the Initial Study) and the NOP distribution list are provided in Appendix A. All comments received during the NOP public notice period were considered during the preparation of this SEIR. Written comments received on the NOP are also included in Appendix A of this SEIR.

Based on the scope of analysis for this SEIR, including comments received during the NOP public scoping period, the following issues were determined to be potentially significant and are therefore addressed in Chapter 4, Environmental Impact Analysis, of this document:

- Aesthetics
- Air Quality
- Biological Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

Although the Initial Study found impacts to Tribal Cultural Resources to be less than significant with mitigation incorporated, because tribal consultation pursuant to Senate Bill 18 and Assembly Bill 52 was still ongoing, the topic will be addressed in Chapter 4, Environmental Impact Analysis. Other potential environmental impacts areas, such as agricultural and forestry resources, cultural resources, mineral resources, population and housing, and

public services, were not found to be significant based on the results of the Initial Study. These issues are addressed in Chapter 5, Other CEQA Considerations, of this SEIR.

As the lead agency for the Project, March JPA has assumed responsibility for preparing this SEIR. The decision of whether to approve the Project is within the purview of the March Joint Powers Commission. The March JPA will use the information included in this SEIR to consider potential impacts to the physical environment associated with the Project when considering approval of the Project. As set forth in Section 15021 of the CEQA Guidelines, the March JPA, as lead agency, has the duty to avoid or minimize environmental damage where feasible. Furthermore, Section 15021(d) states the following:

CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a Project that will cause one or more significant effects on the environment.

In accordance with CEQA, the lead agency will be required to make findings for each significant environmental impact of the Project that cannot be mitigated to a less-than-significant level. If the lead agency determines that the benefits of the Project outweigh unmitigated, significant environmental effects, the agency will be required to adopt a statement of overriding considerations stating the reasons supporting their approval of the Project action notwithstanding the Project's significant environmental effects.

The SEIR will be made available for review to agencies and the public for 45 days to provide comments on the "sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (14 CCR 15204).

2.2.3 Incorporated by Reference

Information provided in (1) the General Plan of the March Joint Powers Authority (March JPA 1999a), (2) Master Environmental Impact Report for the March Joint Powers Authority (March JPA 1999b), (3) Air Installation Compatible Use Zone Study for March Air Reserve Base (ARB) (March ARB 2018), (4) March ARB/Inland Port Airport Land Use Compatibility Plan (Mead & Hunt 2014), (5) March Business Center Specific Plan (SP-1) Final Focused EIR (March JPA 2003a, 2003b), (6) Meridian South Campus Specific Plan Amendment SP-1, A6 – Parcel Delivery Terminal Project Addendum (September 2017), (7) Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018), and other references, were reviewed to assist environmental review of the Project.

The March JPA's General Plan describes plans for development on the site and evaluates the environmental effects of the land uses proposed in the General Plan for the site. Accordingly, these documents are incorporated by reference (14 CCR 15150). These documents are available for review at the March JPA, 14205 Meridian Parkway, Suite 140, Riverside, California 92518, as well as on the March JPA's website at www.marchjpa.com.

2.2.4 NOP Comments and Scoping Meeting

The NOP for the Project was published on May 18, 2020. The public review period for the Initial Study/NOP began on May 18, 2020, and ended on June 19, 2020. Comments of agencies and organizations regarding the Initial Study/NOP can be found in Appendix A. During the 30-day public review period of the NOP, March JPA held a Scoping Meeting on June 9, 2020. Discussion at the June 9, 2020, Scoping Meeting included concerns regarding construction and truck traffic. None of the comments received change the issue areas that the Initial Study determined would be discussed in the SEIR. All of the issues and concerns raised in the comments have been fully addressed and analyzed in the SEIR.

2.3 References Cited

March ARB (Air Reserve Base). 2018. *Final Air Installation Compatible Use Zone Study for March Air Reserve Base*. https://www.marchjpa.com/documents/docs_forms/AICUZ_2018.pdf.

March JPA (Joint Powers Authority). 1999a. *General Plan of the March Joint Powers Authority*. Accessed March 20, 2015. http://www.marchjpa.com/docs_forms/planning_generalplan.pdf.

March JPA. 1999b. *Master Environmental Impact Report for the General Plan of the March Joint Powers Authority*. Final. SCH No. 97071095. September 1999. http://www.marchjpa.com/docs_forms/eir.pdf.

March JPA. 2003a. *March Business Center Specific Plan*. February 2003.

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Mead & Hunt. 2014. *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan*. Prepared for the Riverside County Airport Land Use Commission. Santa Rosa, California: Mead & Hunt. November 13, 2014. <http://www.rcaluc.org/Portals/13/17%20-%20Vol.%201%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-145812-700>.

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3 Project Description

This chapter describes the objectives of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project) and Subsequent Environmental Impact Report (SEIR), and provides a detailed description of Project characteristics. This chapter also discusses the discretionary actions required and includes a brief description of the environmental effects, which are evaluated in Chapter 4, Environmental Impact Analysis, through Chapter 6, Alternatives, of this SEIR.

3.1 Project Location

The Project site is located within the southwestern portion of the March Joint Powers Authority (JPA) jurisdiction. More specifically, and as shown in Figure 3-1, Project Location, the Project site is located in the South Campus of the Meridian Business Center, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the Project site. The Village West Drive extension component of the Project is located to the east and south of South Campus.

3.2 Project Background

In 1993, the federal government mandated the realignment of March Air Force Base and a substantial reduction in its military use. In April 1996, March Air Force Base was re-designated an Air Reserve Base. Approximately 4,400 acres of land that had historically supported March Air Force Base were no longer needed to support the March Air Reserve Base. The cities of Moreno Valley, Perris, and Riverside, and the County of Riverside formed the March JPA to oversee the dispensation and management of the surplus land. A General Plan and Master Environmental Impact Report (EIR) were prepared and adopted/certified in 1999 for the JPA planning area, which includes the March Air Reserve Base.

The March Business Center Specific Plan and Final Focused EIR (SCH No. 2002071089), which guides land use decisions within a 1,290-acre portion of the JPA planning area, was adopted and certified in 2003. Within the March Business Center Specific Plan, two separate “campuses,” North Campus and South Campus, were identified, along with the potential for a possible third campus. The South Campus components of the March Business Center Specific Plan, identified as Phase III, have been analyzed under both the California Environmental Quality Act and National Environmental Policy Act in the following documents:

- Final Environmental Impact Statement: Disposal of Portions of March Air Force Base (February 1996)
- Final Environmental Impact Report for the March Air Force Base Redevelopment Project (June 1996)
- Redevelopment Plan for the March Air Force Base Redevelopment Project (June 1996)
- March Joint Powers Authority Development Code (July 1997)
- General Plan of the March Joint Powers Authority (September 1999)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (September 1999)
- March Business Center Specific Plan (February 2003)
- March JPA General Plan Amendment (February 2003)
- March Business Center Focused Environmental Impact Report (February 2003)
- March Business Center Design Guidelines (November 2003)

- Addenda to the certified 2003 March Business Center Focused EIR, focused on the South Campus, including:
 - Meridian South Campus Specific Plan Amendment SP-1, A6 – Parcel Delivery Terminal Project (September 2017)
 - Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018)

3.3 Project Objectives

The proposed Project requests an amendment to the existing South Campus components of the Meridian Business Center Specific Plan (South Campus Specific Plan) to shift land uses between parcels. The proposed Project would not develop any land within the South Campus Specific Plan area that was not already approved for development, nor would the Project encroach on the March Air Reserve Base or its operations. The Meridian Business Center Specific Plan objectives identified in the 2003 Focused EIR included the following:

- Implement the goals, objectives and policies of the March JPA General Plan
- Provide increased job opportunities for local residents through the provision of employment-generating uses
- Establish an attractive business park development that will blend the natural and built environment and create a high-quality business park development
- Provide for the design, development and operation of a business park consisting of industrial, research and development, office, commercial and open space uses
- Establish a land use and facility plan that assures project viability in consideration of existing and anticipated economic conditions
- Ensure a business park development that conforms to the March JPA goals and values and the protection of adjacent land uses from incompatibility
- Develop the property with land uses that are compatible with the March Air Force Base Reuse plan
- Encourage the use of alternative modes of transportation through the provision of a pedestrian circulation system that is both safe and comfortable
- Ensure that businesses within the March Business Center Specific Plan provide a range of job types for the community's residents
- Provide a circulation system that facilitates movement and access needs of automobiles, pedestrians, and bicyclists
- Minimize impacts from construction of the development to sensitive biological resources

To reflect the evolving community priorities and environmental regulatory landscape, the Project's proposed mix of uses has been designed to reduce the environmental impacts compared to the 2003 Approved South Campus, as well as the currently approved South Campus development (Current South Campus). As such, the objectives of this Project are as follows:

- Respond to community requests for community serving land uses, including a dog park, and additional retail uses, such as restaurants and stores.
- Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.
- Site community serving uses in locations easily accessible from Van Buren Boulevard.
- Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.

- Implement the goals, objectives, and policies of the March JPA General Plan.
- Provide increased job opportunities for local residents through the provision of employment-generating businesses.
- Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.
- Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient, and comfortable.
- Provide a range of job types for the community’s residents.
- Minimize impacts from construction of the development to sensitive biological resources.
- Implement the terms and conditions agreed upon in the September 12, 2012, Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in *Center for Biological Diversity v. Jim Bartel, et al.*

3.4 Existing Conditions

Much of the development of the March Business Center Specific Plan (the plan area is marketed and branded as “Meridian”) and the South Campus Specific Plan is constructed or currently under construction. Figure 3-2, Existing Conditions, shows the status of current development on the South Campus. The following is a summary of roadways and buildings that have been built or are under construction in the South Campus Specific Plan.

3.4.1 Roadways

As shown in Figure 3-2, the following roadway improvements have been built or are under construction within the South Campus Specific Plan area:

- **Van Buren Boulevard** – Van Buren Boulevard from Village West Drive to Barton Street has been widened to seven through lanes, with four westbound lanes and three eastbound lanes.
- **Coyote Bush Road** – Coyote Bush Road has been constructed with two lanes in each direction and a painted median, providing a connection between Van Buren Boulevard and Krameria Avenue.
- **Krameria Avenue** – Krameria Avenue has been constructed with two lanes in each direction and a painted median, between Village West Drive on the east to provide access to Building B on the west.
- **Bundy Avenue** – Bundy Avenue has been extended with two lanes and a painted median northward to connect with Krameria Avenue on the north.
- **Village West Drive** – Village West Drive has been improved with two lanes and a painted median between Van Buren Boulevard and Krameria Avenue to provide access into the South Campus. South of Lemay Drive in the residential community located south of the South Campus, Village West Drive becomes an unpaved roadway.

3.4.2 Park, Trail, and Open Space System

As shown in Figure 3-2, an open space area with a newly constructed park and loop trail system is located southwest of the intersection of Krameria Avenue and Village West Drive. Part of the original South Campus Specific Plan, the loop trail is approximately 4,300 linear feet (0.8 miles), in the eastern portion of a 61.38-acre parcel. Adjacent to

the park and loop trail is a parking lot with 25 parking spaces accessed via Village West Drive. Additionally, the 8-acre detention basin located adjacent to Van Buren Boulevard has been constructed.

3.4.3 Buildings

As shown in Figure 3-2, the following buildings have been approved and are either constructed or under construction within the South Campus Specific Plan area:

- **Building A**, located south of Krameria Avenue and west of Bundy Avenue, is a 1,000,000-square-foot industrial warehouse building. This building was constructed in November 2017, is complete and operational, and is occupied by Amazon.
- **Building B**, located immediately west of Building A, south of Krameria Avenue and where Coyote Bush Road intersects with Krameria Avenue, is a 1,000,000-square-foot industrial warehouse building. Construction of Building B was complete in March 2018. A parking lot west and south of Building B is currently under construction. Once complete, in October 2020, Building B and the adjacent parking lot will be utilized by the United Parcel Service.
- **Building C**, located at the northeast corner of the intersection of Coyote Bush Road and Krameria Avenue, is a 500,000 square foot industrial warehouse building. Construction of Building C was completed in spring 2020. Building C will be occupied by Safavieh.
- **Commercial Development**, totaling 14,267 square feet and situated on the northern 3.5 acres of a commercial parcel located at the southeast corner of the intersection of Orange Terrace Parkway and Van Buren Boulevard, has been approved. Construction is complete and will be occupied in fall 2020. The approved commercial development includes a gas station, food mart, a pad for a drive-through restaurant, and a building for retail.
- **An Electrical Substation**, located on the eastern side of Bundy Avenue, has been constructed and is operational. This existing substation is located on a 0.9-acre parcel currently designated as Industrial; however, the proposed Specific Plan Amendment SP-1, A8 proposes a zone change of the 0.9 acre parcel to Public Facility.

Table 3-1 provides a summary of the total square footage of development that has been constructed within the South Campus.

Table 3-1. Existing South Campus Development

Component	Land Use	Status	Tenant	Square Footage
Building A	Industrial	Constructed	Amazon	1,000,000
Building B	Industrial	Constructed	UPS	1,000,000
Building C	Industrial	Constructed	Safavieh	500,000
Commercial	Commercial	Constructed	TBD	14,267
Electrical Substation	Open Space	Constructed	N/A	N/A
Total				2,514,267

Notes:

UPS = United Parcel Service; TBD = to be determined.

3.5 Proposed Project

3.5.1 Project Characteristics

The proposed Project would involve amending the South Campus Specific Plan, which is a portion of the March Business Center Specific Plan, to shift the mix of land uses (see Figure 3-3, Proposed Project) to result in similar environmental impacts compared to (1) the South Campus development originally approved in 2003 (2003 Approved South Campus) (as shown in Figure 3-4A, 2003 Approved South Campus Configuration); and (2) the currently approved South Campus development (Current South Campus) (as shown in Figure 3-4B, Currently Approved South Campus Configuration). This SEIR will consider the environmental impact “delta” between the environmental impacts of the 2003 Approved South Campus that were already evaluated and accounted for in the 2003 Focused EIR and subsequent South Campus environmental documents, including the Meridian South Campus Specific Plan Amendment SP-1, A6 – Parcel Delivery Terminal Project Addendum (September 2017) and Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018), and the proposed South Campus Specific Plan.¹ However, any environmental issues that were not addressed in the previous environmental documents for the South Campus Specific Plan, i.e. energy impacts and the Village West Drive extension, will be evaluated anew. The proposed Project is shown in Figure 3-3, Proposed Project, and a comparison to the 2003 Approved South Campus and Current South Campus is provided in Table 3-2.

Table 3-2. 2003 Approved, Current, and Proposed South Campus Land Uses

Use	2003 Approved South Campus (acres)	Current South Campus (acres)	Proposed South Campus (acres)	Change from Current Approval (acres)
Office	43.9	32.0	4.6	-27.4
Commercial	12.5	6.4	23.5	+17.1
Mixed Use	48.5	23.3	27.8	+4.5
Business Park	263.2	232.1	170.8	-61.3
Industrial	146.8	134.5	200.3	+65.8
Park/Open Space	111.6	125.0	140.3	+15.3
Public Facilities**	0	0	0.9	+0.9
Total Net Acres	626.5	553.3	568.2	+14.9*

Notes:

- * Change in total net acres due to inclusion of 10-acre lot previously excluded, reconfiguration of internal road system, and rounding differences.
- ** The requested land use change is to make the land use designation consistent with the existing electrical substation.

The 2003 Focused EIR evaluated impacts of the 2003 Approved South Campus’s 514.9 acres of developable land and 111.6 acres of Park/Open Space. As shown in Table 3-2, the proposed Project would reduce developable acreage by 87.9 acres to 427 acres and increase Park/Open Space by 28.7 acres to 140.3 acres. The proposed Project thus significantly reduces the developable acreage. The 2003 Approved South Campus, Current South Campus, and proposed Project are shown in Figures 3-4A, 3-4B, and 3-4C, respectively.

¹ *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949.

The proposed Project also includes Plot Plan approvals for the following components of the South Campus buildout, as shown in Figure 3-3. Each of these are discussed below:

- **Commercial Parcel:** Commercial development, totaling 14,267 square feet, has been constructed on the northern 3.5 acres of the parcel located at the southeast intersection of Orange Terrace Parkway and Van Buren Boulevard. The proposed Project seeks approval to construct additional commercial use, specifically a grocery store, in the southern 9.4 acres of that Commercial parcel. Figure 3-5 includes a plot plan for the proposed commercial development. A total of 61,336 square feet of additional Commercial use with a total of 345 parking spaces would be constructed (PP 20-03). The proposed Project also seeks approval of a conditional use permit to allow alcohol sales at the grocery store. This area was designated as Office in the 2003 Approved South Campus, as well as in the Current South Campus.
- **Building D:** The proposed Building D (PP 20-04) would be constructed west of Coyote Bush Road and north of Krameria Avenue on a parcel that is 36.5 acres in size. The building would be an 800,000-square-foot industrial warehouse located across the street from the existing Building C. This area was designated as Business Park and Mixed Use in the 2003 Approved South Campus and the Current South Campus. Figure 3-6 includes a plot plan for Building D.
- **Dog Park and Paseo:** A 6.2-acre dog park and paseo (PP 20-05) would be constructed on the eastern side of Barton Street across from the Santa Inez Way and Barton Street intersection, as shown in the plot plan included in Figure 3-7. The dog park and paseo would extend to Caroline Way and provide an open space connection to Krameria Avenue. This area was designed as Business Park and Commercial in the 2003 Approved South Campus and the Current South Campus.
- **Caroline Way:** Caroline Way would be constructed from the west end of Krameria Avenue north to the end of the proposed Building D where it would turn to the right and connect with Coyote Bush Road. This road is generally in the same location as the previously planned roadways for the 2003 Approved South Campus and Current South Campus.
- **Village West Drive Extension:** The improved portions of Village West Drive currently terminate at Lemay Drive south of Krameria Avenue. The proposed Project would include improvements to and the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. This improvement is included as part of PP 20-03 discussed above. The improved Village West Drive would require the removal of an abandoned water tank, shown on Figure 3-2, currently owned by Western Municipal Water District that formerly served March Air Force Base, followed by the construction of two through lanes, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway. The total roadway width would be 54 feet, and the improvements are expected to be for 4,330 linear feet (approximately 1,720 linear feet of which is the existing roadway that runs in front of the Westmont Village retirement community). The extension would require an amendment to the Transportation Element of the March JPA General Plan. Note that extension of Village West Drive would require an easement from the United States Department of Veterans Affairs (VA). The VA has discussed accessing its future Cemetery expansion area via an under- or over-pass across Village West Drive; however, the timing of the VA's development of its Cemetery expansion area is unknown. An under- or over-pass improvement is neither planned nor approved and the VA is considering alternatives.

Additionally, the SEIR analyzes up to 700,000 square feet of high-cube cold storage warehousing within the South Campus Specific Plan. The proposed Project is requesting text revisions to the definitions of “Wholesale, Storage and Distribution – Medium” and “Wholesale, Storage and Distribution – Heavy” to accommodate the cold storage use.

The proposed Project also is requesting a text revision to the definition of “Business Enterprise” in the Specific Plan. The Business Enterprise land use typically includes wholesale, storage, and warehousing services and storage and wholesale to retailers from the premises of finished goods and food products. Business Enterprise uses are permitted in the Business Park, Industrial, and Mixed Use land designations. As currently defined, the Business Enterprise use is typically conducted within an enclosed building, occupying 50,000 square feet or less of building space. The proposed Project would revise the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

Additionally, the proposed Project requests the text addition of a definition for “Grocery Store” in the Specific Plan along with the inclusion of “Grocery Store” as a permitted use not requiring a use permit within the Commercial land use designation within the Specific Plan. Alcohol sales at grocery stores would still require a use permit.

3.5.2 Project Construction

Construction is expected to commence in January 2021 and last through January 2024. The construction schedule utilized in the analysis, shown in Table 3-3, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.² The duration of construction activity and associated equipment, as shown in Table 3-4, represents a reasonable approximation of the expected construction fleet as required per the California Environmental Quality Act. The duration of construction activity was based on the Project’s 2024 opening year.

Table 3-3. Construction Schedule

Phase Name	Start Date	End Date	Days
<i>South Campus Specific Plan</i>			
Site Preparation	01/04/2021	04/16/2021	75
Grading	04/17/2021	09/03/2021	100
Building Construction	09/04/2021	07/19/2024	750
Paving	02/18/2024	07/19/2024	110
Architectural Coating	09/16/2023	07/19/2024	220
<i>Village West Drive Extension</i>			
Grubbing/Land Clearing	01/04/2021	01/13/2021	8
Grading/Excavation	01/14/2021	02/17/2021	25
Drainage/Utilities/Subgrade	02/18/2021	03/23/2021	24
Paving	03/24/2021	04/06/2021	10

Source: Appendix B.

Site-specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on the California Emissions Estimator Model (CalEEMod) 2016.3.2 defaults. A detailed summary of construction equipment assumptions by phase is provided in Table 3-4.

² As shown in the CalEEMod User’s Guide Version 2016.3.2, Section 4.3 “OFFROAD Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Table 3-4. Construction Equipment Assumptions

Activity	Equipment	Amount	Hours Per Day	Horsepower	Load Factor
Village West Drive Extension					
Grubbing/Land Clearing	Crawler Tractors	1	8	212	0.43
	Excavator	1	8	158	0.38
	Signal Boards	2	8	6	0.82
Grading/Excavation	Crushing/Proc. Equipment	1	8	85	0.78
	Forklifts	3	8	89	0.20
	Graders	1	8	187	0.41
	Rollers	2	8	80	0.38
	Rubber Tired Loaders	1	8	247	0.40
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Drainage/Utilities/ Subgrade	Air Compressors	1	8	78	0.48
	Generator Sets	1	8	84	0.74
	Graders	1	8	187	0.41
	Plate Compactors	1	8	8	0.43
	Pumps	1	8	84	0.74
	Rough Terrain Forklifts	1	8	100	0.40
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37
	Pavers	1	8	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	3	8	80	0.38
	Signal Boards	2	8	6	0.82
Meridian South Campus					
Site Preparation	Crawler Tractors	4	8	212	0.43
	Rubber Tired Dozers	3	8	247	0.40
Grading	Crawler Tractors	2	8	212	0.43
	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Scrapers	2	8	367	0.48
Building Construction	Cranes	1	8	231	0.29
	Crawler Tractors	3	8	212	0.43
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	8	78	0.48

Note: To account for fugitive dust emissions associated with Site Preparation and Grading activities, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes.

The March JPA has established limits to the hours of construction. Section 9.10.030 of the March JPA Development Code provides that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. and 7:00 p.m. As such, construction activities are permitted to occur up to 12 hours per day pursuant to the March JPA Development Code. Under Section 9.10.140 of the March JPA Development Code, outdoor construction and grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing or demolition work within 500 feet of the property line of a residential use, is further prohibited between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a Federal Holiday. However, it should be noted that the identified construction equipment would not be used during every hour of the day. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 will operate up to a total of 8 hours per day, or approximately two-thirds of the period during which construction activities are allowed pursuant to the code. Most pieces of equipment would likely operate for fewer hours per day.

3.5.3 California Environmental Quality Act

The proposed Project involves amending the South Campus Specific Plan, which is Phase III of the March Business Center Specific Plan, in order to shift the mix of land uses, which will result in similar environmental impacts as compared to (1) the South Campus development originally approved in 2003 (2003 Approved South Campus); and (2) the currently approved South Campus development (Current South Campus). Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” As the 4th District Court of Appeals opined in *Sierra Club v. City of Orange* (163 Cal.App.4th 523, 543 [2008]):

“When a lead agency is considering whether to prepare an SEIR, it is specifically authorized to limit its consideration of the later project to effects not considered in connection with the earlier project. [Citation.]” (*Temecula Band of Luiseño Mission Indians v. Rancho Cal. Water Dist.* (1996) 43 Cal.App.4th 425, 437, 50 Cal.Rptr.2d 769; see also *Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1477, 277 Cal.Rptr. 481 [“we are satisfied that the project before the board was a modification of the existing ... project, not an entirely new project”]; *Fund for Environmental Defense v. County of Orange* (1988) 204 Cal.App.3d 1538, 1544, 252 Cal.Rptr. 79 [“ [Public Resources Code Section 21166 comes into play precisely because in-depth review has already occurred, the time for challenging the sufficiency of the original EIR has long since expired ([Public Resources Code] § 21167, subd. (c)), and the question is whether circumstances have changed enough to justify repeating a substantial portion of the process' ”].)

The “without Project” condition will reflect the 2003 Approved South Campus as evaluated by the 2003 Focused EIR and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR will consider the environmental impact “delta” between the environmental impacts of the 2003 Approved South Campus that were already evaluated and accounted for in the 2003 Focused EIR and subsequent South Campus environmental documents and the proposed South Campus Specific Plan.³ This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis.

Using traffic as an example, the SEIR compares the South Campus traffic analyzed in the 2003 Focused EIR with the traffic anticipated under the proposed Project. Where this comparison shows the Project having additional environmental impacts, the SEIR evaluates whether those additional impacts are significant and provides any feasible mitigation measures. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are

³ *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949.

described and applied to the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing physical conditions. Note that environmental review under the National Environmental Policy Act will occur separately for the Village West Drive Extension easement.

3.5.4 Requested Approvals and Entitlements

To facilitate Project approval, the following would be required; details for each component are provided below.

- **General Plan Amendment:** GP 20-01
- **Specific Plan Amendment (SP-1, Amendment 8):** SP 20-01
- **Plot Plan:** PP 20-03 45,000 sf Grocery Store and two shop buildings and Village West Drive extension
- **Plot Plan:** PP 20-04 Building D South Campus and Caroline Way
- **Plot Plan:** PP 20-05 South Campus Dog Park and Paseo
- **Conditional Use Permit:** CUP 20-02 for Alcohol sales at 45,000 sf Grocery Store
- **Tentative Parcel Map:** TPM 20-02 South Campus

3.5.4.1 General Plan Amendment

The following are proposed changes to the General Plan Land Use Map:

- Increase of 15.3 acres of Parks/Open Space
- Increase of 65.8 acres of Industrial
- Increase of 17.1 acres of Commercial
- Increase of 4.5 acres of Mixed Use
- Increase of 0.9 acres of Public Facilities (existing Electrical Substation)
- Reduction of 27.4 acres of Office
- Reduction of 61.3 acres of Business Park
- Under the proposed Project, the totals would be 4.6 acres of Office, 23.5 acres of Commercial, 27.8 acres of Mixed-Use, 170.8 acres of Business Park, 200.3 acres of Industrial, 140.3 acres of Park/Open Space, and 0.9 acres of Public Facilities. The amendment would modify Figures 1-4A, 1-4B, 2-1A, 2-1B, 2-3A, and 2-3B of the General Plan.

Additionally, an amendment to the Transportation Element of the General Plan will be required for roadway alignment changes within the Specific Plan boundaries and the Village West Drive extension. The revised street configuration is shown in Figure 3-8, Transportation Element Amendment. Through these revisions, the following changes are incorporated:

- Remove Street K, Street Q, Street T, and Street U
- Reconfigure Street Y and rename as Caroline Way
- Reconfigure Street P and rename as Gless Ranch Road
- Prohibit trucks on Gless Ranch Road
- Extend Village West Drive south to Nandina Avenue

3.5.4.2 Specific Plan Amendment

The following Specific Plan changes would result in a revised Meridian Business Center Specific Plan (SP-1, Amendment No. 8) through modification of the land use designation and zoning of several areas, along with roadway alignment changes, and will specifically modify Figures II-1A, II-1B, II-3, II-4, II-5A, II-5B, II-5C, III-1B, V-1, V-2, V-II, V-3, V-4, V-5A, V-5B, V-5C, V-5C1, V-5E, V-5E1, V-5F, V-5G, V-6, VI-1, VI-2, VI-3, and VI-4 of the Meridian Business Center Specific Plan (SP-1).

- Increase of 15.3 acres of Parks/Open Space
- Increase of 65.8 acres of Industrial
- Increase of 17.1 acres of Commercial
- Increase of 4.5 acres of Mixed Use
- Increase of 0.9 acres of Public Facilities
- Reduction of 27.4 acres of Office
- Reduction of 61.3 acres of Business Park

Under the proposed Project, the totals would be 4.6 acres of Office, 23.5 acres of Commercial, 27.8 acres of Mixed-Use, 170.8 acres of Business Park, 200.3 acres of Industrial, 140.3 acres of Park/Open Space, and 0.9 acres of Public Facilities.

To account for the proposed roadway alignment changes within the Specific Plan boundaries and the Village West Drive extension, Specific Plan figures related to transportation and infrastructure would be modified. The specific roadway revisions are as follows:

- Remove Street K, Street Q, Street T, and Street U
- Reconfigure Street Y and rename as Caroline Way
- Reconfigure Street P and rename as Gless Ranch Road
- Prohibit trucks on Gless Ranch Road
- Extend Village West Drive south to Nandina Avenue

Additionally, the proposed Project requests the following Specific Plan text amendments (shown as underlined text):

- Amend the definition of “Business Enterprise” as follows:
Business Enterprise: Activities typically include: wholesale, storage, and warehousing services and storage and wholesale to retailers from the premises of finished goods and food products. Activities under this classification are typically conducted in enclosed buildings and occupy 50,000 square feet or less of building space. Within the South Campus, activities under this classification may occupy 200,000 square feet or less of divisible building space. May include incidental display and retail sales from the premises, not to exceed 25% of the building.
- Amend the definition of “Wholesale, Storage and Distribution- Medium” as follows:
Wholesale, Storage and Distribution - Medium: Activities typically include: wholesale, storage and warehousing services, including cold storage, moving and storage services, storage and wholesaling to retailers from the premises of finished goods and food products, and distribution facilities for large scale retail firms. Activities under this classification are typically conducted in enclosed buildings and occupy greater than 50,000 square feet of building space.

- Amend the definition of “Wholesale, Storage and Distribution – Heavy” as follows:
Wholesale, Storage and Distribution - Heavy: Activities typically include: warehousing, storage, freight handling, shipping, trucking services and terminals; storage and wholesaling from the premises of unfinished, raw or semi-refined products requiring further processing fabrication or manufacturing. Typically uses include, but are not limited to, trucking firms, cold storage, automotive storage or impound yards, and the wholesaling of metals, minerals and agricultural products.
- Add a definition for “Grocery Store as follows:
Grocery Store: Activities include retail sales of food products, produce, and household supplies, and may include prepackaged alcoholic beverages as an incidental commodity to the establishment.
- Add “Grocery Store” under Commercial Uses in Table III-1 and list as a permitted use (P) for the Commercial land use designation.
- Revise footnote 7 of Table III-1 as follows:
⁷ Within the Commercial zoning district, a use permit shall be required for single uses above 25,000 square feet of gross floor area, with the exception of grocery stores. A use permit is required for alcohol sales at grocery stores.

3.5.4.3 Tentative Parcel Map

A tentative parcel map for the proposed lots in the South Campus Specific Plan would be processed to create lots, as shown in Figure 3-9, Tentative Tract Map.

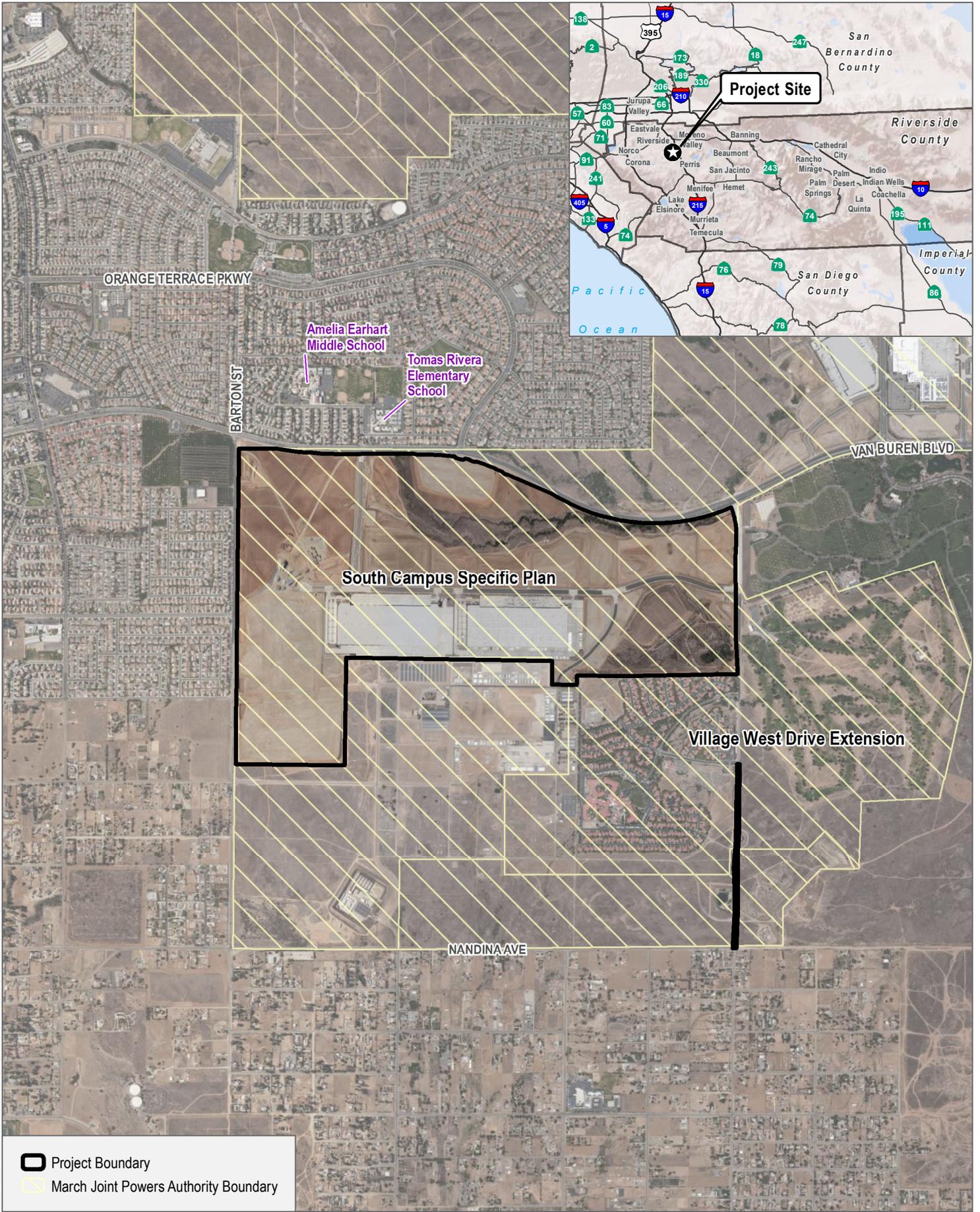
3.5.4.4 Plot Plan Applications

Upon approval of the General Plan Amendment and Specific Plan Amendment, Plot Plan Applications would be submitted to allow the construction of the following:

- Plot Plan (PP 20-03) – Commercial: 61,336-square foot Commercial development with a total of 345 parking spaces on the southern 9.4 acres of an existing Commercial parcel. This plot plan, as shown in Figure 3-5, Commercial Plot Plan, would include the extension of Village West Drive to the south to provide a 54-foot roadway with two through lanes, a center striped median, a bike lane, and sidewalks on each side of the roadway between Van Buren Boulevard to the north and Nandina Avenue to the south.
- Plot Plan (PP 20-04) – Building D: 800,000 square foot industrial warehouse on a 36.5-acre parcel bound by Caroline Way, Krameria Avenue, and Coyote Bush Road. This plot plan would include the construction of Caroline Way street improvements.
- Plot Plan (PP 20-05) – Dog Park and Paseo development on 6.2 acres.

3.5.4.5 Conditional Use Permit (CUP 20-02)

A Conditional Use Permit is proposed to allow for alcohol sales at the speculative grocery store site proposed as part of Plot Plan 20-03.



-  Project Boundary
-  March Joint Powers Authority Boundary

SOURCE: Bing Maps 2020; Riverside County 2019



FIGURE 3-1
Project Location

South Campus Specific Plan and Village West Drive Extension Draft EIR

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SOURCE: DRC Engineering 2020; Bing Maps 2020

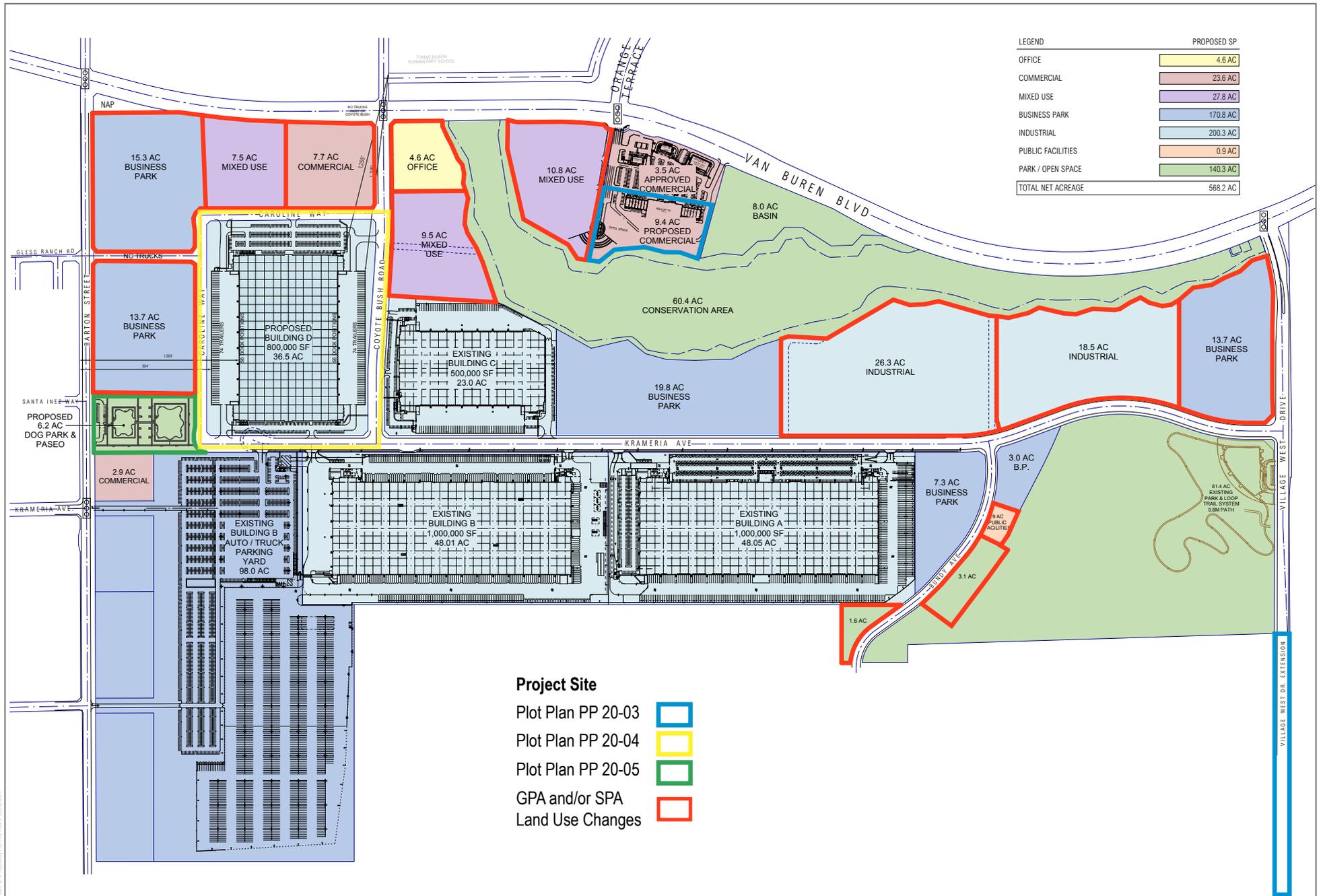


FIGURE 3-2

Existing Conditions

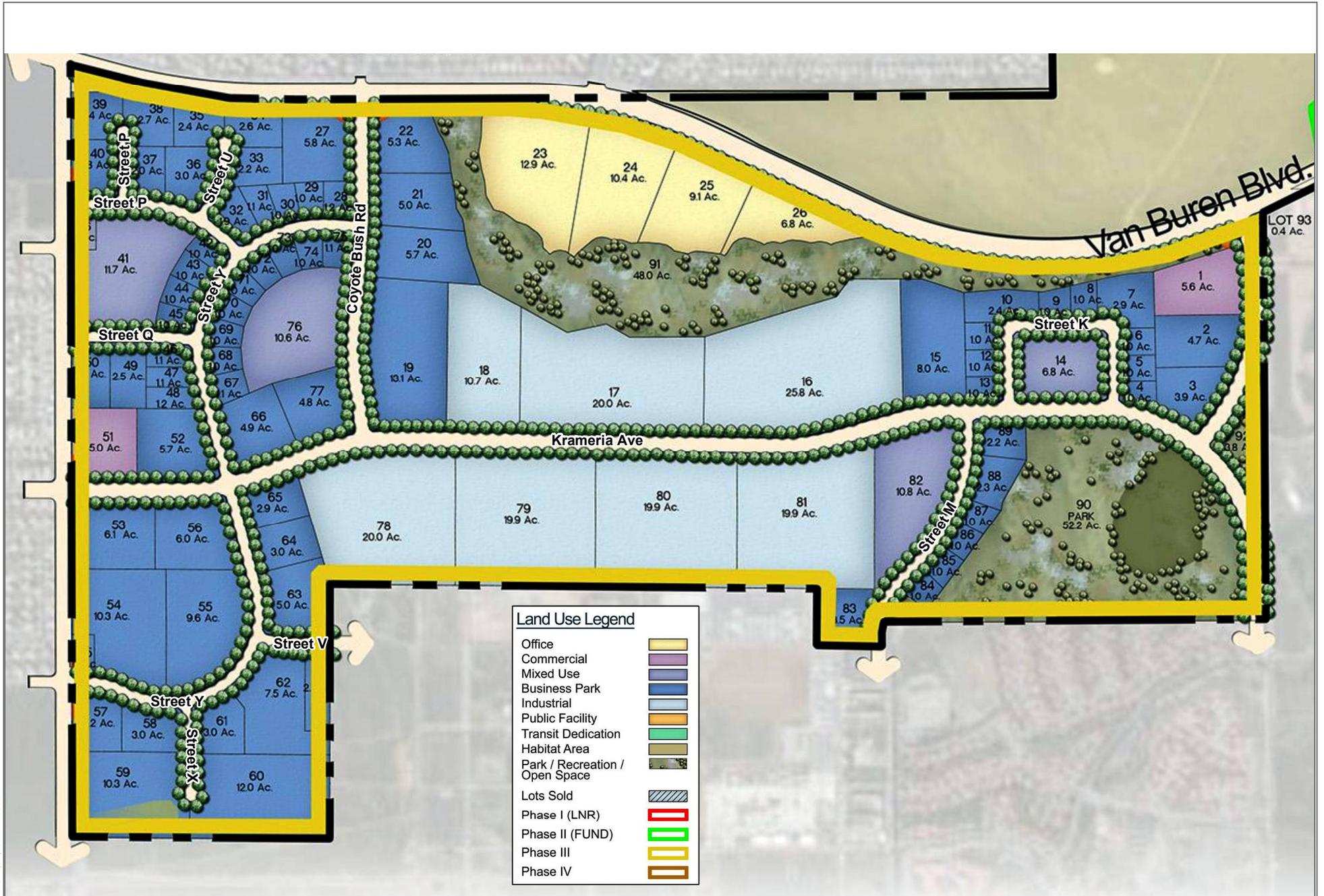
South Campus Specific Plan and Village West Drive Extension Draft EIR

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SOURCE: RGA 2020

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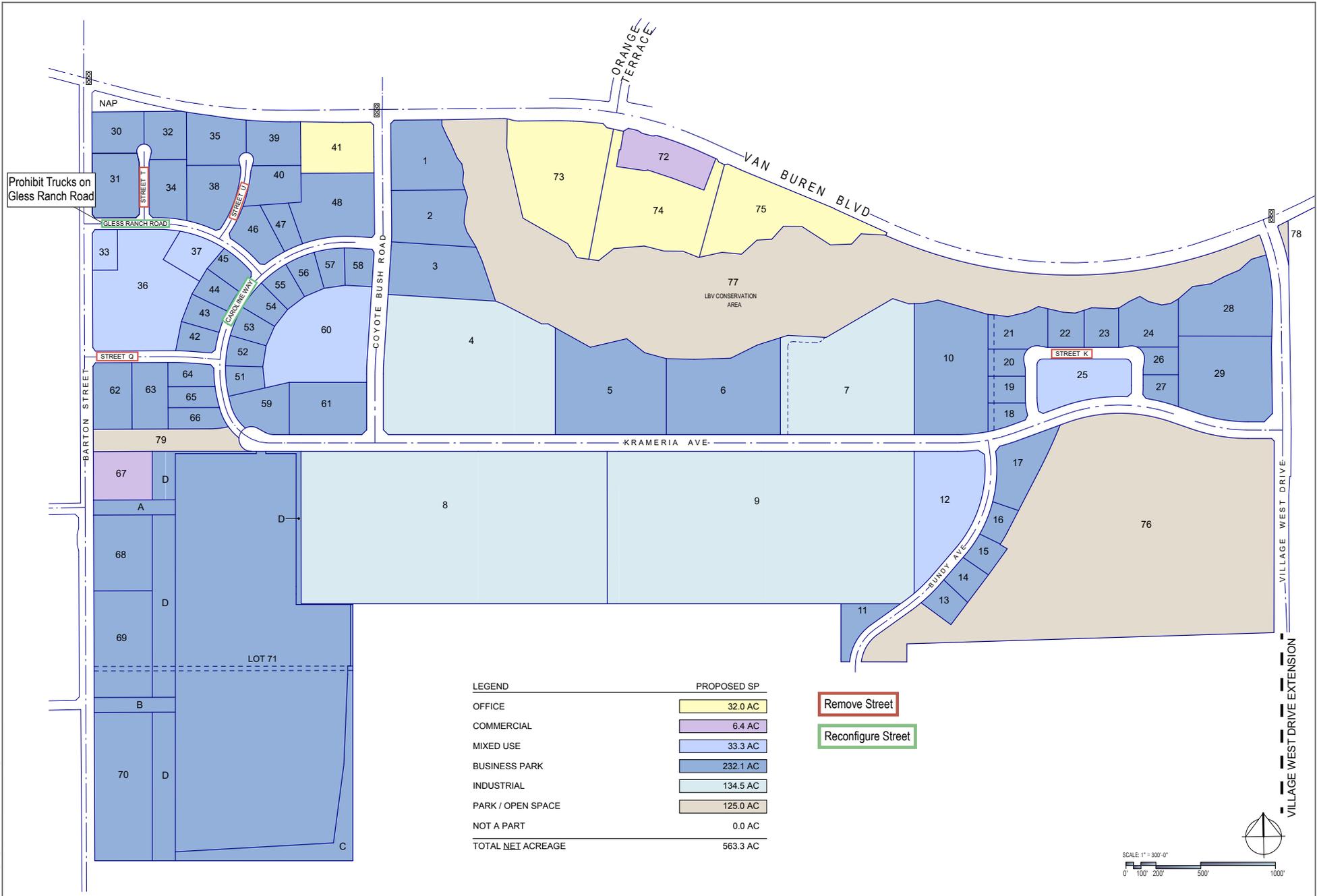
SOURCE: LNR Property Corporation

FIGURE 3-4A

Originally Approved South Campus Configuration

South Campus Specific Plan and Village West Drive Extension Draft EIR

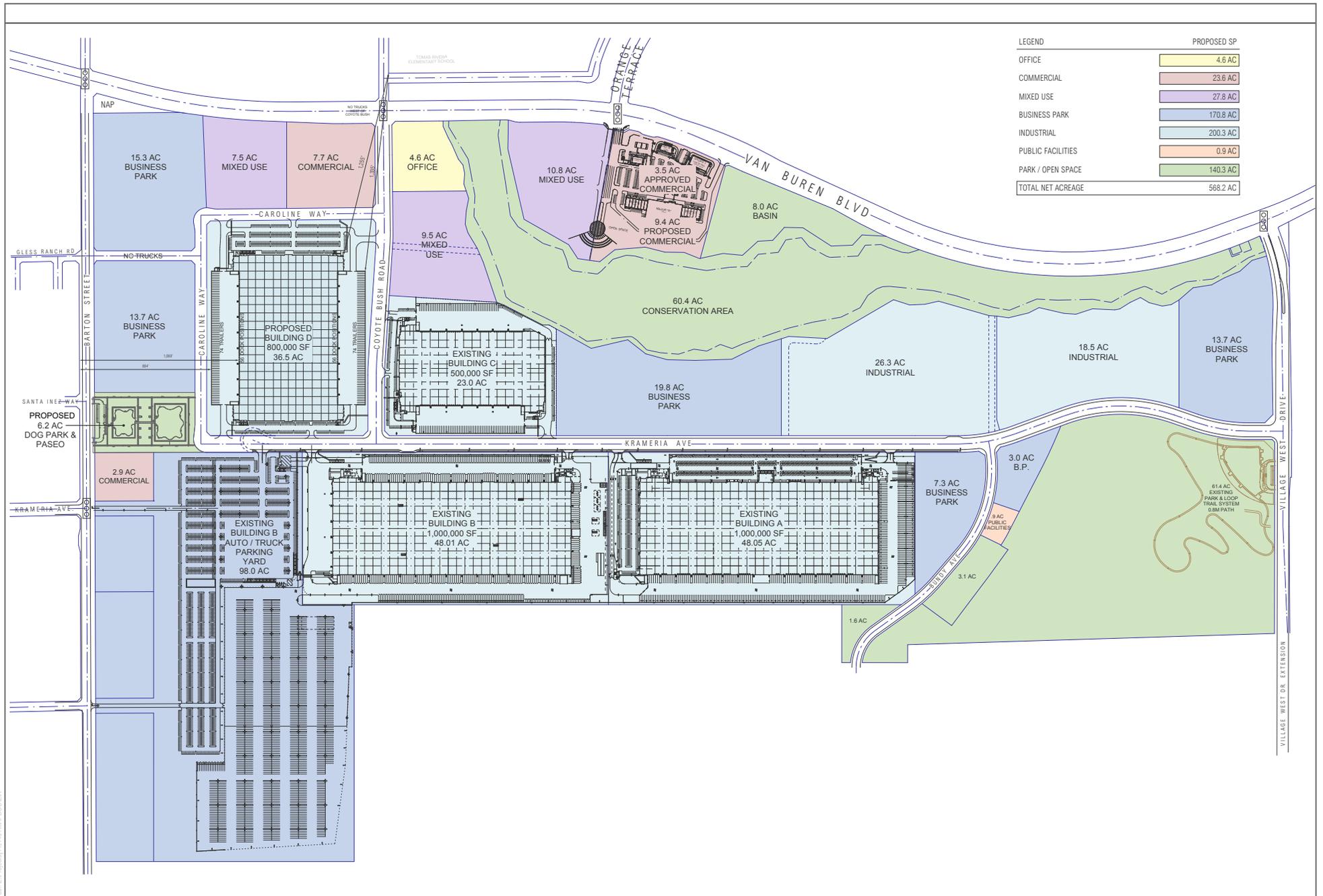
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SOURCE: RGA 2020

FIGURE 3-4B
 Currently Approved South Campus Configuration
 South Campus Specific Plan and Village West Drive Extension Draft EIR

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SOURCE: RGA 2020

FIGURE 3-4C

Proposed South Campus Configuration

South Campus Specific Plan and Village West Drive Extension Draft EIR

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SOURCE: Nadel Studio One 2019

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SOURCE: Hirsch & Associates 2020

FIGURE 3-7
Dog Park and Paseo Plot Plan
 South Campus Specific Plan and Village West Drive Extension Draft EIR

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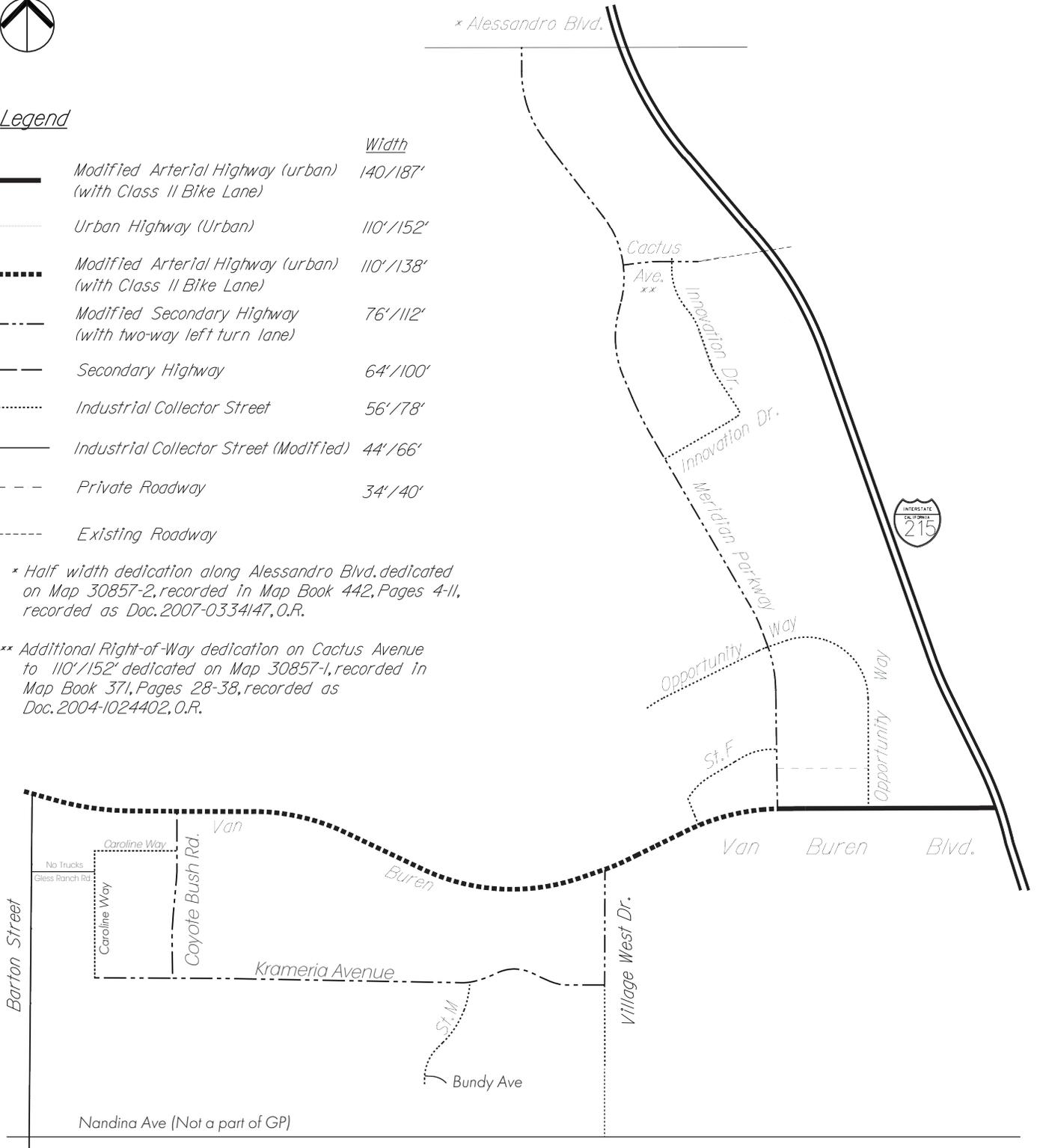


Legend

	<i>Width</i>
	Modified Arterial Highway (urban) 140'/187' (with Class II Bike Lane)
	Urban Highway (Urban) 110'/152'
	Modified Arterial Highway (urban) 110'/138' (with Class II Bike Lane)
	Modified Secondary Highway 76'/112' (with two-way left turn lane)
	Secondary Highway 64'/100'
	Industrial Collector Street 56'/78'
	Industrial Collector Street (Modified) 44'/66'
	Private Roadway 34'/40'
	Existing Roadway

* Half width dedication along Alessandro Blvd. dedicated on Map 30857-2, recorded in Map Book 442, Pages 4-11, recorded as Doc. 2007-0334147, O.R.

** Additional Right-of-Way dedication on Cactus Avenue to 110'/152' dedicated on Map 30857-1, recorded in Map Book 371, Pages 28-38, recorded as Doc. 2004-1024402, O.R.

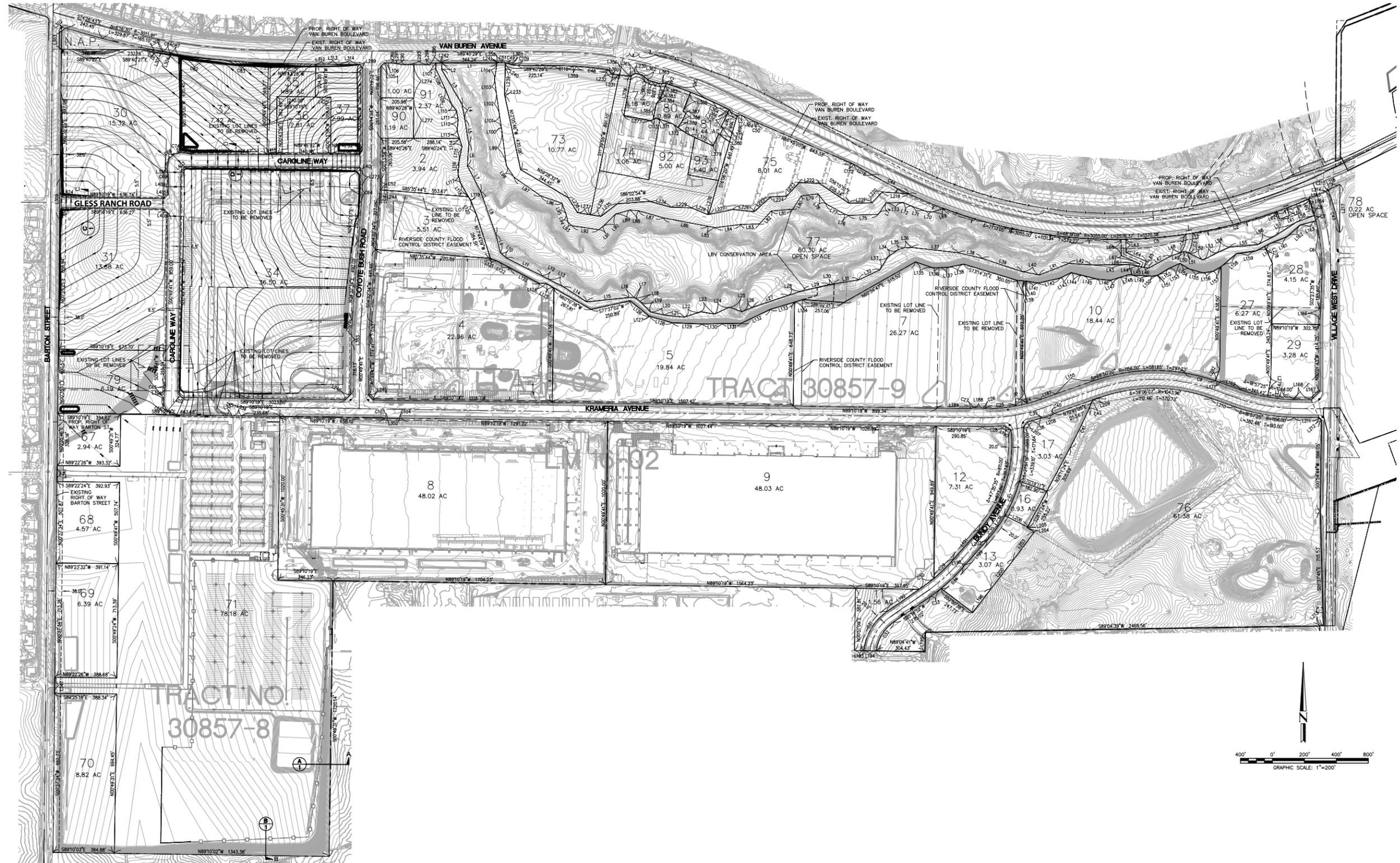


SOURCE: March Business Center - General Plan Amendment 2017

FIGURE 3-8

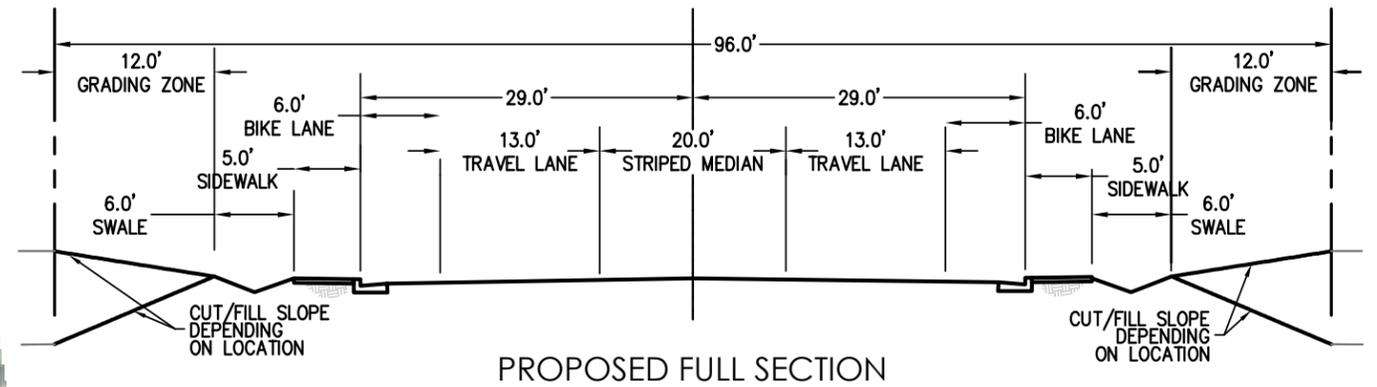
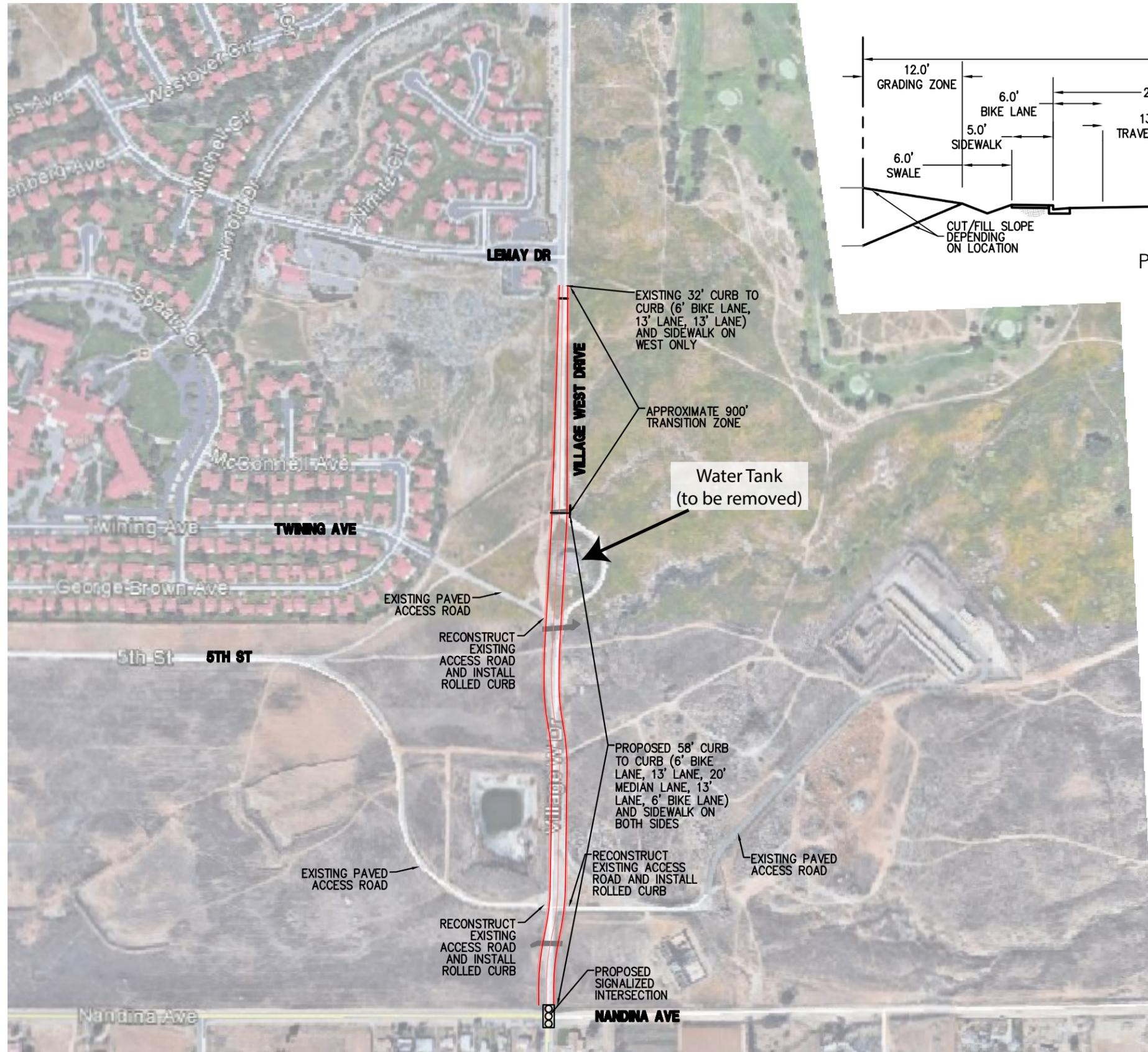
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MERIDIAN - SOUTH CAMPUS TENTATIVE TRACT MAP 37878

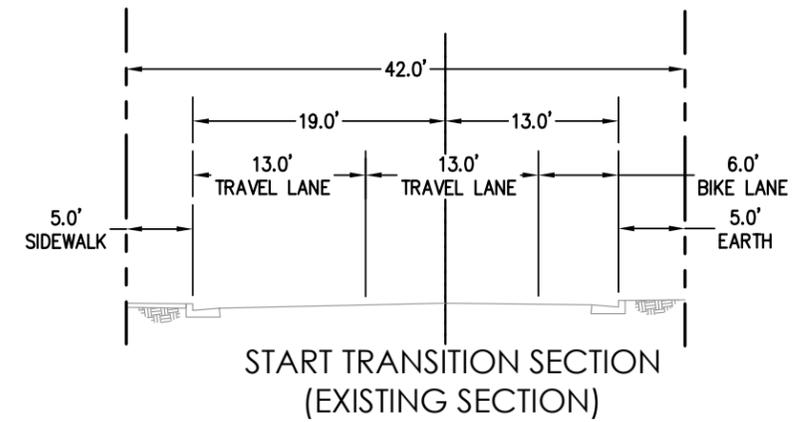


SOURCE: DRC Engineering 2020

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PROPOSED FULL SECTION



START TRANSITION SECTION (EXISTING SECTION)



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4 Environmental Analysis

The purpose of this Subsequent Environmental Impact Report (SEIR) is to evaluate the potential environmental effects of the proposed Meridian South Campus Specific Plan and Village West Drive Extension Project (Project). The March Joint Powers Authority (JPA) circulated a Notice of Preparation beginning on May 18, 2020, with the public review period ending on June 19, 2020. The Notice of Preparation was transmitted to the State Clearinghouse, responsible agencies, other affected agencies, and property owners immediately adjacent to and across the street from the Project site to solicit issues and concerns related to the proposed Project. The Notice of Preparation, Initial Study, and comment letters are contained in Appendix A, Initial Study and Notice of Preparation, of this SEIR. The public comments, questions, and concerns that were received at the scoping meeting, as well as in writing, generally pertained to the following topics:

- Construction truck traffic
- Changes to traffic patterns and roadways since the preparation of the 2002 traffic impact analysis
- Changes to traffic and travel patterns with the proposed Village West Drive Extension to Nandina Avenue
- Tribal consultation requirements, pursuant to Assembly Bill 52 and Senate Bill 18
- Solid waste generation and landfills serving the Riverside County area
- Air quality impacts from construction and operation
- Preference for specific commercial tenants

Sections 4.1 through 4.15 of this SEIR contain the potential environmental impact analyses associated with implementation of the Project and focus on the following environmental topics:

- Aesthetics
- Air Quality
- Biological Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

During preparation of the Initial Study/Notice of Preparation for this SEIR, other potential environmental impact areas, such as agricultural and forestry resources, cultural resources, mineral resources, population and housing, and public services were found not to be significant based on the results of the Initial Study. These issues and the analysis for these issues are included in Appendix A, Initial Study and Notice of Preparation, of this SEIR.

Technical Studies

Technical studies were prepared to accurately analyze air quality/greenhouse gas emissions and health risk assessments, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise and vibration, transportation, and utilities and service systems impacts, and were used in the preparation of this SEIR. These documents are identified in the discussions for the individual environmental issues and included as technical appendices on a CD attached to the SEIR. A copy of the Draft SEIR will be available for review at the offices of the March JPA, located at 14205 Meridian Parkway, Suite 140 Riverside, California 92518,

951.656.7000, (Monday – Friday: 8:00 a.m. to 5:00 p.m. Due to the Coronavirus emergency, an appointment will be necessary to review the document at our offices. Please call to make an appointment. A copy of the Draft SEIR may also be available for review at the following locations:

- March JPA website: <https://marchjpa.com/planning.php>
- State Clearinghouse website: <https://ceqanet.opr.ca.gov> (enter SCH No. 2020059028 in the search bar)

Analysis Format

The SEIR assesses how the Project would impact 15 environmental topics, as identified above. Each environmental topic addressed in this SEIR is presented in terms of the following subsections:

- **Existing Conditions:** Provides information describing the existing setting on or surrounding the Project site that may be subject to change as a result of the implementation of the Project. The setting discussion describes the comparative conditions that exist between the environmental baseline from the 2003 Focused Environmental Impact Report (2003 Focused EIR) and subsequent South Campus environmental documents, including the Meridian South Campus Specific Plan Amendment SP-1, A6 – Parcel Delivery Terminal Project Addendum (September 2017) and Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018), and any physical changes up until the Notice of Preparation was sent to responsible agencies and the State Clearinghouse.
- **Relevant Plans, Policies, and Ordinances:** Provides a discussion of federal, state, regional, and local regulations, plans, policies, and ordinances applicable to the Project.
- **Thresholds of Significance:** Provides criteria for determining the significance of Project impacts for each environmental topic.
- **Impact Analysis:** Summarizes the conclusions within the 2003 Focused EIR (where applicable) and then provides a discussion of the characteristics of the Project that may have an effect on the environment, analyzes the nature and extent to which the Project is expected to change the existing environment, and indicates whether the Project impacts meet or exceed the levels of significance thresholds.
- **Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Level of Significance After Mitigation:** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, potentially significant adverse environmental impacts that can be feasibly mitigated or avoided, and environmental impacts that are not significant.
- **Cumulative Effects:** Provides a discussion of cumulative environmental effects of the proposed Project in combination with related projects.
- **References Cited:** Provides a list of references and documents cited within the section.

Cumulative Analysis Methodology

Section 15130(b)(1)(A) of the California Environmental Quality Act (CEQA) Guidelines allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This SEIR discussion uses the following approach: an initial list and description of all related projects is presented, followed by a discussion of the effects that the Project may have on each environmental category of concern. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness.

The following list of projects is based on the information provided in the traffic impact analysis prepared for the proposed Project (Appendix K). The cumulative project list was developed for the purposes of this SEIR analysis through consultation with planning and engineering staff from the City of Riverside, City of Moreno Valley, and County of Riverside to include key projects in their respective jurisdictions. Table 4-1 presents the cumulative projects surrounding the Project site. The projects listed in Table 4-1 serve as the foundation on which the cumulative analysis approach has been based. Figure 4-1, Cumulative Projects, shows geographically where the projects listed in Table 4-1 are located.

Table 4-1. Related Projects

ID	Project Name	Land Use	Quantity	Units ¹
March JPA				
MJPA1	Meridian Business Park (West Campus)	Industrial	2,278.852	TSF
MJPA2	K4 Parcel	Industrial	718.000	TSF
MJPA3	Economic Business Center	Business Park	124.523	TSF
MJPA4	Freeway Business Center	Industrial	709	TSF
MJPA6	Veteran’s Plaza	Commercial	198.000	TSF
MJPA7	MS Van Buren I	Mixed Use	176.396	TSF
MJPA8	MS Van Buren II	Mixed Use	162.041	TSF
MJPA9	MS Prime Six	Mixed Use	74.922	TSF
MJPA10	Meridian Distribution Center IV	Industrial	90.000	TSF
MJPA11	Meridian Distribution Center III	Industrial	262.269	TSF
MJPA12	Eagle Business Park	Business Park	360.480	TSF
City of Riverside				
R1	P17-0419/20/21	Fast Food w/ Drive Through	1.857	TSF
R2	P16-0578	Warehouse	82.200	TSF
R3	P19-0151/P19-0556/P16-0474	Health and Fitness Club	21.706	TSF
R4	P13-0665	Single-Family Detached Residential	8	DU
R5	P15-1035/P16-0556/P16-0567	Warehouse	176.149	TSF
R6	P14-0841 to P14-0848/P16-0472/P16-0474	Warehouse	73.200	TSF
		Commercial Retail	15.000	TSF
R7	P14-0472/P14-0473/P15-0321/P15-032	Single-Family Detached Residential	85	DU
R8	P19-0022/P19-0024/P19-0026/P19-0027/P19-0028	Fast-Food w/ Drive Through	4.319	TSF
R9	Sycamore Hills Distribution Center	Warehouse	603.100	TSF
County of Riverside				
RC1	PP 25422	Warehouse	814.000	TSF
RC2	Knox Business Park	Warehouse	1,259.050	TSF
RC3	Oleander Business Park	Warehouse	710.736	TSF
City of Moreno Valley				
MV1	Scottish Village	Multifamily	194	DU
MV2	Moreno Valley Cactus Center (PEN16-0131)	Warehouse	36.950	TSF
		Fast Food w/ Drive Through	7.900	TSF
		Gas Station w/ Car Wash	28	VFP

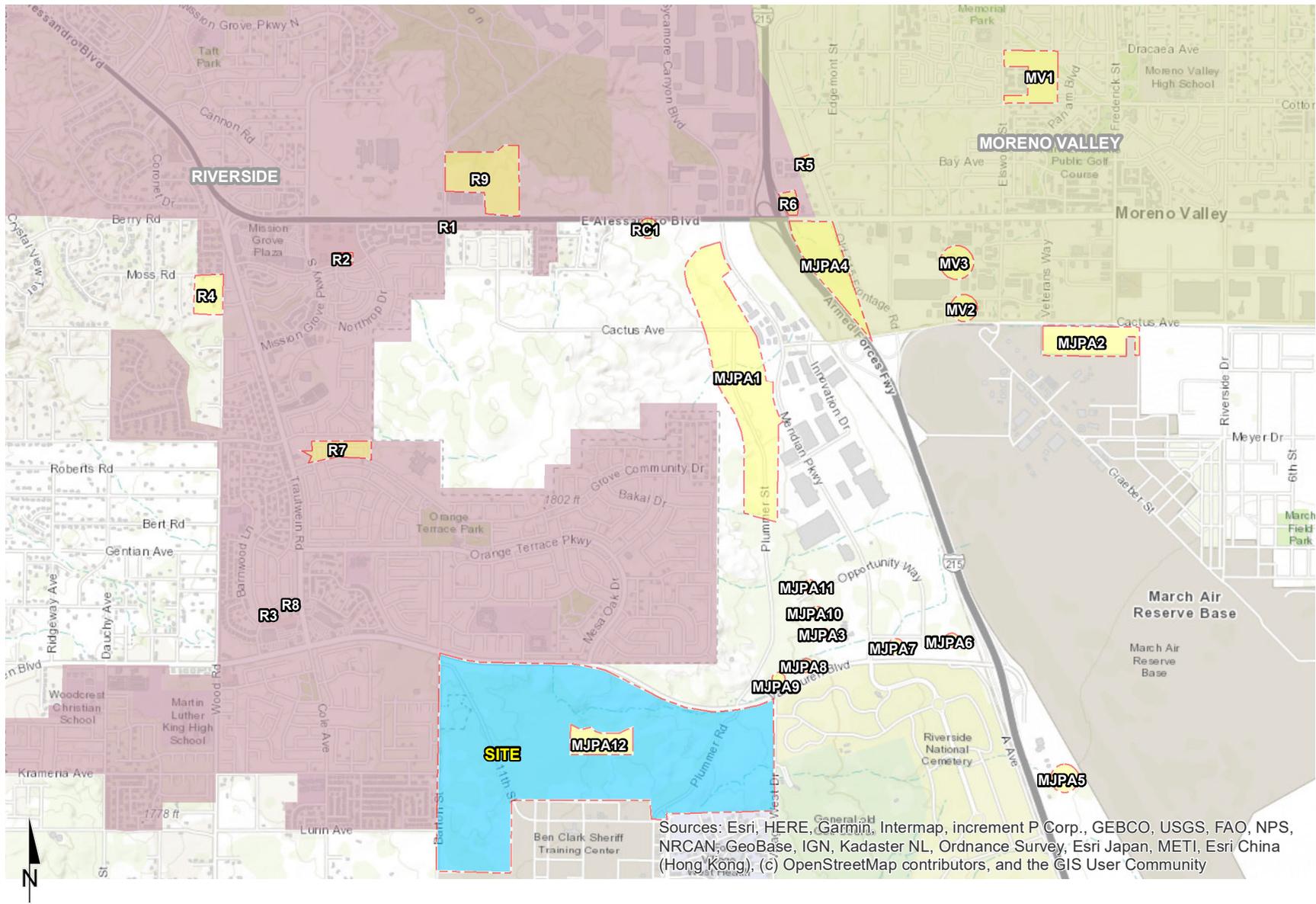
Table 4-1. Related Projects

ID	Project Name	Land Use	Quantity	Units ¹
MV3	PA 08-0047-0052 (Komar Cactus Plaza)	Hotel	110	Rooms
		Fast Food w/ Drive Through	8.000	TSF
		Commercial	42.400	TSF

Source: Appendix K.

Notes:

¹ DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions.



SOURCE: Urban Crossroads 2020

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4.1 Aesthetics

This section analyzes the potential impacts of the proposed South Campus Specific Plan area and Village West Drive Extension Project (Project) to the existing visual character or quality of the site and its surroundings. During the preparation of the Initial Study, which is included in Appendix A of this Draft Subsequent Environmental Impact Report (SEIR), potential impacts related to the Project adversely affecting a scenic vista, resulting in substantial damage to scenic resources within a State Scenic Highway, and creating a new source of substantial light or glare were found to be less than significant; therefore, these impacts are not discussed in this Draft SEIR.

As discussed in detail in Chapter 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.1.1 Existing Conditions

South Campus Specific Plan

The Project site is located within the southwestern portion of the March Joint Powers Authority (JPA) jurisdiction. More specifically, the Project site is located in the southern portion of the Meridian South Campus Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the Project site. The Village West Drive extension component of the Project is located to the west and south of South Campus.

Existing Visual Character and Quality

Currently, approximately 217.06 acres of the 568.2-acre South Campus Specific Plan area is developed with 2,500,000 square feet of industrial structures, as shown in Figure 3-2, Existing Conditions, in Chapter 3 of this SEIR. In addition, roadways adjacent to, and within, the South Campus have been improved or are under construction, consistent with the Meridian Business Park Circulation Plan. Approximately 60.4 acres in the northern portion of the South Campus Specific Plan area are designated as a conservation easement, characterized by undisturbed drainage features and vegetation communities. The remainder of the South Campus Specific Plan area, approximately 221.3 acres, is primarily characterized by disturbed land with gentle slope gradients radiating to the east. The western portion of the South Campus Specific Plan area consists of two low-lying hills. The eastern portion of the South Campus Specific Plan area consists of gentle to moderate slope gradients due to mass grading within the site in 2016. A closed landfill is located within the eastern portion of the South Campus Specific Plan area, south of Krameria Avenue and east of Bundy Avenue.

Remnants of 11th Street, a paved road in disrepair, transect the western portion of the site in a northwest/southeast manner. 11th Street was abandoned in 2017 when Building “B” was developed. Other dirt roads traverse the western portion of the South Campus Specific Plan area at various locations, previously utilized by the Ben Clark Public Center located south of the South Campus Specific Plan area. As discussed in Section 4.3,

Biological Resources, of this SEIR, vegetation communities and land uses mapped within the South Campus Specific Plan area are primarily developed and disturbed habitat; developed/ornamental lands; and non-native grassland. Furthermore, the South Campus Specific Plan area is relatively flat with gentle west to east slopes. Elevations range from approximately 1,760 feet above mean sea level in the western portion of the South Campus Specific Plan area to 1,613 feet above mean sea level in the eastern portion of the South Campus Specific Plan area. Ornamental landscaping is installed along the eastern site boundary, along Village West Drive. In addition, ornamental vegetation is installed along existing on-site roadways, constructed consistent with the Meridian Business Park Circulation Plan. No ornamental landscaping or pedestrian improvements have been installed along the northern South Campus Specific Plan area boundary, with the exception of the access point at Coyote Bush Road. Approximately 2,000 linear feet of natural vegetation, present within the conservation area, is located adjacent to Van Buren Boulevard along the northern South Campus Specific Plan area boundary between Village West Drive and the on-site retention basin.

The South Campus Specific Plan area is located within the existing March Business Center Specific Plan area, now known as the Meridian Business Park. The South Campus Specific Plan area is generally located south of Van Buren Boulevard, west of Village West Drive and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1.1 miles east of the South Campus Specific Plan area. The City of Riverside's Orangecrest neighborhood is located approximately 100 feet north of the northern South Campus Specific Plan area boundary. The Amelia Earhart Middle School, Thundersky Park, and Orange Terrace Park are located within the Orangecrest neighborhood. Open undeveloped land within the jurisdiction of Riverside County is located north of the South Campus Specific Plan area and east of the Orangecrest neighborhood. The North Campus of the Meridian Business Park, which includes mixed use, business park, commercial, and industrial uses is located northeast of the South Campus Specific Plan area. Due to existing topography and distance from the nearest development within the North Campus, white one- and two-story warehouse structures within North Campus are partially visible from the northeastern portion of the Project site. Additional single-family residential development, the Gless Ranch Orchard Care and Ranch Market, and vacant properties are located approximately 70 feet west of the South Campus Specific Plan area. The Westmont Village retirement community and Ben Clark Training Center are located adjacent to the southern South Campus Specific Plan area boundary. In addition, several vacant parcels are located south of the South Campus Specific Plan area, and north of Nandina Avenue. The Riverside National Cemetery and the Lieutenant General Archie J Old Junior Golf Course, located approximately 70 feet east of the eastern South Campus Specific Plan area boundary, encompass approximately 630 acres.

Village West Drive Extension

The Village West Drive extension component of the Project is located to the east and south of South Campus. The improved portion of Village West Drive, south of Van Buren Boulevard to Lemay Drive is a paved roadway, consistent with existing March JPA General Plan roadway classifications. The Riverside National Cemetery and the Lieutenant General Archie J. Old Junior Golf Course are located east of the improved portion of Village West Drive. The Meridian South Campus and the Westmont Village retirement community are located west of the improved portion of Village West Drive. The Village West Drive Extension trends north/south, beginning at Lemay Drive and extending south to Nandina Avenue. This roadway extension is partially paved with undeveloped properties on either side of the roadway. The Village West Drive Extension consists of an overall gentle to moderate slope gradient to the northeast and elevations range from approximately 1,675 feet above mean sea level in the northern portion of the site to approximately 1,725 feet above mean sea level in the southern portion.

4.1.2 Relevant Plans, Policies, and Ordinances

Federal

There are no aesthetic or visual impact federal regulations applicable to the Project.

State

There are no aesthetic or visual impact federal regulations applicable to the Project.

Local

March Joint Powers Authority General Plan

The Resource Management Element of the March JPA General Plan includes goals and policies related to scenic vistas. The following goals and policies from the March JPA General Plan apply to the Project (March JPA 1999). Consistency with these goals and policies is discussed in Section 4.9, Land Use and Planning.

Goal 4: Develop an identity and foster quality development within the Planning Area.

Policy 4.4: Develop a distinctive community identity for commercial, business park, and industrial developments that reflect the character and atmosphere of March JPA Planning Area through the use of good planning and design principals, and sound development practices which serve as guidelines for building materials, colors, site design and orientation, and landscaping.

Goal 8: Preserve the natural beauty, minimize degradation of the March JPA Planning Area, and provide enhancement of environmental resources, and scenic vistas.

Policy 8.2: Sensitive biological resources and habitats, cultural resources, view shed areas shall be protected where practical.

4.1.3 Thresholds of Significance

According to March JPA's 2019 California Environmental Quality Act (CEQA) Guidelines, a significant impact related to aesthetics would occur if the project would:

- a) Have a substantial adverse effect on a scenic vista.
- b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.
- e) Through the analysis in the Initial Study (see Appendix A) and with implementation of Mitigation Measure I-1 from the 2003 Focused Environmental Impact Report (2003 Focused EIR), it was determined that the

proposed Project would not have a substantial adverse effect on a scenic vista, substantially degrade scenic resources within a state scenic highway, or create a new source of substantial light or glare which would adversely affect day or nighttime views. Accordingly, these issues are not further analyzed in this SEIR. Based on the remaining threshold, a significant aesthetic impact from the proposed Project would occur if the Project would:

AES-1: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.

1.1.4 Impacts Analysis

AES-1. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

South Campus Specific Plan

The Project site is located within a non-urbanized area, as defined in Public Resources Code Section 21701 and CEQA Guidelines Section 15387. Development of the proposed South Campus Specific Plan components of the Project would increase the developed quality of the area given that approximately half of the South Campus Specific Plan area is currently undeveloped; however, this would not equate to an adverse aesthetic impact to the surrounding areas, as the height of the proposed buildings would be equal to the buildings previously studied for the March Business Center Specific Plan. Considering the developable acreage of the proposed Project is significantly reduced from the originally approved developable acreage, impacts related to this topic would be reduced from those determined in the 2003 Focused EIR.

Currently, approximately 2,500,000 square feet of industrial development, encompassing approximately 217.1 acres, is present within the South Campus Specific Plan area. As shown in Figure 3-2 in Chapter 3 of this SEIR, the following buildings have been approved and constructed within the South Campus Specific Plan area:

- **Building A**, located south of Krameria Avenue and west of Bundy Avenue, is a 1,000,000-square-foot industrial warehouse building. This building was constructed in November 2017, is complete and operational, and is occupied by Amazon.
- **Building B**, located immediately west of Building A, south of Krameria Avenue and where Coyote Bush Road intersects with Krameria Avenue, is a 1,000,000-square-foot industrial warehouse building. Construction of Building B was complete in March 2018. A parking lot west and south of Building B is currently under construction. Once complete, in October 2020, Building B and the adjacent parking lot will be used by the United Parcel Service (UPS).
- **Building C**, located at the northeast corner of the intersection of Coyote Bush Road and Krameria Avenue, is a 500,000-square-foot industrial warehouse building. Construction was completed in spring 2020. Building C will be occupied by Safavieh.
- **Commercial Development**, totaling 14,267 square feet and situated on the northern 3.5 acres of a commercial parcel located at the southeast corner of the intersection of Orange Terrace Parkway and Van

Buren Boulevard, has been approved. Construction is complete and the development will be occupied in fall 2020. The approved commercial development includes a gas station, food mart, a pad for a drive-through restaurant, and a building for retail.

- **An Electrical Substation**, located on the eastern side of Bundy Avenue, has been constructed and is operational. This existing substation is located on a 0.9-acre parcel currently designated as Industrial, however the proposed Specific Plan Amendment SP-1, A8 proposes a zone change of the 0.9 acre parcel to Public Facility to match the existing use.

Neighboring land uses to the South Campus Specific Plan area include residential uses north of Van Buren Boulevard and west of Barton Street, the Riverside National Cemetery and General Old Gold Course to the east and the Ben Clark Public Safety Training Center to the south. The Westmont Village retirement community sits west of the Village West Drive extension. The Project would shift land uses to better accommodate future development in Meridian Park South Campus, such that the total amount of acres designated for Office and Business Park would be reduced, and total amount of acres designated for Commercial, Mixed-Use, Industrial, and Park/Open Space would be increased. In addition, 0.9 acres of Public Facilities land use designation, which is not currently permitted within South Campus, is proposed for the parcel on which the electrical substation is already constructed. Overall, the proposed Project would result in a similar area of development as the permitted land uses within the already approved South Campus Specific Plan.

In addition to proposed revisions to land use designations and associated infrastructure plans within South Campus, minor Specific Plan text amendments associated with the proposed Project would be limited to clarifying language for Grocery Store and Business Enterprise land uses and cold storage and Wholesale, Storage and Distribution. No revisions are proposed to the adopted Development Regulations within the March Business Center Specific Plan or the March Business Center Design Guidelines. Therefore, per the March Business Center Specific Plan, all development proposed within the South Campus would be required to comply with Development Regulations outlined in the March Business Center Specific Plan. Future industrial development within the South Campus would be similar in design and aesthetic to existing structures within the South Campus Specific Plan area, per the March Business Center Specific Plan. In addition, development of Commercial, Business Park, Mixed Use, Office and Public Facilities land uses within the South Campus would be designed and constructed consistent with the adopted March Business Center Specific Plan Development Regulations and Design Guidelines, which contain aesthetic consistency requirements for the types of land uses proposed.

The 2003 Focused EIR evaluated the 2003 Approved South Campus to determine whether it would degrade the existing visual character and quality and determined that with implementation of mitigation measure I-1, impacts would be less than significant (see Section 4.1.5, Mitigation Measures, for this mitigation measure). Although implementation of the proposed Project would result in new development within the currently undeveloped portions of the Project site, proposed land uses within South Campus would be consistent with currently permitted land use designations of the March JPA General Plan. In addition, compliance with the adopted March Business Center Specific Plan Development Regulations and Design Guidelines and implementation of mitigation measure I-1 from the 2003 Focused EIR would ensure that proposed and future development within the South Campus would result in coordinated design and enhance the overall visual identity of the March Business Center. Thus, implementation of the proposed Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and aesthetic impacts would be **less than significant** with implementation of the 2003 Focused EIR mitigation.

Village West Drive Extension

Village West Drive is currently improved as a paved two-lane roadway adjacent to the eastern Project site boundary between Van Buren Boulevard and Lemay Drive. The proposed Project would include the extension of Village West Drive from Lemay Drive at the north to Nandina Avenue to the south, which is currently a partially paved dirt roadway. Proposed improvements to Village West Drive would include construction of approximately 4,330 linear feet with two paved through lanes, a center striped median, a bike lane and sidewalks. The proposed extension would not include construction of any vertical features that would degrade the public views in the vicinity. In addition, the proposed Village West Drive Extension would require removal of an abandoned and deteriorating water tank adjacent to the existing roadway alignment, which would improve the visual quality of surrounding vacant land for drivers that utilize the improved roadway. Therefore, the proposed extension of Village West Drive would not substantially degrade the existing visual character or quality of the roadway and its surroundings, and aesthetic impacts would be **less than significant**.

4.1.5 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measure is required, and will be incorporated into the Mitigation Monitoring and Reporting Program for the Project, to reduce aesthetics impacts to less than significant:

- I-1** All projects are required to comply with the Specific Plan Design Guidelines, landscape concept plan and Development Code, which will ensure the following:
- Conflicts and incompatibilities between land uses will not occur through the use of landscaped setbacks, buffers, site design, site orientation, architectural features, walls or fences, density/intensity reductions, reduced hours of operation for commercial and industrial uses, shielding of lighting, and the like.
 - The enhancement and preservation of natural and man-made features, such as major roadways, rail lines, drainage courses, utility corridors, groups of rock outcroppings, and tree rows to create boundaries, entryways, and separate entities for distinct geographic portions of the Specific Plan.
 - Preservation of Van Buren Boulevard and Alessandro Boulevard scenic corridors and enhancement of the gateway treatment at the Riverside National Cemetery.

The Project would implement the above mitigation measure. As shown in the analysis above, all Project aesthetic impacts would be less than significant; as such, no additional mitigation measures are required.

4.1.6 Level of Significance After Mitigation

Impacts would be less than significant with implementation of mitigation measure I-1 from the 2003 Focused EIR.

4.1.7 Cumulative Effects

The Project would comply with the March Business Center Specific Plan Development Regulations and Design Guidelines to ensure visual compatibility. Development standards include site area, lot dimensions, building height, building setbacks, and parking requirements in order to establish the relationship between building mass and scale. Refer to Section 4.9, Land Use and Planning, for the Project's compliance with the March JPA's development standards.

While Project implementation would change the immediate area's visual character, the larger visual context east and south of the Project site includes a mixture of uses, including residential, recreational, business park, and industrial warehouse development. As stated previously, the Project would be consistent with the larger visual context of the surrounding area. Similarly, related projects, as shown in Table 4-1, would introduce a mixture of industrial, business park, and mixed-use land uses. Development of the related projects would contribute to the overall character and quality of the surrounding area once developed. Building materials, bulk, scale, and setbacks for each cumulative project would be required to comply with their applicable jurisdiction's (i.e., March JPA, City of Riverside, County of Riverside, City of Moreno Valley) development standards and guidelines regarding visual character. Compliance with each jurisdiction's General Plan, Municipal Code, and any specific plans as it relates to design standards and scenic quality would minimize potential impacts of incompatibility with existing character or quality. As such, implementation of the proposed Project, in addition to the identified related projects identified in Chapter 4, Environmental Analysis, would not result in cumulatively considerable impacts to visual character.

4.1.8 References Cited

March JPA (Joint Powers Authority). 1999. *General Plan of the March Joint Powers Authority*. Accessed May 12, 2020. https://www.marchjpa.com/documents/docs_forms/general_plan_updt_011718.pdf.

March JPA. 2019. 2019 Local California Environmental Quality Act (CEQA) Guidelines.

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4.2 Air Quality

This section describes the existing air quality conditions of the proposed Meridian South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project.

This analysis is based on the emission calculations and the California Emissions Estimator Model (CalEEMod) outputs presented in the Air Quality Impact Analysis (Appendix B1 of this SEIR), the Construction Health Risk Assessment (Appendix C1), Cumulative Diesel Health Risk Assessment (Appendix C2), and the Potential Health Effects Report (Appendix B2).

This SEIR evaluates the net change in potential impacts associated with the 2003 Approved South Campus as compared to the currently proposed Project. As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area, as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus. As such, this SEIR provides emissions for both the proposed Project and the 2003 Approved South Campus conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused Environmental Impact Report (2003 Focused EIR), those mitigation measures are described and applied to the Project and will be included in the Mitigation Mentoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

Built/Entitled Land Uses

The following uses that are built, but not yet occupied and operational are included as part of the proposed Project scenarios:

- Amazon (Building A) – 1,000,000 square feet
- Parcel Delivery (Building B) – 1,000,000 square feet
- Parking Lot – 61 acres
- Building C (Warehousing) – 500,000 square feet
- Commercial (Parcel 72) – 14,267 square feet¹
- Electrical Substation – 0.9 acre

Figure 3-3 shows the Project site plan with the proposed uses. At the time this SEIR was prepared, the tenants of the Project were unknown. This SEIR is intended to evaluate impacts associated with the expected typical 24-hour, seven days per week operational activities at the Project site.

¹ At the time the Air Quality Report was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 square feet. However, the actual square footage for Parcel 72 is 14,267 square feet. For the purposes of the Air Quality Report, the 15,485 square feet of commercial use results in a higher trip generation and higher emissions (therefore more conservative) as opposed to evaluating the 14,267 square feet of commercial use.

4.2.1 Existing Conditions

The Project site is partially developed and located within the South Coast Air Basin (SCAB) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties (Appendix B1).

Climate and Meteorology

The SCAB generally lies in the semi-permanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area's natural physical characteristics (e.g., weather and topography) and human-made influences (e.g., development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the SCAB (Appendix B1).

Climate

Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB. The average annual temperature varies little throughout the basin, averaging from the low to middle 60s°F. However, with a less pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have recorded temperatures of greater than 100°F in recent years. Although the SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the SCAB by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature. Annual average relative humidity is 71% at the coast and 59% in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail, due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the SCAB. March Air Reserve Base, located proximate to the Project site, is an area that is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 95°F in July to a low of 40°F in December (City-Data 2015).

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain “primary” pollutants (mainly reactive hydrocarbons and oxides of nitrogen [NO_x]) react to form “secondary” pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California (Appendix B1).

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature

inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet above mean sea level, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet above mean sea level, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and inversions are more persistent, being partly responsible for the high levels of ozone (O₃) observed during summer months in the SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight. The SCAB has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges (Appendix B1).

The Project site is located in an area that is susceptible to air inversions. This traps a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources (Appendix B1).

4.2.1.1 Air Quality Characteristics

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion for the pollutants. Reduced visibility, eye irritation, and adverse health impacts on people who are deemed sensitive receptors are the most serious hazards that can result from changes in existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, older adults, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

The Project site is located within the Source Receptor Area (SRA) 23 - Metropolitan Riverside County 1. Within SRA 23, the SCAQMD Metropolitan Riverside County 1 monitoring station is located 9.80 miles northwest of the Project site and is the nearest long-term air quality monitoring site for O₃, carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM₁₀), and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns (PM_{2.5}) (Appendix B1).

The most recent 3 years of data available is shown on Table 4.2-1, Project Area Air Quality Monitoring Summary 2017–2019, and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O₃, CO, NO₂, PM₁₀, and PM_{2.5} for 2017 through 2019 was obtained from the SCAQMD Air Quality Data Tables (SCAQMD 2020). Data for sulfur dioxide (SO₂) has been omitted since attainment is regularly met in the SCAB and few monitoring stations measure SO₂ concentrations.

Table 4.2-1. Project Area Air Quality Monitoring Summary 2017–2019

Pollutant	Standard	Year		
		2017	2018	2019
O₃				
Maximum Federal 1-Hour Concentration (ppm)		0.145	0.123	0.123
Maximum Federal 8-Hour Concentration (ppm)		0.118	0.101	0.096
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	47	22	24
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	81	53	59
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.9	2.2	1.5
Maximum Federal 8-Hour Concentration	> 20 ppm	1.7	2.0	1.2
NO₂				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.063	0.055	0.056
Annual Federal Standard Design Value		0.015	0.014	0.0135
PM₁₀				
Maximum Federal 24-Hour Concentration (µg/m ³)	> 150 µg/m ³	138	126	99
Annual Federal Arithmetic Mean (µg/m ³)		41.6	44.0	34.4
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m ³	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m ³	103	132	21
PM_{2.5}				
Maximum Federal 24-Hour Concentration (µg/m ³)	> 35 µg/m ³	50.3	50.7	46.7
Annual Federal Arithmetic Mean (µg/m ³)	> 12 µg/m ³	12.18	12.41	11.30
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m ³	6	2	11

Source: Data for O₃, CO, NO₂, PM₁₀, and PM_{2.5} was obtained from SCAQMD Air Quality Data Tables (SCAQMD 2020).

Notes: NO₂ = nitrogen dioxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; µg/m³ = micrograms per cubic meter; ppm = parts per million by volume

Local Attainment Status

Pursuant to the 1990 federal Clean Air Act Amendments, the EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on the California Ambient Air Quality Standards (CAAQS) rather than the NAAQS.

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the Project is located. The entire SCAB is designated as a

nonattainment area for federal and state O₃ standards. The U.S. Environmental Protection Agency (EPA) has classified the SCAB as an extreme nonattainment area and has mandated that it achieve attainment no later than June 15, 2024. The SCAB is designated as an attainment area for state and federal CO standards. The SCAB is designated as an attainment area under the state and federal standards for NO₂. The entire SCAB is in attainment with federal and state SO₂ standards. Only the Los Angeles County portion of the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, and the SCAB is designated attainment for the state lead standard. The SCAB is designated as a nonattainment area for state PM₁₀ standards; however, it is designated as an attainment area for federal standards. In regard to PM_{2.5} attainment status, the SCAB is designated as a nonattainment area by the California Air Resources Board (CARB) and the EPA (CARB 2016; EPA 2016). The attainment classifications for these criteria pollutants are outlined in Table 4.2-2, South Coast Air Basin Attainment Classifications.

Table 4.2-2. South Coast Air Basin Attainment Classifications

Pollutant	Averaging Time	Designation/Classification
Federal Standards		
O ₃	8 hours	Nonattainment/Extreme
NO ₂	1 hour	Unclassifiable/attainment
	Annual arithmetic mean	Attainment (maintenance)
CO	1 hour; 8 hours	Attainment (maintenance)
SO ₂	24 hours; annual arithmetic mean	Unclassifiable/attainment
PM ₁₀	24 hours	Attainment (maintenance)
PM _{2.5}	24 hours; annual arithmetic mean	Nonattainment (serious)
Lead	Quarter	Unclassifiable/attainment
	3-month average	Nonattainment (partial) ^a
State Standards		
O ₃	1 hour; 8 hours	Nonattainment
NO ₂	1 hour; annual arithmetic mean	Attainment
CO	1 hour; 8 hours	Attainment
SO ₂	1 hour; 24 hours	Attainment
PM ₁₀	24 hours; annual arithmetic mean	Nonattainment
PM _{2.5}	Annual arithmetic mean	Nonattainment
Lead ^b	30-day average	Attainment
Sulfates (SO ₄)	24 hours	Attainment
Hydrogen sulfide (H ₂ S)	1 hour	Unclassified
Vinyl chloride ^b	24 hours	No designation
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified

Sources: EPA 2018 (federal); CARB 2018 (California)

Notes: O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

^a Partial nonattainment designation – Los Angeles County portion of air basin only for near-source monitors. Expected to remain in attainment based on current monitoring data.

^b California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined.

4.2.1.2 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.² In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere O₃ layer (stratospheric O₃) and at the Earth's surface in the troposphere (ground-level O₃).³ The O₃ that EPA and CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O₃ is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O₃. Stratospheric, or "good," O₃ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O₃ layer, plant and animal life would be seriously harmed.

O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016b).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal

² The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's (EPA's) Criteria Air Pollutants (EPA 2016a) and the California Air Resources Board (CARB) Glossary of Air Pollutant Terms (CARB 2016a).

³ The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO₂ can injure lung tissue and reduce visibility and the level of sunlight. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM_{2.5}) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM₁₀ tends to collect in the upper portion of the respiratory system; whereas, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM₁₀ and PM_{2.5} (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Non-Criteria Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of PM_{2.5} (CARB 2016b). DPM is typically composed of carbon particles (“soot,” also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016b). CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same noncancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to noncancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

4.2.2 Relevant Plans, Policies, and Ordinances

Regulatory oversight for air quality in the SCAB is maintained by the EPA at the federal level, CARB at the state level, and SCAQMD at the local level. Applicable laws, regulations, and standards of these three agencies are described in the following subsections.

Federal

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including the setting of the NAAQS (federal standards) for major air pollutants, HAP standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O₃ protection, and enforcement provisions. Federal standards are established for criteria pollutants under the Clean Air Act, which are O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead.

The federal standards describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The federal standards (other than for O₃, NO₂, SO₂, PM₁₀, and PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. Federal standards for O₃, NO₂, SO₂, PM₁₀, and PM_{2.5} are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean

Air Act requires the EPA to reassess the federal standards at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the federal standards must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the federal standards to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels.

The 1977 federal Clean Air Act Amendments required the EPA to identify national emissions standards for hazardous air pollutants (HAPs) to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products. CARB has established the CAAQS (state standards), which are generally more restrictive than the federal standards. The state standards describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. The state standards for O₃, CO, SO₂ (1 hour and 24 hours), NO₂, PM₁₀, PM_{2.5}, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The federal and state standards are presented in Table 4.2-3, Ambient Air Quality Standards.

Table 4.2-3. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—

Table 4.2-3. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
PM _{2.5} ⁱ	24 hours	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
Lead ^{j,k}	30-day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas) ^k	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—
Vinyl chloride ^l	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24- hours	25 µg/m ³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: O₃ = ozone; µg/m³ = micrograms per cubic meter; ppm = parts per million by volume; NO₂ = nitrogen dioxide; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; PST = Pacific Standard Time.

^a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter—PM₁₀, PM_{2.5}, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

^e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^f On October 1, 2015, the primary and secondary NAAQS for O₃ were lowered from 0.075 ppm to 0.070 ppm

^g To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

^h On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an

area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

- i On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- j CARB has identified lead and vinyl chloride as toxic air contaminant (TACs) with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) was enacted by the legislature to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures would reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Local

South Coast Air Quality Management District

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the Project is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. SCAQMD’s Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The most recent adopted AQMP is the 2016 AQMP (SCAQMD 2017a), which was adopted by the SCAQMD governing board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to

traditional strategies while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017a). Because mobile sources are the principal contributor to the SCAB's air quality challenges, the SCAQMD has been and will continue to be closely engaged with CARB and the EPA, who have primary responsibility for these sources. The 2016 AQMP recognizes the importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. These “win/win” scenarios are key to implementation of the 2016 AQMP with broad support from a wide range of stakeholders. The SCAQMD 2016 AQMP (SCAQMD 2017a) applies the updated the Southern California Association of Governments' (SCAG) growth forecasts assumed in the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016–2040 RTP/SCS) (SCAG 2016).

Potentially Applicable Rules

Emissions that would result from stationary and area sources during construction and operation under the Project may be subject to SCAQMD rules and regulations. The SCAQMD rules applicable to the Project may include the following:

- Rule 201: Permit to Construct.** This rule establishes an orderly procedure for the review of new and modified sources of air pollution through the issuance of permits. Rule 201 specifies that any facility installing nonexempt equipment that causes or controls the emissions of air pollutants must first obtain a permit to construct from SCAQMD (SCAQMD 2004).
- Rule 203: Permit to Operate.** This rule requires any equipment that may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, to obtain a written permit to operate, and shall be operated to the conditions specified in the permit to operate.
- Rule 401: Visible Emissions.** This rule establishes the limit for visible emissions from stationary sources (SCAQMD 2001).
- Rule 402: Nuisance.** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property (SCAQMD 1976).
- Rule 403: Fugitive Dust.** This rule requires fugitive dust sources to implement best available control measures for all sources to ensure all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust (SCAQMD 2005).
- Rule 431.2: Sulfur Content of Liquid Fuel.** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of SO_x and particulates during combustion and enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers, such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the district. The rule also affects diesel fuel supplied for mobile-source applications (SCAQMD 2000).
- Rule 1113: Architectural Coatings.** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SCAQMD 2016).

Regulation XIV: Toxics and Other Non-Criteria Pollutants. This regulation includes rules that regulate toxics and other non-criteria pollutants. It provides specifications for maximum individual cancer risk, cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units that emit TACs. The rules establish allowable risks for permit units requiring new permits pursuant to Rules 201 or 203 (SCAQMD 2017b).

March Joint Powers Authority General Plan

The Noise/Air Quality Element of the adopted March Joint Powers Authority (JPA) General Plan includes goals and policies related to air quality (March JPA 1999) that would be applied to the Project. Consistency with these goals and policies is discussed in Section 4.9, Land Use and Planning. The following goals and policies are from the March JPA General Plan would apply to the Project (March JPA 1999):

- Goal 6:** Reduce emissions associated with vehicle/engine use.
- Policy 6.1:** Reduce idling emissions by increasing traffic flow through synchronized traffic signals.
 - Policy 6.2:** Work with Riverside Transit Authority to develop a local transit system and facilitate connections of the local transit system with regional transit systems.
 - Policy 6.3:** Encourage diversion of peak hour truck traffic, whenever feasible, to off-peak periods to reduce roadway congestion and associated emissions.
 - Policy 6.4:** Work with Caltrans and traffic engineers to insure that roadways and freeway on-ramps that are heavily utilized by trucks are designed to safely accommodate trucks.
 - Policy 6.5:** Encourage trucks operating within March JPA Planning Area to maintain safety equipment and operate at safe speeds so as to reduce the potential for accidents which create congestion and related emissions.
 - Policy 6.6:** Reduce vehicle emissions through improved parking design and management that provide for safe pedestrian access to and from various facilities.
 - Policy 6.8:** Encourage the use of compressed natural gas, clean diesel and/or alternative fuels in engines.
- Goal 8:** Reduce air pollution emissions and impacts through siting and building design.
- Policy 8.1:** Support the use of low polluting construction materials and coatings.
 - Policy 8.3:** Encourage the separation of sensitive receptors from potential carbon monoxide hotspots.
- Goal 9:** Reduce fugitive dust and particulate matter emissions.
- Policy 9.1:** Require all feasible fugitive dust reduction techniques to be utilized during construction activities.

Policy 9.3: Support land division design which minimizes grading and maintains the natural topography to the maximum extent feasible.

4.2.3 Thresholds of Significance

According to the March JPA 2019 CEQA Guidelines, a significant impact related to air quality would occur if the project would:

- AQ-1:** Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- AQ-3:** Expose sensitive receptors to substantial pollutant concentrations.
- AQ-4:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O₃ (see Table 4.2-2), which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4.2-4. These emission-based thresholds for O₃ precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O₃ impacts to occur) because O₃ itself is not emitted directly (see the previous discussion of O₃ and its sources), and the effects of an individual Project's emissions of O₃ precursors (VOC and NO_x) on O₃ levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 4.2-4. South Coast Air Quality Management District Air Quality Significance Thresholds

Pollutant	Construction Regional Thresholds	Operation Regional Thresholds
Criteria Pollutants Mass Daily Thresholds (pounds per day)		
VOCs	75	55
NO _x	100	55
CO	550	550
SO _x	150	150
PM ₁₀	150	150
PM _{2.5}	55	55
Lead ^a	3	3
TACs and Odor Thresholds		
TACs ^b	Maximum incremental cancer risk ≥ 10 in 1 million Chronic and acute hazard index ≥ 1.0 (project increment) Cancer burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

Table 4.2-4. South Coast Air Quality Management District Air Quality Significance Thresholds

Pollutant	Construction Regional Thresholds	Operation Regional Thresholds
Ambient Air Quality Standards for Criteria Pollutants^c		
NO ₂ 1-hour average NO ₂ annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
PM ₁₀ 24-hour average PM ₁₀ annual average	10.4 µg/m ³ (construction) ^d 2.5 µg/m ³ (operation) 1.0 µg/m ³	
PM _{2.5} 24-hour average	10.4 µg/m ³ (construction) ^d 2.5 µg/m ³ (operation)	

Source: SCAQMD 2019.

Notes: VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; TAC = toxic air contaminant; SCAQMD = South Coast Air Quality Management District; NO₂ = nitrogen dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter.

^a The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

^b TACs include carcinogens and non-carcinogens.

^c Ambient air quality standards for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

^d Ambient air quality threshold based on SCAQMD Rule 403.

Construction Localized Significance Threshold

In addition to the emission-based thresholds in Table 4.2-4, the SCAQMD also recommends evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of a project as a result of construction and operation activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, older adults, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as “sensitive receptors.” These structures typically include residences, hotels, hospitals, and other facilities known to be locations where an individual can remain for 24 hours. Consistent with the LST methodology (SCAQMD 2008), the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) was used to determine construction and operational air quality impacts for emissions of PM₁₀ and PM_{2.5}, since PM₁₀ and PM_{2.5} thresholds are based on a 24-hour averaging time.

For the proposed Project, the appropriate SRA for the LST analysis is the SCAQMD Metropolitan Riverside County 1 (SRA 23). LSTs apply to CO, NO_x, PM₁₀, and PM_{2.5}. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. As a conservative measure, it is assumed that a maximum of 1 acre can be disturbed per day during the Village West Drive Extension construction activities and 10 acres per day during Meridian South Campus site preparation and grading activities. The Project areas are provided in Figure 4.2-1, Sensitive Receptor Locations. Since the look-up tables identifies thresholds at only 1 acre, 2 acres, and 5 acres, linear regression was used to determine LSTs. The nearest sensitive receptor to each Project area were identified and further described in the Air Quality Technical Report (Appendix B1). The nearest sensitive receptor from each Project area ranged from 81 feet (25

meters) to 1,452 feet (443 meters). Consistent with SCAQMD guidance, the thresholds presented in Table 4.2-5, Maximum Daily Localized Construction Emissions Thresholds, were calculated by interpolating the threshold values for the Project's disturbed acreage.

Table 4.2-5. Maximum Daily Localized Construction Emissions Thresholds

Pollutant	Construction Localized Thresholds
Area A	
NO _x	284 pounds per day (Site Preparation)
	284 pounds per day (Grading)
CO	1,841 pounds per day (Site Preparation)
	1,841 pounds per day (Grading)
PM ₁₀	25 pounds per day (Site Preparation)
	25 pounds per day (Grading)
PM _{2.5}	9 pounds per day (Site Preparation)
	9 pounds per day (Grading)
Area B	
NO _x	307 pounds per day (Site Preparation)
	307 pounds per day (Grading)
CO	2,254 pounds per day (Site Preparation)
	2,254 pounds per day (Grading)
PM ₁₀	41 pounds per day (Site Preparation)
	41 pounds per day (Grading)
PM _{2.5}	10 pounds per day (Site Preparation)
	10 pounds per day (Grading)
Area C	
NO _x	363 pounds per day (Site Preparation)
	363 pounds per day (Grading)
CO	3,185 pounds per day (Site Preparation)
	3,185 pounds per day (Grading)
PM ₁₀	186 pounds per day (Site Preparation)
	186 pounds per day (Grading)
PM _{2.5}	91 pounds per day (Site Preparation)
	91 pounds per day (Grading)
Area D	
NO _x	340 pounds per day (Site Preparation)
	340 pounds per day (Grading)
CO	2,808 pounds per day (Site Preparation)
	2,808 pounds per day (Grading)
PM ₁₀	99 pounds per day (Site Preparation)
	99 pounds per day (Grading)
PM _{2.5}	33 pounds per day (Site Preparation)
	33 pounds per day (Grading)
Village West Drive Extension	
NO _x	118 pounds per day (Site Preparation)
	118 pounds per day (Grading)

Table 4.2-5. Maximum Daily Localized Construction Emissions Thresholds

Pollutant	Construction Localized Thresholds
CO	602 pounds per day (Site Preparation)
	602 pounds per day (Grading)
PM ₁₀	29 pounds per day (Site Preparation)
	29 pounds per day (Grading)
PM _{2.5}	8 pounds per day (Site Preparation)
	8 pounds per day (Grading)

Source: Appendix B1.

Notes: NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

Operational Localized Significance Threshold

The proposed Project area for the Meridian South Campus site is approximately 192.94 acres, and the Village West Drive Extension is approximately 5.37 acres. The LST Methodology provides look-up tables for sites with an area with daily disturbance of 5 acres or less (SCAQMD 2008). For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. This approach is conservative since it assumes that all on-site emissions associated with a project would occur within a concentrated 5-acre area. This screening method would, therefore, overestimate potential localized impacts, because by assuming that on-site operational activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated in the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration of emissions. As such, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required (Appendix B1). Table 4.2-6 shows the maximum daily localized operational emissions thresholds.

Table 4.2-6. Maximum Daily Localized Operational Emissions Thresholds

Pollutant	Operational Localized Thresholds
Area A	
NO _x	284 pounds per day
CO	1,841 pounds per day
PM ₁₀	7 pounds per day
PM _{2.5}	2 pounds per day
Area B	
NO _x	307 pounds per day
CO	2,254 pounds per day
PM ₁₀	10 pounds per day
PM _{2.5}	3 pounds per day
Area C	
NO _x	363 pounds per day
CO	3,185 pounds per day
PM ₁₀	45 pounds per day
PM _{2.5}	23 pounds per day

Table 4.2-6. Maximum Daily Localized Operational Emissions Thresholds

Pollutant	Operational Localized Thresholds
<i>Area D</i>	
NO _x	340 pounds per day
CO	2,808 pounds per day
PM ₁₀	24 pounds per day
PM _{2.5}	9 pounds per day
<i>Village West Drive Extension</i>	
NO _x	270 pounds per day
CO	1,577 pounds per day
PM ₁₀	14 pounds per day
PM _{2.5}	4 pounds per day

Source: Appendix B1.

Notes: NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

4.2.4 Approach and Methodology

Construction Emissions

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association and other California air districts, released the latest version of CalEEMod (Version 2016.3.2). Accordingly, the latest version of CalEEMod was used for the proposed Project to determine construction and operational air quality emissions. The SEIR analyzed the Project as consisting of 388,011 square feet of office, 221,394 square feet of commercial, 61,336 square feet of grocery store, 1,764,180 square feet of business park, 800,000 square feet of high-cube warehouse, 700,000 square feet of high-cub cold storage warehouse, 274,437 square feet of warehousing, and a 6.2-acre dog park.

Project-specific sources resulting from Village West Drive Extension and associated water tank removal were estimated using the most recent Roadway Construction Emissions Model (RCEM) Version 9.0. RCEM was developed by the Sacramento Metropolitan Air Quality Management District as part of its CEQA Guidelines and Tools to analyze new road construction, road widening, bridge/overpass construction, and other linear projects. Although CalEEMod is typically used for land use development projects in this region, the SCAQMD has identified the RCEM as an acceptable emissions modeling program when the use of CalEEMod is not appropriate, as is the case with linear construction projects such as the proposed Project. Based on the nature of the proposed Project, emissions associated with the construction of the Village West Drive Extension are considered within the scope of this assessment.⁴

Construction is expected to commence in January 2021 and would last through July 2024. As a conservative measure, it was assumed that the Village West Drive Extension would be constructed concurrent with the Meridian South Campus. The construction schedule used in the analysis, shown in Table 4.2-7, Construction Schedule, represents a “worst-case” analysis scenario should construction occur any time after the respective dates, since emissions factors for construction decrease as time passes and the analysis year increases due to emissions

⁴ The specific RCEM option for new road construction was used for analysis of this Project. Subsequent subphases and equipment lists are part of the defaults in that model and were, therefore, used in the analysis.

regulations becoming more stringent.⁵ The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet, as required per the CEQA Guidelines. The duration of construction activity was based on the Project's 2024 opening year.

Table 4.2-7. Construction Schedule

Activity	Start Date	End Date	Days
<i>Village West Drive Extension</i>			
Grubbing/Land Clearing	01/04/2021	01/13/2021	8
Grading/Excavation	01/14/2021	02/17/2021	25
Drainage/Utilities/Subgrade	02/18/2021	03/23/2021	24
Paving	03/24/2021	04/06/2021	10
<i>Meridian South Campus</i>			
Site Preparation	01/04/2021	04/16/2021	75
Grading	04/17/2021	09/03/2021	100
Building Construction	09/04/2021	07/19/2024	750
Paving	02/18/2024	07/19/2024	110
Architectural Coating	09/16/2023	07/19/2024	220

Source: Appendix B1.

Based on information provided by the Project applicant, earthwork activities are expected to balance on site, and no import or export of soils would be required. Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site), were estimated based on information from CalEEMod defaults. Site-specific construction fleet may vary due to specific Project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults. Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, vendors, and water trucks commuting to and from the site. A detailed summary of construction equipment assumptions by phase is provided at Table 4.2-8.

Table 4.2-8. Construction Equipment Assumptions

Activity	Equipment	Amount/ Number	Hours Per Day	Horsepower	Load Factor
<i>Village West Drive Extension</i>					
Grubbing/Land Clearing	Crawler Tractors	1	8	212	0.43
	Excavator	1	8	158	0.38
	Signal Boards	2	8	6	0.82
Grading/Excavation	Crushing/Proc. Equipment	1	8	85	0.78
	Forklifts	3	8	89	0.20
	Graders	1	8	187	0.41
	Rollers	2	8	80	0.38
	Rubber Tired Loaders	1	8	247	0.40

⁵ As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3, OFFROAD Equipment, as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer, less-polluting equipment and new regulatory requirements.

Table 4.2-8. Construction Equipment Assumptions

Activity	Equipment	Amount/ Number	Hours Per Day	Horsepower	Load Factor
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Drainage/Utilities/ Subgrade	Air Compressors	1	8	78	0.48
	Generator Sets	1	8	84	0.74
	Graders	1	8	187	0.41
	Plate Compactors	1	8	8	0.43
	Pumps	1	8	84	0.74
	Rough Terrain Forklifts	1	8	100	0.40
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Paving	Pavers	1	8	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	3	8	80	0.38
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Meridian South Campus					
Site Preparation	Crawler Tractors	4	8	212	0.43
	Rubber-Tired Dozers	3	8	247	0.40
Grading	Crawler Tractors	2	8	212	0.43
	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	1	8	247	0.40
	Scrapers	2	8	367	0.48
Building Construction	Cranes	1	8	231	0.29
	Crawler Tractors	3	8	212	0.43
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	8	78	0.48

Source: Appendix B1.

Note: To account for fugitive dust emissions associated with Meridian South Campus site preparation and grading activities, crawler tractors were used in lieu of tractors/loaders/backhoes.

The March JPA has established limits to the hours of construction. Section 9.10.030 of the March JPA's Development Code provides that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. and 7:00 p.m. As such, construction activities are permitted to occur up to 12 hours per day pursuant to the March JPA's Development Code. Under Section 9.10.140 of the March JPA Development Code, outdoor construction and grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing or demolition work within 500 feet of the property line of a residential

use, is further prohibited between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a federal holiday. Construction activities are considered exempt from the noise performance standards if they occur within the above described permitted hours; consequently, the 9.10.140 Development Code does not identify a specific noise level standard for construction activity. However, the identified construction equipment would not be used during every hour of the day. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4.2-8 would operate up to a total of 8 hours per day, or approximately two-thirds of the period during which construction activities are allowed pursuant to the March JPA's Development Code. Most pieces of equipment would likely operate for fewer hours per day.

CO “Hot Spot” Analysis

An adverse CO concentration, known as a hot spot, would occur if an exceedance of the state 1-hour standard of 20 parts per million (ppm) or the 8-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO (SCAQMD 2003a).

CO hot spots are caused by vehicular emissions, primarily when vehicles are idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams per mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment (CARB 2015).

Localized Significance Threshold Analysis

The SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of a project as a result of construction and operation activities. Such an evaluation is referred to as a LST analysis. LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. Both the construction and operational LST analyses are based on the combination of maximum emissions that may occur with the worst-case meteorological conditions, which equates to conservatively high estimates that may never occur.

Construction Health Risk Assessment

Although the proposed Project is defined as the net change in impacts as compared to the 2003 Approved South Campus, for the purposes of analyzing health risks, a health risk assessment was prepared to evaluate the potential construction health-risk impacts to sensitive receptors associated with exposure of DPM emissions from construction of the proposed South Campus Specific Plan in its entirety. (Appendix C1) The analysis was conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (SCAQMD 2003b). The EPA-approved dispersion model, American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), was used to model the impacts of DPM emissions from construction activities. For purposes of this analysis, the Lakes AERMOD View (Version 9.7.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View incorporates EPA's latest AERMOD Version 19191.

For this construction HRA, on-site construction activity was modeled as an area source encompassing the construction area and the vendor truck routes were modeled as adjacent volume sources. Vendor truck were modeled using EPA's haul route methodology for modeling of off-site truck movement. More specifically, the Haul

Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters, and an initial lateral dimension of 7.44 meters, and an initial vertical dimension of 3.25 meters. The construction activity was modeled to represent typical weekday construction activity (Monday through Friday, 8 hours per day, 7AM to 3PM).

Meteorological data from the SCAQMD's Riverside monitoring station (SRA 23) was used to represent local weather conditions and prevailing winds (SCAQMD 2018). Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 Office of Environmental Health Hazard Assessment's Guidelines (OEHHA 2015) and the SCAQMD's Rule 1401 risk assessment procedures (CARB 2019).

Operational Health Risk Assessment

A health risk assessment was prepared to evaluate the potential mobile-source health-risk impacts to sensitive receptors associated with exposure to DPM as a result of diesel trucks serving the Project (Appendix C2). The EPA-approved dispersion model, AERMOD, was used to model the impacts of DPM emissions from trucks traveling on study area roadways. The analysis was conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (SCAQMD 2003b). SCAQMD recommends using the EPA's AERMOD model. For purposes of this analysis, the Lakes AERMOD View (Version 9.7.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View incorporates EPA's latest AERMOD Version 19191. Meteorological data from the SCAQMD's Riverside monitoring station (SRA 23) was used to represent local weather conditions and prevailing winds (SCAQMD 2018). The health risk assessment (Appendix C2) included DPM emissions from on-site truck idling, on-site truck traveling, and off-site truck traveling. Annual average PM₁₀ emission factors were generated by running Emission FACTors (EMFAC) 2017 in EMFAC Mode for vehicles in the Riverside County jurisdiction. Each roadway was modeled as a line source (made up of multiple adjacent volume sources). Discrete variants for daily breathing rates and exposure frequency were obtained from relevant distribution profiles presented in the 2015 Office of Environmental Health Hazard Assessment's Guidelines (OEHHA 2015) and the SCAQMD's Rule 1401 risk assessment procedures (CARB 2019). Construction is expected to commence in January 2021 and will last through July 2024.

The SCAQMD CEQA Air Quality Handbook states that emissions of TACs are considered significant if a health risk assessment shows an increased risk of greater than 10 in 1 million (SCAQMD 1993). Based on guidance from the SCAQMD in Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, for purposes of this analysis, 10 in 1 million was used as the cancer risk threshold for the proposed Project. An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted.

Operational Emissions

As described previously, the proposed Project would involve a shift in land uses as compared to the 2003 Approved South Campus. The proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals; as such, this SEIR provides emissions for both the proposed Project and the 2003 Approved South Campus conditions to provide an appropriate comparative analysis. Operation of the Project would result in criteria air pollutant emissions through area sources, energy use, mobile sources, and on-site cargo handling equipment. Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas.

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the California Energy Commission and became effective on January 1, 2020. As such, the analysis herein assumed compliance with the newest Title 24 Standards, because the Project would be constructed after January 1, 2020. A 30% reduction in nonresidential energy use was assumed to be in compliance with the 2019 Title 24 standards. The CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standard.

Project-related operational emissions would derive primarily from vehicle trips. Trip characteristics available from the Project's Traffic Impact Analysis (Appendix K) were used in this analysis. The Proposed Project + Built/Entitled Land Uses are expected to generate approximately 31,424 two-way vehicular trips per day, which includes 26,950 two-way passenger-car trips and 4,475 two-way truck trips. The 2003 Approved South Campus Land Uses are expected to generate approximately 28,140 two-way vehicular trips per day, which includes 26,058 two-way passenger car trips and 2,082 two-way truck trips. As such, the proposed Project is expected to generate a net total of 3,284 two-way vehicular trips per day, which includes 892 two-way passenger-car trips and 2,393 two-way truck trips.⁶

The mobile-source emissions were calculated based on trip rates, trip lengths, and emission factors from EMFAC2017. Separate model runs were used to more accurately model emissions resulting from passenger car and truck operations.

For passenger car trips (Light-Duty-Auto vehicles [LDA], Light-Duty Trucks [LDT1],⁷ Light-Duty Trucks [LDT2],⁸ and Medium-Duty Trucks), the CalEEMod default for a one-way trip length of 16.6 miles was assumed. For heavy-duty trucks (two-axle/Light-Heavy-Duty Trucks, three-axle/Medium-Heavy-Duty Trucks, and four+ -axle/Heavy-Heavy-Duty Trucks) a one-way trip length of 60 miles was assumed; 60 miles is a more conservative assumption than the SCAQMD recommended 40-mile trip length and is consistent with past projects that the March JPA has entitled in the Meridian Business Center Specific Plan area.

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod. Fugitive dust emissions are included in the mobile source emissions category as summarized in Tables 4.2-9 and 4.2-18.

The cargo handling equipment is assumed to have a horsepower range of approximately 175 to 200 horsepower. Based on the latest available information from SCAQMD, high-cube warehouse projects typically have 3.6 yard-trucks per 1 million square feet of building space (SCAQMD 2014). For this particular Project, based on the maximum square footage of industrial building space permitted by the Project, on-site modeled operational

⁶ Vehicle miles traveled for transportation is calculated as an efficiency metric using a home-based work VMT measure per the Governor's Office of Planning and Research Guidelines. The home-based work VMT measure is a measure of all auto trips between home and work, and does not include heavy duty truck trips or freight. Therefore, it is more appropriate for the analysis herein to rely on the trip rates from the Traffic Impact Analysis and the associated trip lengths established by similar projects within the SCAQMD jurisdiction.

⁷ Vehicles under the LDT1 category have a gross vehicle weight rating of less than 6,000 pounds and equivalent test weight of less than or equal to 3,750 pounds.

⁸ Vehicles under the LDT2 category have a gross vehicle weight rating of less than 6,000 pounds and equivalent test weight between 3,751 and 5,750 pounds.

equipment included up to 11 200-horsepower, compressed natural gas or gasoline-powered yard tractors⁹ operating at 4 hours a day for 365 days of the year (4 yard tractors for warehouse [70% of business park], 1 yard tractor for the warehouse, 3 yard tractors for the high-cube transload short-term warehouse use, and 3 yard tractors for the high-cube cold storage warehouse use). In order to account for emissions associated with the 11 on-site pieces of cargo handling equipment, these were input into CalEEMod under the on-site equipment screen as 200-horsepower tractor/loader/backhoes with a load factor of 0.37 and a selection of natural gas as the fuel type. It should be noted that the resulting emissions calculations in CalEEMod from on-site equipment are the same for both natural gas and gasoline powered equipment for this category.

4.2.5 Impacts Analysis

The 2003 Focused EIR determined that the operational emissions associated with the Meridian Business Center would exceed SCAQMD significance criteria, and as such, would be a significant and unavoidable impact to air quality and would therefore, per SCAQMD criteria, be cumulatively significant and unavoidable. Implementation of the Transportation Demand Management measures C-1 through C-8 and mitigation measures C-9 through C-14 requires the Meridian Business Center to provide preferential parking spaces, implement compressed workweek, employers with 250 employees or more to develop a trip reduction plan, reduce vehicle queuing, provide video conferencing, encourage use of alternative fuels, and reduce energy use by utilizing solar or low emitting water heaters, window insulation, cool roofs, obtain SCAQMD operating permits for stationary sources, fugitive dust measures, appoint construction relations officer, restrict idling and electrification at industrial warehouse facilities, and drought-tolerant landscaping. However, the 2003 Focused EIR determined that implementation of these mitigation measures would not reduce impacts to a less-than-significant level.

AQ-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

As discussed previously, the Project site is located within the SCAB under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. Construction and operation of the development proposed as part of the Project may result in emissions of short- and long-term criteria air pollutants in conflict with the SCAQMD AQMPs.

The SCAQMD has established criteria for determining consistency with the AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993):

- **Consistency Criterion No. 1:** The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The proposed project will not exceed the assumptions in the AQMP or increments based on the year of project build-out phase.

⁹ CalEEMod assigns the same emissions values to gasoline and compressed natural gas. Additionally, the specific fuel type is unknown which is why this has been identified as such. T/l/b was used because there is no specific yard truck or yard hostler equipment type in CalEEMod. The horsepower and load factors have been modified commensurate with SCAQMD recommendations.

Consistency Criterion No. 1

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

As evaluated, the Project’s localized construction-source emissions would not exceed the applicable LST thresholds, as shown in Table 4.2-15. However, the Project’s unmitigated regional construction emissions would exceed the applicable regional thresholds for emissions of VOC and NO_x, as shown in Table 4.2-9.

Operational Impacts – Consistency Criterion 1

The Project would not exceed the applicable LST thresholds for localized operational activity, as shown in Table 4.2-16. However, the Project’s unmitigated regional operations emissions would exceed the applicable regional threshold for emissions of NO_x, as shown in Table 4.2-14.

Conclusion – Consistency Criterion 1

On the basis of the preceding discussion, the Project’s unmitigated construction and operation would be inconsistent with the first criterion. Thus, unmitigated construction and operation of the Project would result in a **potentially significant** impact. In order to reduce the Project’s construction-source emissions potentially significant impact to a **less-than-significant** level, the Project would implement mitigation measure **(MM)-AQ-1 through MM-AQ-4**, which require the Project to utilize Tier 4 off-road construction equipment, utilize “Super-Compliant” low-VOC paints, provide a construction relations officer, and prepare a fugitive dust control plan. However, as shown in Table 4.2-14, Proposed Project Net Emissions, even with implementation of **MM-AQ-5 through MM-AQ-18**, which requires the Project to reduce idling at loading docks, provide incentives for cleaner engines and equipment, optimize natural lighting, provide electric outlets on the exterior of buildings, utilize electric landscaping equipment, utilize electric and natural gas-fueled yard equipment (e.g., forklifts, hostlers), encourage use of alternative-fueled trucks and retrofitted diesel trucks, implement a TDM Program, design SmartWay truck compatible loading docks, mark approved truck routes, and prove electrical system supports heavy truck charging, the Project’s operational-source impacts remain **significant and unavoidable**.

Consistency Criterion No. 2

SCAQMD’s 2016 AQMP notes that the applicable ambient air quality standards can be achieved within the timeframes required under federal law (SCAQMD 2017). Growth projections from local general plans adopted by cities in the SCAQMD are provided to SCAG, which develops regional growth forecasts that are then used to develop future air quality forecasts for the AQMP. Development consistent with the SCAG RTP/SCS growth projections for the March JPA General Plan is considered to be consistent with the AQMP.

Construction Impacts – Consistency Criterion 2

Peak-day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Regardless of the site’s land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. Air quality forecasts include construction emissions when analyzing growth projections. Therefore, as explained in more detail below, the Project is within the SCAG RTP/SCS growth projections for the March JPA General Plan and the Project’s construction emissions are consistent with the AQMP.

Operational Impacts – Consistency Criterion 2

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Development consistent with the SCAG RTP/SCS growth projections for the March JPA General Plan is considered to be consistent with the AQMP. The SCAG RTP/SCS is a long-range transportation plan that is developed and updated by SCAG every 4 years. The RTP provides a vision for transportation investments throughout the region. The SCS integrates land use and transportation strategies that will achieve greenhouse gas (GHG) emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state’s 2035 and 2040 GHG reduction goals (SCAG 2016).

The Project lies entirely within Traffic Analysis Zone (TAZ) 43261100. The 2016–2040 RTP/SCS projects that within TAZ 43261100, there will be a total of 3,576 jobs by 2040. Adding jobs consistent with the 2016–2040 RTP/SCS projections supports SCAG’s achievement of CARB emissions reductions targets.

The 2016–2040 RTP/SCS also indicates that this is a jobs-poor area, so providing more jobs will actually reduce GHG emissions and reduce vehicle miles traveled since it will provide local jobs to achieve a more favorable jobs-housing balance (SCAG 2016).

The South Campus Specific Plan, which includes the Project and the already built/entitled uses, is expected to generate 2,640 jobs. This is within the projected job total in TAZ 43261100 of 3,576 in 2040; thus, the jobs created by the Project are within the job growth projections of the job estimation used for the job projections in the 2016–2040 RTP/SCS, the Project will not impair the region’s ability to achieve the GHG reductions from Project-related mobile sources as required by SB 375 because the land use development pattern proposed by the Project results in jobs within the total number of jobs projected by 2016–2040 RTP/SCS, and is consistent with the underlying assumptions upon which 2016–2040 RTP/SCS was based (SCAG 2016). Because the Project is within the SCAG RTP/SCS growth projections for the March JPA General Plan and, the Project’s operational emissions are consistent with the AQMP.

Conclusion – Consistency Criterion 2

Because the Project is within the SCAG RTP/SCS growth projections for the March JPA General Plan and, the Project’s construction and operational emissions are consistent with the AQMP. Therefore, the Project is consistent with Consistency Criterion No. 2.

However, since the Project would conflict with Consistency Criterion No. 1, even with mitigation, the Project’s impacts would be **significant and unavoidable** for Threshold AQ-1.

AQ-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

According to SCAQMD’s White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (Goss and Kroeger 2003), individual projects that do not generate operational or construction emissions that exceed the SCAQMD’s recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD’s thresholds for project-specific impacts would be cumulatively considerable (Goss and Kroeger 2003).

Construction Impacts

The estimated maximum daily construction emissions without mitigation are summarized in Table 4.2-9, Maximum Daily Construction Emissions – Without Mitigation. Detailed unmitigated construction model outputs are presented in Appendix 3.1 of Appendix B1 to this SEIR. Under the assumed scenarios, unmitigated emissions resulting from Project construction would exceed criteria pollutant thresholds established by the SCAQMD for VOCs and NO_x.

Table 4.2-9. Maximum Daily Construction Emissions – Without Mitigation

Year	Construction Phase	Source	Total Construction-Source Emissions (pounds per day)					
			VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Village West Drive Extension								
2021	Grubbing/Land Clearing	Construction Equipment	0.89	9.84	6.31	0.01	10.39	2.45
		Worker and Water Truck	0.07	0.66	0.65	0.00	0.04	0.02
	Grubbing/Land Clearing Emissions Totals		0.96	10.50	6.96	0.01	10.43	2.47
	Grading/Excavation	Construction Equipment	4.76	52.98	38.51	0.08	12.21	4.12
		Worker and Water Truck	0.17	0.79	2.08	0.01	0.09	0.04
	Grading/Excavation Emissions Totals		4.93	53.77	40.59	0.09	12.30	4.16
	Drainage/Utilities/Subgrade	Construction Equipment	3.99	42.12	33.25	0.07	11.81	3.79
		Worker and Water Truck Trips	0.14	0.76	1.75	0.00	0.08	0.04
	Drainage/Utilities/Subgrade Emissions Totals		4.13	42.88	35.00	0.07	11.89	3.83
	Paving	Construction Equipment/Paving Off-Gassing	1.50	14.82	16.21	0.02	0.83	0.76
		Worker and Water Truck Trips	0.12	0.73	1.42	0.00	0.07	0.03
	Paving Emissions Totals		1.62	15.55	17.63	0.02	0.90	0.79
Meridian South Campus								
2021	Site Preparation	Construction Equipment	5.34	60.79	21.85	0.06	13.83	6.75
		Worker and Vendor Trips	0.09	0.05	0.67	0.00	0.20	0.05
	Site Preparation Emissions Totals		5.43	60.84	22.52	0.06	14.03	6.81
	Grading	Construction Equipment	4.92	56.54	31.23	0.07	8.77	3.84
Worker and Vendor Trips		0.09	0.06	0.74	0.00	0.22	0.06	

Table 4.2-9. Maximum Daily Construction Emissions – Without Mitigation

Year	Construction Phase	Source	Total Construction-Source Emissions (pounds per day)					
			VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Grading Emissions Totals		5.01	56.60	31.97	0.07	9.00	3.90
	Building Construction	Construction Equipment	3.11	33.97	18.20	0.04	1.48	1.38
		Worker and Vendor Trips	9.70	68.46	74.47	0.36	23.72	6.55
	Building Construction Emissions Totals		12.81	102.43	92.66	0.40	25.20	7.93
2023	Building Construction	Construction Equipment	2.55	26.20	17.35	0.04	1.12	1.04
		Worker and Vendor Trips	8.25	49.04	63.03	0.34	23.64	6.47
	Building Construction Emissions Totals		10.80	75.24	80.38	0.38	24.76	7.51
	Architectural Coating	Construction Equipment	93.90	1.74	2.41	0.00	0.09	0.09
		Worker and Vendor Trips	2.84	1.54	21.46	0.07	7.67	2.06
	Architectural Coating Emissions Totals		96.74	3.28	23.88	0.07	7.76	2.16
2024	Building Construction	Construction Equipment	2.41	24.32	17.13	0.04	1.01	0.94
		Worker and Vendor Trips	7.82	48.44	59.36	0.33	23.64	6.47
	Building Construction Emissions Totals		10.23	72.77	76.49	0.38	24.65	7.41
	Paving	Construction Equipment/ Paving Off-Gassing	3.13	9.52	14.63	0.02	0.47	0.43
		Worker and Vendor Trips	0.06	0.03	0.44	0.00	0.17	0.05
	Paving Emissions Totals		3.19	9.56	15.07	0.02	0.64	0.48
	Architectural Coating	Construction Equipment	93.89	1.63	2.41	0.00	0.08	0.08
		Worker and Vendor Trips	2.67	1.40	20.13	0.07	7.67	2.06
Architectural Coating Emissions Totals		96.56	3.03	22.54	0.07	7.75	2.14	
Maximum Daily Emissions								
Year 2021 Construction Maximum Daily Emissions ¹			17.74	156.20	133.25	0.49	37.50	12.09
Year 2022 Construction Maximum Daily Emissions			11.86	94.15	86.44	0.40	24.98	7.72
Year 2023 Construction Maximum Daily Emissions ²			107.53	78.53	104.25	0.46	32.52	9.67

Table 4.2-9. Maximum Daily Construction Emissions – Without Mitigation

Year	Construction Phase	Source	Total Construction-Source Emissions (pounds per day)					
			VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Year 2024 Construction Maximum Daily Emissions ³			109.98	85.35	114.10	0.47	33.03	10.03
SCAQMD Regional Threshold			75	100	550	150	150	55
Threshold Exceeded?			YES	YES	NO	NO	NO	NO

VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = reported emissions are less than 0.01

- ¹ Based on Table 4.2-7, Construction Schedule, Village West Drive Extension Grubbing/Land Clearing, Grading/Excavation, Drainage/Utilities/Subgrade, and Paving activities will overlap with Meridian South Campus Site Preparation activities. As such the maximum daily emissions presented for Year 2021 is the sum of all the Village West Drive Extension construction activities and the Meridian South Campus Site Preparation activities.
- ² Based on Table 4.2-7, Construction Schedule, building construction, paving, and architectural coating activities are anticipated to overlap. The maximum emissions presented for Year 2023 includes the sum of building construction and architectural coating activity emissions for that year.
- ³ Based on Table 4.2-7, Construction Schedule, building construction, paving, and architectural coating activities are anticipated to overlap. The maximum emissions presented for Year 2024 includes the sum of building construction, paving, and architectural coating activity emissions for that year.

The Project's construction emissions exceed the VOC and NO_x SCAQMD significance thresholds; thus, the Project's unmitigated impacts would be **potentially significant** and would therefore, per SCAQMD criteria, be cumulatively potentially significant. In order to reduce the Project's construction-source emissions potentially significant impact to a **less-than-significant** level, the Project would implement MM-AQ-1 through MM-AQ-4, which requires the Project to utilize Tier 4 off-road construction equipment, utilize "Super-Compliant" low VOC paints, provide a construction relations officer, and prepare a fugitive dust control plan.

Operational Impacts

As described previously, the proposed Project (net change in emissions) would involve a shift in land uses as compared to the 2003 Approved South Campus. For the purposes of this SEIR, the net change in emissions is considered the "Project." As such, this SEIR provides emissions for both the proposed Project (Proposed Project + Built/Entitled Land Uses) and the 2003 Approved South Campus conditions in order to provide an appropriate comparative analysis.

Proposed Project Uses Operational Emissions Summary

Operational activities for Proposed Project land uses summer and winter scenarios are presented in Table 4.2-10, Proposed Project Land Uses Operational Emissions. Detailed model outputs are presented in Appendices 3.3 and 3.4 of Appendix B1 of this SEIR.

Table 4.2-10. Proposed Project Land Uses Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Area Source	95.78	<0.01	0.44	<0.01	<0.01	<0.01
Energy Source	1.25	11.33	9.52	0.07	0.86	0.86
Mobile Source (Passenger Cars)	75.72	249.14	649.53	2.09	197.62	54.00
Mobile Source (Trucks)	7.75	416.38	85.80	2.27	96.13	30.04
On-Site Cargo Handling Equipment	1.20	10.70	8.26	0.03	0.39	0.36
Total Maximum Daily Emissions	181.70	687.56	753.56	4.46	295.00	85.27
Winter						
Area Source	95.78	<0.01	0.44	<0.01	<0.01	<0.01
Energy Source	1.25	11.33	9.52	0.07	0.86	0.86
Mobile Source (Passenger Cars)	67.76	257.87	569.85	1.95	197.61	54.00
Mobile Source (Trucks)	7.46	435.24	78.43	2.27	96.07	30.02
On-Site Cargo Handling Equipment	1.20	10.70	8.26	0.03	0.39	0.36
Total Maximum Daily Emissions	173.44	715.16	666.50	4.33	294.93	85.25

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = reported emissions are less than 0.01.

Built/Entitled Land Uses Operational Emissions Summary

The built/entitled land uses will be included as part of the proposed Project scenario. Emissions calculations associated with the Built/Entitled Land Uses are similar to the methodology previously discussed for the Project. Operation of the Built/Entitled Land Uses would result in criteria air pollutant emissions through area sources, energy use, mobile sources, and on-site cargo handling equipment. Built/Entitled Land Uses building operations and Built/Entitled Land Uses site maintenance activities would result in the consumption of natural gas and electricity. The built/entitled land use operational activities are presented in Table 4.2-11. Detailed model outputs are presented in Appendices 3.3 and 3.4 of Appendix B1 of this SEIR.

Table 4.2-11. Built/Entitled Land Uses Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Area Source	59.27	<0.01	0.27	<0.01	<0.01	<0.01
Energy Source	0.15	1.37	1.15	<0.01	0.10	0.10
Mobile Source (Passenger Cars)	16.51	20.56	205.10	0.65	73.38	19.70
Mobile Source (Trucks)	10.02	582.06	113.10	3.20	133.06	41.71
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	87.04	613.73	327.13	3.89	206.90	61.84
Winter						
Area Source	59.27	<0.01	0.27	<0.01	<0.01	<0.01

Table 4.2-11. Built/Entitled Land Uses Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Energy Source	0.15	1.37	1.15	<0.01	0.10	0.10
Mobile Source (Passenger Cars)	14.71	21.26	169.61	0.59	73.38	19.70
Mobile Source (Trucks)	9.59	608.33	102.65	3.20	132.99	41.68
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	84.82	640.70	281.20	3.83	206.83	61.81

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = reported emissions are less than 0.01.

Proposed Project + Built/Entitled Land Uses Operational Emissions Summary

The emissions presented in Table 4.2-12 represent the sum of emissions from the Proposed Project Land Uses plus the Built/Entitled Land Uses. Detailed model outputs are presented in Appendices 3.3 and 3.4 of Appendix B1 of this SEIR.

Table 4.2-12. Proposed Project + Built/Entitled Land Uses Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
<i>Summer</i>						
Proposed Project Land Uses	181.70	687.56	753.56	4.46	295.00	85.27
Built/Entitled Land Uses	87.04	613.73	327.13	3.89	206.90	61.84
Total Maximum Daily Emissions (Proposed Project + Built/Entitled)	268.74	1,301.29	1,080.69	8.35	501.90	147.11
<i>Winter</i>						
Proposed Project Land Uses	173.44	715.16	666.50	4.33	294.93	85.25
Built/Entitled Land Uses	84.82	640.70	281.20	3.83	206.83	61.81
Total Maximum Daily Emissions (Proposed Project + Built/Entitled)	258.26	1,355.86	947.70	8.16	501.76	147.06

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

2003 Approved South Campus Land Use Operational Emissions

Emissions generated from the land uses proposed in the 2003 Approved South Campus are presented in Table 4.2-13. These emissions were calculated in CalEEMod for the 2003 Approved South Campus land uses similar to the methodology previously discussed for the Project. Operation of the 2003 Approved South Campus Land Uses would result in criteria air pollutant emissions through area sources, energy use, mobile sources, and on-site cargo handling equipment. 2003 Approved South Campus Land Uses building operations and 2003 Approved South Campus Land Uses site maintenance activities would result in the consumption of natural gas and electricity. Detailed model outputs are presented in Appendices 3.3 and 3.4 of Appendix B1 of this SEIR.

Table 4.2-13. 2003 Approved South Campus EIR Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Area Source	180.30	0.01	0.83	<0.01	<0.01	<0.01
Energy Source	1.97	17.88	15.02	0.11	1.36	1.36
Mobile Source (Passenger Cars)	65.48	44.17	896.27	2.83	330.21	88.43
Mobile Source (Trucks)	8.80	511.63	99.41	2.81	116.96	36.66
On-Site Cargo Handling Equipment	3.06	27.25	21.07	0.09	1.00	0.92
Total Maximum Daily Emissions	259.62	600.93	1,032.56	5.84	449.53	127.37
Winter						
Area Source	180.30	0.01	0.83	<0.01	<0.01	<0.01
Energy Source	1.97	17.88	15.02	0.11	1.36	1.36
Mobile Source (Passenger Cars)	58.31	45.65	732.41	2.57	330.21	88.43
Mobile Source (Trucks)	8.43	534.72	90.23	2.81	116.89	36.64
On-Site Cargo Handling Equipment	3.06	27.25	21.04	0.09	1.00	0.92
Total Maximum Daily Emissions	252.07	625.50	859.52	5.58	449.46	127.34

Notes: EIR = Environmental Impact Report; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = reported emissions are less than 0.01.

Proposed Project Net Emissions

The net change in emissions associated with the 2003 Approved South Campus to the currently proposed Project (Proposed Project + Built/Entitled Land Uses) are presented in Table 4.2-14.

Table 4.2-14. Proposed Project Net Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Proposed Project + Built/Entitled Land Uses	268.74	1,301.29	1,080.69	8.35	501.90	147.11
2003 Approved South Campus	259.62	600.93	1,032.56	5.84	449.53	127.37
Proposed Project Net Emissions	9.12	700.36	48.13	2.51	52.37	19.74
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO
Winter						
Proposed Project + Built/Entitled Land Uses	258.26	1,355.86	947.70	8.16	501.76	147.06
2003 Approved South Campus	252.07	625.50	859.52	5.58	449.46	127.34
Proposed Project Net Emissions^a	6.19	730.36	88.18	2.58	52.30	19.72
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

^a Proposed Project Net Emissions = Proposed Project + Built/Entitled Land Uses Emissions - 2003 Approved South Campus Emissions.

As shown, the Project (net change in emissions) associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would exceed regional thresholds of significance established by the SCAQMD for NO_x emissions, therefore a **potentially significant** impact would occur and would therefore, per SCAQMD criteria, be cumulatively potentially significant. As shown in Table 4.2-14, Proposed Project Net Emissions, even with implementation of MM-AQ-5 through MM-AQ-18—which require the Project to reduce idling at loading docks, provide incentives for cleaner engines and equipment, optimize natural lighting, provide electric outlets on the exterior of buildings, utilize electric landscaping equipment, utilize electric and natural gas-fueled yard equipment (e.g., forklifts, hostlers), encourage use of alternative-fueled trucks and retrofitted diesel trucks, implement a TDM Program, design SmartWay truck compatible loading docks, mark approved truck routes, and provide electrical system supports heavy truck charging—impacts remain **significant and unavoidable**.

AQ-3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

The potential impact of Project-generated air pollutant emissions upon sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term healthcare facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered sensitive receptors.

Localized Significance Thresholds Analysis

The SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of a project as a result of construction and operation activities. Such an evaluation is referred to as an LST analysis. LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}.

Construction LST Impacts

The on-site construction emissions for NO_x, CO, PM₁₀, and PM_{2.5} are compared to the respective LSTs in Table 4.2-15. Due to the size of the Project, the site was divided into the five areas as depicted in Figure 4.2-1. To estimate on-site emissions from each area, the total on-site construction emissions were multiplied based on the ratio of each area relative to the entire Project site.

As shown in Table 4.2-15, Localized Significance Summary of Construction – Without Mitigation, Project localized construction-source emissions would not exceed the applicable LSTs.

Table 4.2-15. Localized Significance Summary of Construction – Without Mitigation

Year	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Site Preparation – Construction On-Site Emissions				
Area A				
2021	32.74	11.77	7.45	3.64
Maximum Daily Emissions	32.74	11.77	7.45	3.64
SCAQMD Localized Threshold	284	1,841	25	9
Threshold Exceeded?	NO	NO	NO	NO
Area B				

Table 4.2-15. Localized Significance Summary of Construction – Without Mitigation

Year	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2021	6.37	2.29	1.45	0.71
Maximum Daily Emissions	6.37	2.29	1.45	0.71
SCAQMD Localized Threshold	307	2,254	41	10
Threshold Exceeded?	NO	NO	NO	NO
Area C				
2021	18.43	6.63	4.19	2.05
Maximum Daily Emissions	18.43	6.63	4.19	2.05
SCAQMD Localized Threshold	363	3,185	186	91
Threshold Exceeded?	NO	NO	NO	NO
Area D				
2021	3.25	1.17	0.74	0.36
Maximum Daily Emissions	3.25	1.17	0.74	0.36
SCAQMD Localized Threshold	340	2,808	99	33
Threshold Exceeded?	NO	NO	NO	NO
Village West Drive Extension				
2021	9.87	6.31	10.39	2.45
Maximum Daily Emissions	9.87	6.31	10.39	2.45
SCAQMD Localized Threshold	118	602	29	8
Threshold Exceeded?	NO	NO	NO	NO
Grading – Construction On-Site Emissions				
Area A				
2021	30.46	16.82	4.72	2.07
Maximum Daily Emissions	30.46	16.82	4.72	2.07
SCAQMD Localized Threshold	284	1,841	25	9
Threshold Exceeded?	NO	NO	NO	NO
Area B				
2021	5.92	3.27	0.92	0.40
Maximum Daily Emissions	5.92	3.27	0.92	0.40
SCAQMD Localized Threshold	307	2,254	41	10
Threshold Exceeded?	NO	NO	NO	NO
Area C				
2021	17.15	9.47	2.66	1.16
Maximum Daily Emissions	17.15	9.47	2.66	1.16
SCAQMD Localized Threshold	363	3,185	186	91
Threshold Exceeded?	NO	NO	NO	NO
Area D				
2021	3.02	1.67	0.47	0.21
Maximum Daily Emissions	3.02	1.67	0.47	0.21
SCAQMD Localized Threshold	340	2,808	99	33
Threshold Exceeded?	NO	NO	NO	NO

Table 4.2-15. Localized Significance Summary of Construction – Without Mitigation

Year	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
<i>Village West Drive Extension – Grading/Excavation</i>				
2021	52.98	38.51	12.21	4.12
Maximum Daily Emissions	52.98	38.51	12.21	4.12
SCAQMD Localized Threshold	118	602	29	8
Threshold Exceeded?	NO	NO	NO	NO
<i>Village West Drive Extension – Drainage/Utilities/Subgrade</i>				
2021	42.12	33.25	11.81	1.71
Maximum Daily Emissions	42.12	33.25	11.81	1.71
SCAQMD Localized Threshold	118	602	29	8
Threshold Exceeded?	NO	NO	NO	NO

Source: Appendix B1

Notes: NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction, impacts would be **less than significant**, and no mitigation is required.

Operational LST Impacts

The LST analysis generally includes on-site sources (area, energy, mobile, and on-site cargo handling equipment). However, CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. It is assumed that the maximum distance a passenger car and/or truck would make through the Project site is approximately 0.20 miles. Although the on-site distance for the entire site is greater, this assumption that every trip (inbound and outbound) travels roughly 1,000 feet is conservative because not every single trip (inbound and outbound) would travel 1,000 feet on site. As such, an on-site travel distance of approximately 0.20 miles for each passenger car (1.14% of passenger car mobile-source emissions) and truck trips (0.32% of truck mobile-source emissions) was used as a conservative measure. The on-site operational emissions for NO_x, CO, PM₁₀, and PM_{2.5} were compared to the respective LSTs. Similar to the approach taken when determining on-site construction emissions, on-site operational emissions were determined by multiplying the total on-site operational emissions by the ratio of each area relative to the entire Project site (Appendix B1). As shown on Table 4.2-16, Localized Significance Summary of Operations – Without Mitigation, operational emissions would not exceed the LST thresholds.

Table 4.2-16. Localized Significance Summary of Operations – Without Mitigation

Operational Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
<i>Area A</i>				
Summer	21.22	20.24	2.99	1.47

Table 4.2-16. Localized Significance Summary of Operations – Without Mitigation

Operational Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Winter	21.35	19.50	2.98	1.47
Maximum Daily Emissions	21.35	20.24	2.99	1.47
SCAQMD Localized Threshold	284	1,841	7	2
Threshold Exceeded?	NO	NO	NO	NO
Area B				
Summer	4.13	3.93	0.58	0.29
Winter	4.15	3.79	0.58	0.29
Maximum Daily Emissions	4.15	3.93	0.58	0.29
SCAQMD Localized Threshold	307	2,254	10	3
Threshold Exceeded?	NO	NO	NO	NO
Area C				
Summer	11.95	11.39	1.68	0.83
Winter	12.02	10.98	1.68	0.83
Maximum Daily Emissions	12.02	11.39	1.68	0.83
SCAQMD Localized Threshold	363	3,185	45	23
Threshold Exceeded?	NO	NO	NO	NO
Area D				
Summer	2.10	2.01	0.30	0.15
Winter	2.12	1.93	0.30	0.15
Maximum Daily Emissions	2.12	2.01	0.30	0.15
SCAQMD Localized Threshold	340	2,808	24	9
Threshold Exceeded?	NO	NO	NO	NO

Source: Appendix B1.

Notes: NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

Results of the LST analysis indicate that, during operation, the Project would not exceed the SCAQMD localized significance thresholds during operational activity, impacts would be **less than significant**, and no mitigation is required (Appendix B1).

CO Hot Spot Analysis

An adverse CO concentration, known as a “hot spot,” would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of SCAQMD’s 1993 CEQA Air Quality Handbook, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO (SCAQMD 2003a). To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO hot spot analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods (SCAQMD 2003a). This hot spot analysis did not predict any violation of CO standards, as shown on Table 4.2-17, Carbon Monoxide Model Results.

Table 4.2-17. Carbon Monoxide Model Results

Intersection Location	Carbon Monoxide Concentrations (parts per million)		
	Morning 1-Hour	Afternoon 1-Hour	8-Hour
Wilshire/Veteran	4.6	3.5	3.7
Sunset/Highland	4	4.5	3.5
La Cienega/Century	3.7	3.1	5.2
Long Beach/Imperial	3	3.1	8.4

Source: SCAQMD 2003a, Appendix V: Modeling and Attainment Demonstrations

Note: Federal 1-hour standard is 35 parts per million and the deferral 8-hour standard is 9.0 parts per million.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hour CO concentration measured at the Long Beach Boulevard and Imperial Highway intersection (highest CO generating intersection within the hot spot analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.4 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (SCAQMD 2003b). In contrast, the ambient 8-hour CO concentration within the Project study area is estimated at 1.4 ppm–1.6 ppm. Therefore, even if the traffic volumes for the Project were double or even triple of the traffic volumes generated at the Long Beach Boulevard and Imperial Highway intersection, coupled with the ongoing improvements in ambient air quality, the Project would not be capable of resulting in a CO hot spot at any study area intersections. Similar considerations are also employed by other air districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017).

The busiest intersection evaluated by the SCAQMD's 2003 AQMP was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day and AM/PM traffic volumes of 8,062 vehicles per hour and 7,719 vehicles per hour, respectively (SCAQMD 2003a). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations ($4.6 \text{ ppm} \times 4 = 18.4 \text{ ppm}$) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).¹⁰ Based on the Project's Traffic Impact Analysis (Appendix K), at buildout of the Project, the highest average daily trips on a segment of road would be 84,863 daily trips on Overlook Parkway/Canyon Crest Drive and Alessandro Boulevard, which is lower than the highest daily traffic volumes at Wilshire Boulevard and Veteran Avenue of 100,000 vehicles per day.

Additionally, the SCAQMD's 2003 AQMP determined that the highest traffic volumes on a segment of road is 8,674 vehicles per hour on La Cienega Boulevard and Century Boulevard. The highest trips on a segment of road for the Project is 7,582 vehicles per hour on Meridian Parkway and Van Buren Boulevard. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP. The Project considered herein would not produce the volume of traffic required to generate a CO hot spot either in the

¹⁰ Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

context of the 2003 Los Angeles hot spot study or based on representative Bay Area Air Quality Management District CO threshold considerations.

Project traffic would not create or result in a CO hot spot. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations, impacts would be **less than significant**, and no mitigation is required.

Health Risk Assessment

Construction Health Risk Assessment

The Project would have a significant impact from Project construction if it results in a maximum incremental cancer risk ≥ 10 in 1 million and/or a chronic and acute hazard index that is ≥ 1.0 . The results of the health risk assessment indicate that, at the maximally exposed individual receptor, the maximum incremental cancer risk attributable to construction activities is estimated at 3.29 in 1 million, which is less than the threshold of 10 in 1 million. At this same location, non-cancer risks were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. The sensitive land use with the greatest potential exposure to Project DPM source emissions is the existing residential community located north of Van Buren Boulevard and west of Orange Terrace Parkway (Appendix C1).

The results of the analysis indicate that, at the Tomas Riviera Elementary School, the maximum incremental cancer risk attributable to Project construction is estimated at 0.03 in 1 million, which is less than the threshold of 10 in 1 million. At the same location, non-cancer risks were estimated to be 0.0001, which would not exceed the applicable threshold of 1.0.

The results of the analysis indicate that, at the Amelia Earhart Middle School, the maximum incremental cancer risk attributable to Project construction is estimated at 0.02 in 1 million, which is less than the threshold of 10 in 1 million. At the same location, non-cancer risks were estimated to be 0.0001, which would not exceed the applicable threshold of 1.0.

The results of the health risk assessment indicate that the Project would not result in any significant health risk impacts from exposure to TACs from Project construction (Appendix C1). Thus, impacts to sensitive receptors would be **less than significant**.

Operational Health Risk Assessment

The Project would have a significant impact from Project operation if it results in a maximum incremental cancer risk ≥ 10 in 1 million and/or a chronic and acute hazard index that is ≥ 1.0 . The results of the health risk assessment indicate that, at the maximally exposed individual receptor, the maximum incremental cancer risk attributable to trucks is estimated at 4.79 in 1 million, which is less than the threshold of 10 in 1 million. At this same location, non-cancer risks were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. The sensitive land use with the greatest potential exposure to Project DPM source emissions is the existing residential community located north of Van Buren Boulevard and west of Orange Terrace Parkway (Appendix C2).

The results of the health risk assessment from Project operation indicate that, at the Tomas Riviera School, the maximum incremental cancer risk attributable to trucks is estimated at 0.50 in 1 million, which is less than the threshold of 10 in 1 million. At this same location, non-cancer risks were estimated to be 0.0008,

which would not exceed the applicable threshold of 1.0. At the Amelia Earhart Middle School, the maximum incremental cancer risk attributable to trucks is estimated at 0.36 in 1 million, which is less than the threshold of 10 in 1 million. At this same location, non-cancer risks were estimated to be 0.0006, which would not exceed the applicable threshold of 1.0 (Appendix C2).

The results of the health risk assessment indicate that the Project would not result in any significant health risk impacts from exposure to TACs from the Project operation (Appendix C2). Thus, impacts to sensitive receptors would be **less than significant**.

Health Effects of Criteria Air Pollutants

Although EIRs have long evaluated the health impacts of toxic air pollutants, such as DPM, in the form of a numerical health risk assessment, EIRs have not historically evaluated the specific health impacts of the increase in criteria pollutants¹¹ in a numerical health-risk format, other than to note the general effect of criteria air pollutants on health. This information has not historically been included in EIRs but after the California Supreme Court's ruling in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (referred to as the Friant Ranch decision), some lead agencies are now attempting to conduct a numerical analysis of the health impacts of criteria pollutants, from large projects. However, neither March JPA nor SCAQMD have adopted significance thresholds for health impacts from an increase in criteria air pollutants. Therefore, the following analysis is provided for informational purposes. The following analysis was conducted to be conservative and in an effort to provide as much information as possible (Appendix B2).

Above and beyond the discussion of general health risks that are associated with each criteria pollutant, this analysis also provides a numerical estimate of the health effects of criteria pollutants that may be attributable to the Project's operations. Specifically emissions of NO_x, VOC, PM_{2.5}¹², CO, and SO_x were considered in their role as precursors of ozone and PM_{2.5}, the two criteria pollutants the EPA has determined to have the greatest effect on human health.

This analysis does not estimate the health effects of criteria pollutants attributable to Project construction because construction emissions with mitigation would not exceed any SCAQMD daily or localized thresholds. In addition, construction emissions are short term and the methodologies available to estimate health risks from criteria air pollutants are based on long term exposures.

In order to estimate the health effects of criteria pollutants for the proposed Project, Ramboll applied a photochemical grid model (PGM), the Comprehensive Air Quality Model with extensions (CAMx),¹³ to estimate the small increases in concentrations of ozone (the health effects result from the formation of ozone from ozone precursor pollutants, primarily VOC and NO_x) and PM_{2.5} (including PM_{2.5} formed from its precursors) in the region as a result of the emissions of criteria and ozone precursor pollutants from the Project. Ramboll then applied an EPA-authored program, the Benefits Mapping and Analysis Program

¹¹ Criteria pollutants are those pollutants with an air pollution standard or pollutants which are precursors to those with a standard. Pollutants with an air pollution standard include nitrogen dioxide, sulfur dioxide, ozone, CO, PM_{2.5}, and PM₁₀. Precursor pollutants to criteria pollutants include NO_x, SO_x, and VOCs.

¹² Consistent with EPA health effects evaluations, the health effect functions in BenMAP for PM use fine particulate (PM_{2.5}) as the causal PM agent.

¹³ <http://www.camx.com>

(BenMAP)¹⁴, to estimate the potential increase in occurrence of health effects that might result from the small increases in ozone and PM_{2.5} concentration. This is further described below.

The first step in the process is to run the PGM to assess the small increases in ambient air concentrations that the Project may cause. PGMs require a database of information including the spatial allocation of emissions in the area to be modeled. This includes both baseline emissions and Project emissions. The latest publicly available PGM database for Southern California, which contains baseline emissions, was developed by SCAQMD in support of the 2016 AQMP¹⁵ and was adapted for this analysis. This PGM database is tailored for Southern California using California-specific input tools (e.g., the EMFAC¹⁶ mobile source emissions model) and uses a high-resolution 4-kilometer (km) horizontal grid to better simulate meteorology and air quality in the complex terrain and coastal environment of California. 4-km grids are within EPA guidance¹⁷ to characterize fine scale modeling studies such as that performed here.

The vast majority of the emissions of potential health concern associated with the Project are NO_x, VOC, and PM_{2.5} emissions from mobile sources, thus the main air quality and resultant health effects will be due to formed ozone and both primary and secondary PM_{2.5}. Ozone and secondary PM_{2.5} formation take time to form so resulting increases in concentration may occur in areas not adjacent to the Project.

Project emissions that contribute to ozone and PM_{2.5} concentrations in the environment include NO_x, PM_{2.5}, sulfur dioxide (SO₂), CO, and VOCs. NO_x and VOC are precursors to ozone and, along with SO₂, are also precursors to secondarily formed PM_{2.5}. CO also plays a smaller role in the formation of ozone and thus was conservatively evaluated. EPA's air quality modeling guidelines (Appendix W¹⁸) and ozone and PM_{2.5} modeling guidance¹⁹ recommends using a PGM to estimate ozone and secondary PM_{2.5} concentrations. EPA's modeling guidance does not recommend specific PGMs but provides procedures for determining an appropriate PGM on a case-by-case basis. EPA's air quality modeling guidelines and guidance notes that both CAMx²⁰ and the Community Multiscale Air Quality (CMAQ²¹) PGMs have been used extensively in the past and would be acceptable PGMs. EPA has prepared a Memorandum²² documenting the suitability for using CAMx and CMAQ for ozone and secondary PM_{2.5} modeling of single-sources or group of sources.

To estimate the potential air quality impacts of the proposed Project's emissions, the Project's incremental mitigated operational emissions were added to the CAMx 4-km annual PGM modeling database. Operational emissions from the Project were estimated by subtracting emissions from 2003 Approved South Campus of the 2003 Focused EIR from the Proposed Project + Built/Entitled emissions using CalEEMod Version 2016.3.2. CalEEMod employs widely accepted calculation methodologies for emission estimates combined with appropriate default data if site-specific information is not available.

For use in PGMs, each Project emissions source must be spatially distributed across the modeling grid cells so that they can be incorporated into the gridded emission inventory. Operational emissions include area

¹⁴ <https://www.epa.gov/benmap>

¹⁵ <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>

¹⁶ <https://www.arb.ca.gov/emfac>

¹⁷ https://www3.epa.gov/ttn/scram/guidance/guide/O3-PM-RH-Modeling_Guidance-2018.pdf

¹⁸ https://www3.epa.gov/ttn/scram/appendix_w/2016/AppendixW_2017.pdf

¹⁹ https://www3.epa.gov/ttn/scram/guidance/guide/O3-PM-RH-Modeling_Guidance-2018.pdf

²⁰ <http://www.camx.com>

²¹ <https://www.epa.gov/cmaq>

²² https://www3.epa.gov/ttn/scram/guidance/clarification/20170804-Photochemical_Grid_Model_Clarification_Memo.pdf

sources (architectural coatings, VOCs in consumer products, and landscaping equipment), on-site cargo handling equipment, and emissions associated with motor vehicle use. Since the incremental emissions associated with non-mobile sources for the Project were all negative, these sources were conservatively zeroed out and the reduction was not included in the analysis. The operational mobile source category includes both passenger cars and trucks. Incremental SO₂, PM₁₀, and PM_{2.5} emissions from passenger cars were also negative and the reduction was conservatively not included in the analysis. The mobile source emissions are spatially distributed in the Project site's grid cell and other grid cells representing travel routes consistent with the Traffic Impact Analysis. Annual emission estimates from CalEEMod were spatially gridded, temporally allocated, and chemically speciated to be used for photochemical grid modeling using the Sparse Matrix Operating Kernel Emissions (SMOKE) emissions modeling system supported by the EPA.

The SCAQMD 2016 AQMP modeling database was used for this Project. The 4-km CAMx modeling database is based on a 2012 base meteorological year and includes a couple of future year emission scenarios. The 2023 future year projections were used for this analysis, as that is the nearest future year to full operational buildout (2024) with base emissions available, as of the date of this analysis. The Project's emissions were tagged for treatment by the source apportionment tools in CAMx to obtain the incremental ozone and PM_{2.5} concentrations due to the Project's emissions.

EPA's BenMAP²³ program was used to estimate the health effects of the Project's contribution to ozone (primarily from the combination of VOC and NO_x) and PM_{2.5} concentration produced by the CAMx source apportionment modeling. BenMAP uses the concentration estimates along with population and health effect concentration-response (C-R) functions to estimate various health effects associated with the concentration increases. BenMAP has a wide history of applications by EPA and others, including for local-scale analysis²⁴ as needed for assessing the health effects of a Project's emissions. Ramboll used the BenMAP health effects C-R functions that are typically used in national rulemaking, such as the health effects impact assessment²⁵ for the 2012 PM_{2.5} NAAQS. BenMAP applies "effect functions" to calculate incremental health effects within each 4-km by 4-km grid cell across the modeled domain from incremental changes in PM and ozone, and an underlying assumption is that there is a causal link between PM and ozone exposures and health effects. The effect functions are derived from statistical correlations reported in epidemiologic studies that compare fluctuations in air pollutant levels measured at central monitors against small fluctuations in population-wide health effects. These are statistical correlations and do not establish a cause-and-effect relationship between small fluctuations in the level of one (or many) ambient air pollutants and health effects, particularly mortality. For example, there is no toxicological or experimental study that has demonstrated or supported that small incremental changes in PM concentrations as a whole, or major PM components, at ambient levels can cause any serious health effects, let alone death (EPA 2009). That being said, in an overabundance of caution, and as an expression of the precautionary principal, BenMAP uses these studies to characterize the potential human health effects of small changes in PM and ozone concentrations. The health effects that were quantified for PM_{2.5} include mortality (all causes), hospital admissions (respiratory, asthma, cardiovascular), emergency room visits (asthma), and acute myocardial infarction (non-fatal). For ozone, the endpoints quantified include mortality, emergency room visits (respiratory) and hospital admissions (respiratory).

²³ <https://www.epa.gov/benmap>

²⁴ <https://www.epa.gov/benmap/benmap-ce-applications-articles-and-presentations#local>

²⁵ EPA (2010). Quantitative Risk Assessment for Particulate Matter – Final Report. Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. EPA-452/R- 10-005. June 2010. Available: https://www3.epa.gov/ttn/naaqs/standards/pm/data/PM_RA_FINAL_June_2010.pdf

The analysis was prepared to disclose potential health impacts. The results presented here describe the potential health effects of the criteria pollutant emissions already disclosed under threshold regional and localized significance thresholds, and the results themselves do not constitute a new significance determination.

The results of the analysis show that the maximum increases of estimated health effect incidences in an individual 4-km by 4-km grid cell is well less than one. The sum of the modeled PM_{2.5}-related and ozone-related health effects associated with Project-related increases in ambient air concentrations over the 624-km by 408-km Southern California model domain show that all health effects were raised above the background health incidence levels at less than 0.0045% of the total. It is noted that this data is provided for the purposes of disclosure only. There are no significance thresholds for health effects, thus this information is provided for background understanding regarding the air quality emissions.

It is important to note there are a number of conservative assumptions built into this evaluation, beginning with the quantification of emissions themselves. These conservative assumptions include, but are not limited to, the following:

- As discussed in the Air Quality Impact Analysis (Appendix B1), emissions were quantified utilizing a conservative assumption that all trucks travel an average distance of 60 miles, one-way. This is more conservative than the SCAQMD recommendation of 40 miles of travel within the SCAB;
- As discussed in the Air Quality Impact Analysis, a “static” emissions rate was used to quantify emissions, consistent with the Project’s opening year of 2024. Emissions decrease over time due to regulatory actions currently adopted and those that will be adopted. The modeling only currently accounts for regulations in place and that would be in effect through 2024. All reductions that are expected beyond 2024 due to proposed regulations, or turnover of older to newer, less polluting vehicles, are not accounted for;
- Potential reductions due to mitigation measures AQ-5 through AQ-18 as well as reductions from the Transportation Demand Management (TDM) measures have conservatively not been quantified in the Air Quality Impact Analysis and are not included here;
- Emissions reductions associated with non-mobile sources have conservatively not been included in this analysis;
- Emissions reductions associated with passenger cars have conservatively not been included in this analysis;
- Evaluation of full operational emissions at Project buildout combine winter and summer maximum daily emissions, to reflect the potential maximum combined year;
- Assumption that health effects occur at any concentration, including small incremental concentrations; and
- Assumption that all PM_{2.5} is of equal toxicity.

Further, it is noted that uncertainty is present in all scientific models, including those used in preparing this analysis. The first step, using the CAMx PGM model, predicts the increases in concentrations of ozone and PM_{2.5}. The second step, using EPA’s BenMAP model, predicts the increase in health effects from the change in airborne concentrations. In addition, the health effects estimation using this method presumes that effects seen at large concentration differences can be linearly scaled down to small increases in concentration. This methodology of linearly scaling effects is broadly accepted for use in regulatory

evaluations and is considered as being health protective.²⁶ The estimated potential increase in occurrence of health effects are conservatively estimated and are meant to represent an upper bound of potential health effects, and actual effects may be zero (Appendix B2).

AQ-4. *Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include the following:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project would not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's long-term operational uses. Standard construction requirements would minimize odor impacts from construction. Construction odor emissions would be temporary, short-term, and intermittent, and would cease upon completion of the respective phase of construction; thus, the impact would be less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County of Riverside's solid waste regulations as required by the March JPA General Plan. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with proposed Project construction and operations would be **less than significant**, and no mitigation is required (SCAQMD Rule 402, Nuisance).

4.2.6 Mitigation Measures

CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts. The following mitigation measures from the 2003 Focused EIR are applicable to the proposed Project and will be incorporated into the MMRP for the Project:

- C-1** Preferential parking spaces shall be offered to car pools and van pools.
- C-2** Employers with 250 employees or more shall implement a compressed workweek schedule when feasible.

²⁶ Ibid

- C-3** Employers shall develop a trip reduction plan to increase vehicle occupancy.
- C-4** Employers shall provide on-site child care facilities when feasible.
- C-5** Design elements shall be designed to reduce vehicle queuing when entering and exiting parking structures.
- C-6** Projects shall provide for video conferencing facilities to the extent possible.
- C-7** Businesses shall minimize the use of fleet vehicles during smog alerts, and encourage the use of alternative fuel vehicles.
- C-8** Buildings shall be designed to reduce energy usage by utilizing solar or low emissions water heaters, double paned glass windows, using light colored roofing materials, orienting buildings north and increasing wall and attic installation above Title 24 requirements.
- C-9** CEQA Review of stationary source emissions other than natural gas and electricity shall be done on all projects with the possibility of emitting air pollutants. In addition, all projects involving stationary source emissions shall obtain permits to construct and operate from the SCAQMD.
- C-10** Trucks hauling dirt, sand, gravel or soil are to be covered and should maintain at least two feet of freeboard in accordance with Section 23114 of the California Vehicle Code.
- C-11** Construction access roads to the main roads should be paved to avoid dirt being carried on to the roadway.
- C-12** A construction relations officer should be appointed to act as a community liaison to oversee on-site construction activity and all emissions and congestion related matters.
- C-13** Restrict idling emission from trucks by using auxiliary power units and electrification at the industrial warehouse facilities.
- C-14** Landscape with appropriate drought-tolerant species to reduce water consumption.

The following additional mitigation measures have been evaluated for feasibility and would be incorporated into the Project to further reduce potentially significant construction VOC and NO_x emission impacts and net operational NO_x emission impacts.

Construction Mitigation Measures

- MM-AQ-1** Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Construction Management Plan to ensure that off-road diesel construction equipment rated at 50 horsepower or greater, complies with U.S. Environmental Protection Agency and California Air Resources Board (CARB) Tier 4 off-road emissions standards or equivalent, and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturers' specifications.
- MM-AQ-2** Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Construction Management Plan to ensure the Project shall

use “super-compliant” low-volatile organic compound (VOC) paints that have been reformulated to exceed the regulatory VOC limits put forth by South Coast Air Quality Management District’s Rule 1113. Super-compliant low-VOC paints shall be no more than 10 grams per liter of VOC. Alternatively, the applicant may use tilt-up concrete buildings that do not require the use of architectural coatings.

MM-AQ-3 The Project shall provide a construction relations officer to act as a community liaison to oversee on-site construction activity and all emissions- and congestion-related matters. A phone number and email contact information for the construction relations officer shall be posted on signage at construction site entrance points.

MM-AQ-4 Prior to the issuance of any grading permits, the applicant shall prepare and submit to the March Joint Powers Authority for approval a fugitive dust control plan.

Operational Mitigation Measures

MM-AQ-5 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than 5 minutes once the vehicle is stopped, the transmission is set to “neutral” or “park,” and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, March Joint Powers Authority shall conduct a site inspection to ensure that the signs are in place.

MM-AQ-6 Prior to tenant occupancy, the Project shall provide documentation to March Joint Powers Authority demonstrating that occupants/tenants of the Project site have been provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

MM-AQ-7 Prior to the issuing of each building permit, the Project shall provide plans and specifications to the March Joint Powers Authority that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.

MM-AQ-8 Prior to the issuing of each building permit, the Project shall provide plans and specifications to the March Joint Powers Authority that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

MM-AQ-9 Once constructed, the Project shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.

MM-AQ-10 Once constructed, the Project shall ensure that all building tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other on-site equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically

or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.

MM-AQ-11 Upon occupancy, the Project shall require tenants that do not already operate 2010 and newer trucks to apply in good faith for funding to replace/retrofit their trucks, such as Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways.

MM-AQ-12 Project tenants who employ 250 or more employees on a full- or part-time basis shall comply with South Coast Air Quality Management District (SCAQMD) Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Project tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to March Joint Powers Authority. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a “commuter club” to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).
- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.
- Coordinate with the Riverside Transit Agency and employers in the surrounding area to maximize the benefits of the TDM program.

MM-AQ-13 Prior to the issuance of a building permit, the Project shall provide evidence to March Joint Powers Authority that loading docks are designed to be compatible with SmartWay trucks.

MM-AQ-14 Upon occupancy and annually thereafter, the Project shall provide information to all tenants, with instructions that the information shall be provided to employees and truck drivers as appropriate, regarding:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle greenhouse gas emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.

- Participation in the Voluntary Inter-industry Commerce Solutions (VICS) “Empty Miles” program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

MM-AQ-15 Prior to issuance of a building permit, the Project shall provide March Joint Powers Authority with an onsite signage program that clearly identifies the required on-site circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

MM-AQ-16 Prior to issuance of an occupancy permit, the March Joint Powers Authority shall confirm that signs clearly identifying approved trucks have been installed along the truck routes to and from the project site.

MM-AQ-17 Prior to issuance of an occupancy permit, the Project shall install a sign on the property with telephone, email, and regular mail contact information for a designated representative of the tenant who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the March Joint Powers Authority for perceived Code violations. The tenant’s representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The tenant’s representative shall endeavor to resolve complaints within 24 hours.

MM-AQ-18 Prior to issuance of a building permit, the Project shall provide the March Joint Powers Authority with project specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer’s data. Electrical system upgrades that exceed reasonable costs shall not be required.

4.2.7 Level of Significance After Mitigation

Construction Impacts

As discussed under Threshold AQ-1 and AQ-2, the Project would conflict with Consistency Criterion No. 1 and the Project’s construction emissions exceed the VOC and NO_x SCAQMD significance thresholds. The Project would implement **MM-AQ-1** through **MM-AQ-4**, which would reduce the severity of VOC and NO_x impacts. As shown in Table 4.2-18, Maximum Daily Construction Emissions – With Mitigation, after implementation of **MM-AQ-1** through **MM-AQ-4**, Project construction-source emissions of VOC and NO_x would not exceed applicable SCAQMD thresholds. Thus, impacts would be **less than significant** after mitigation.

Table 4.2-18. Maximum Daily Construction Emissions – With Mitigation

Year	Construction Phase	Source	Total Construction-Source Emissions (pounds per day)						
			VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	
Village West Drive Extension									
2021	Grubbing/Land Clearing	Construction Equipment	0.45	1.72	9.14	0.01	3.99	0.89	
		Worker and Water Truck Trips	0.07	0.66	0.65	0.00	0.04	0.02	
	Grubbing/Land Clearing Emissions Totals			0.52	2.38	9.79	0.01	4.03	0.91
	Grading/Excavation	Construction Equipment	2.45	5.72	48.65	0.08	4.19	1.08	
		Worker and Water Truck Trips	0.17	0.79	2.08	0.01	0.09	0.04	
	Grading/Excavation Emissions Totals			2.62	6.51	50.73	0.09	4.28	1.12
	Drainage/Utilities /Subgrade	Construction Equipment	1.93	4.96	38.93	0.07	4.16	1.05	
		Worker and Water Truck Trips	0.14	0.76	1.75	0.00	0.08	0.04	
	Drainage/Utilities/Subgrade Emissions Totals			2.07	5.72	40.68	0.07	4.24	1.09
	Paving	Construction Equipment/ Paving Off-Gassing	0.75	2.33	18.34	0.02	0.12	0.11	
		Worker and Water Truck Trips	0.12	0.73	1.42	0.00	0.07	0.03	
	Paving Emissions Totals			0.87	3.06	19.76	0.02	0.19	0.14
Meridian South Campus									
2021	Site Preparation	Construction Equipment	0.70	3.03	25.65	0.06	11.28	4.41	
		Worker and Vendor Trips	0.09	0.05	0.67	0.00	0.20	0.05	
	Site Preparation Emissions Totals			0.78	3.08	26.31	0.06	11.48	4.47
	Grading	Construction Equipment	0.88	3.81	35.39	0.07	6.60	1.85	
		Worker and Vendor Trips	0.09	0.06	0.74	0.00	0.22	0.06	
	Grading Emissions Totals			0.97	3.86	36.13	0.07	6.83	1.92
	Building Construction	Construction Equipment	0.53	3.10	22.25	0.04	0.07	0.07	
		Worker and Vendor Trips	9.70	68.46	74.47	0.36	23.72	6.55	
	Building Construction Emissions Totals			10.23	71.55	96.71	0.40	23.79	6.62
	2022	Building Construction	Construction Equipment	0.53	3.10	22.25	0.04	0.07	0.07
Worker and Vendor Trips			9.07	64.39	68.77	0.35	23.70	6.53	
Building Construction Emissions Totals			9.59	67.48	91.02	0.40	23.77	6.60	
2023	Building Construction	Construction Equipment	0.53	3.10	22.25	0.04	0.07	0.07	

Table 4.2-18. Maximum Daily Construction Emissions – With Mitigation

Year	Construction Phase	Source	Total Construction-Source Emissions (pounds per day)					
			VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
		Worker and Vendor Trips	8.25	49.04	63.03	0.34	23.64	6.47
		Building Construction Emissions Totals	8.77	52.13	85.28	0.38	21.71	6.54
	Architectural Coating	Construction Equipment	22.74	0.17	2.44	0.00	0.01	0.01
		Worker and Vendor Trips	2.84	1.54	21.46	0.07	7.67	2.06
		Architectural Coating Emissions Totals	25.57	1.72	23.91	0.07	7.67	2.07
2024	Building Construction	Construction Equipment	0.53	3.10	22.25	0.04	0.07	0.07
		Worker and Vendor Trips	7.82	48.44	59.36	0.33	23.64	6.47
		Building Construction Emissions Totals	8.34	51.54	81.61	0.38	23.71	6.54
	Paving	Construction Equipment/ Paving Off-Gassing	2.43	1.22	17.30	0.02	0.04	0.04
		Worker and Vendor Trips	0.06	0.03	0.44	0.00	0.17	0.05
		Paving Emissions Totals	2.49	1.25	17.74	0.02	0.21	0.08
	Architectural Coating	Construction Equipment	22.74	0.17	2.44	0.00	0.01	0.01
		Worker and Vendor Trips	2.67	1.40	20.13	0.07	7.67	2.06
		Architectural Coating Emissions Totals	25.41	1.57	22.57	0.07	7.67	2.07
	Maximum Daily Emissions							
Year 2021 Construction Maximum Daily Emissions ^a			12.85	78.06	147.44	0.49	28.07	7.74
Year 2022 Construction Maximum Daily Emissions			9.59	67.48	91.02	0.40	23.77	6.60
Year 2023 Construction Maximum Daily Emissions ^b			34.35	53.85	109.18	0.46	31.38	8.61
Year 2024 Construction Maximum Daily Emissions ^c			36.24	54.36	121.92	0.47	31.58	8.69
SCAQMD Regional Threshold			75	100	550	150	150	55
Threshold Exceeded?			NO	NO	NO	NO	NO	NO

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = emissions reported are less than 0.01.

^a Based on Table 4.2-7, Construction Schedule, Village West Drive Extension Grubbing/Land Clearing, Grading/Excavation, Drainage/Utilities/Subgrade, and Paving activities will overlap with Meridian South Campus Site Preparation activities. As such the maximum daily emissions presented for Year 2021 is the sum of all the Village West Drive Extension construction activities and the Meridian South Campus Site Preparation activities.

^b Based on Table 4.2-7, Construction Schedule, building construction and architectural coating activities are anticipated to overlap. The maximum emissions presented for Year 2023 includes the sum of building construction, paving, and architectural coating activity emissions for that year.

^c Based on Table 4.2-7, Construction Schedule, building construction, paving, and architectural coating activities are anticipated to overlap. The maximum emissions presented for Year 2024 includes the sum of building construction, paving, and architectural coating activity emissions for that year.

Operational Impacts

As discussed under Thresholds AQ-1 and AQ-2, the Project (net change in emissions) associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would exceed regional thresholds of significance established by the SCAQMD for NO_x emissions; thus, the Project's unmitigated impacts would be potentially significant. It should be noted that the majority of the Project's operational NO_x emissions are derived from vehicle usage (passenger cars and trucks). Since neither the Project Applicant nor the March JPA have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce these emissions to levels that are less-than-significant, thus NO_x emissions would be **significant and unavoidable** at the Project level, and would, therefore, per SCAQMD criteria, be cumulatively significant and unavoidable.

Although the Project would implement the mitigation measures listed in Section 4.2.6, Mitigation Measures, there is no way to meaningfully quantify all of these reductions in CalEEMod and therefore no numeric emissions credit has been taken in the analysis for implementation of operational MMs. Additionally, Transportation Demand Management (TDM) measures implemented as mitigation for transportation VMT impacts would act to generally reduce vehicle-source emissions. The efficacy of TDMs and any resulting emissions reductions would be dependent on as yet-unknown building tenants and final site plan designs. Accordingly, emissions reductions resulting from implementation of TDMs are not quantified within this analysis. As such, even with application of **MM-AQ-5** through **MM-AQ-18** and TDMs, Project operational-source NO_x emissions impacts would be **significant and unavoidable**.

The Project site is located within an area that is in non-attainment for O₃, PM₁₀, and PM_{2.5}. NO_x is an O₃ precursor; NO_x is also a precursor to PM₁₀ and PM_{2.5}. Over the life of the Project, operational-source NO_x emissions exceedances would result in a cumulatively considerable net increase in criteria pollutants (O₃, PM₁₀, and PM_{2.5}) for which the encompassing region is non-attainment. As shown, the Project (net change in emissions) associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would exceed regional thresholds of significance established by the SCAQMD for NO_x emissions; therefore, impacts would be **significant and unavoidable**, per SCAQMD criteria, be cumulatively potentially significant.

4.2.8 Cumulative Effects

Air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used by the SCAQMD to determine whether a project's individual emissions would have a cumulatively significant impact on air quality. The potential for the Project to result in a cumulatively considerable impact, specifically a cumulatively considerable new increase of any criteria pollutant for which the Project region is nonattainment under an applicable NAAQS and/or CAAQS, is addressed in Section 4.2.5, Impacts Analysis. As set forth therein, because the Project would exceed the project-level thresholds for regional NO_x emissions during operation, the Project's cumulative impacts with respect to such emissions would be **considerable and significant**.

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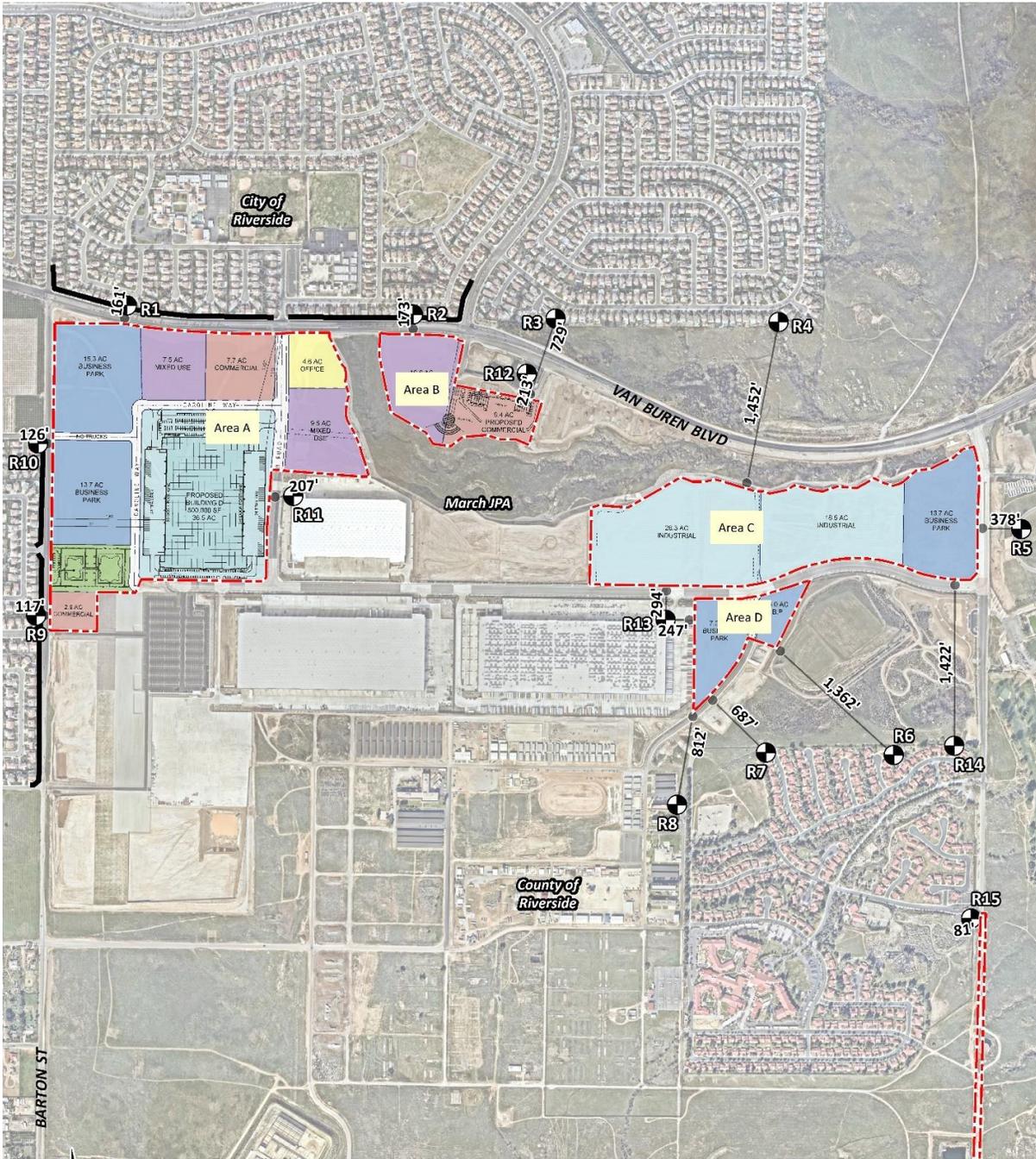
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- LEGEND:**
- Proposed Project Site Boundary
 - Receptor Locations
 - Existing 6-foot High Barrier
 - Distance from receptor to Project site boundary (in feet)



SOURCE: Urban Crossroads 2020

Figure 4.2-1

Sensitive Receptor Locations

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4.3 Biological Resources

This section describes the existing biological resources conditions of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This analysis is based on a review of Rocks Biological Consulting’s (2020) South Campus Specific Plan Project Biological Technical Report (Appendix D of this Subsequent Environmental Impact Report [SEIR]). The study was prepared in compliance with the California Environmental Quality Act (CEQA). Furthermore, this analysis includes the review of existing biological resources; technical data; and applicable laws, regulations, and guidelines from the Biological Technical Report (Appendix D) to adequately assess the potential impacts to biological resources.

Because the proposed Project would involve a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” condition will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions to provide an appropriate comparative analysis. Mitigation measures applied to impacts in the 2003 Focused EIR are described and applied to the Project and will be incorporated into the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As discussed in detail in Chapter 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.3.1 Existing Conditions

The following discussion summarizes the existing biological resources present within the Project site, and includes a description of the vegetation communities, special-status species, and jurisdictional waters, including wetlands. For the purposes of analyzing existing biological resources conditions and the impacts resulting from the proposed Project, the Biological Study Area (BSA) has been defined as the Project site and 100-foot mapping buffer. For purposes of this discussion, the Project is divided into two components: the South Campus Specific Plan area and the Village West Drive Extension.

South Campus Specific Plan

Vegetation Communities and Land Uses

The proposed South Campus Specific Plan BSA supports eight vegetation communities and other land covers as identified in Table 4.3-1 and Figure 4.3-1, Vegetation Communities and Land Uses within the South Campus Specific Plan Biological Study Area. Most of the site has been graded, so conditions are atypical; mapping was performed based on conditions observed during the July 31 and October 9, 2019, field visits.

Vegetation communities and land uses mapped within the BSA are primarily developed and disturbed habitat, developed/ornamental lands, and non-native grassland, as shown in Table 4.3-1. Areas that are developed, including roads and industrial areas, were mapped as developed. No jurisdictional or riparian vegetation communities are present within the Project site; however, such areas do occur within the conservation easement on the north side of BSA.

Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland’s Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) and consistent with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) vegetation mapping classifications. Note that information regarding how each community is classified under the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009) is also provided herein for reference.

Table 4.3-1. Vegetation Communities and Land Uses within the South Campus Specific Plan Biological Study Area

Vegetation Community ^a	Vegetation Community ^b	Global, State Rank ^c	Acres
Buckwheat Scrub	<i>Eriogonum fasciculatum</i> Shrubland Alliance / Buckwheat Scrub	G5, S5	0.11
Developed	Developed/ Disturbed	—	26.08
Developed/Ornamental	Developed/ Disturbed	—	9.39
Disturbed	Developed/ Disturbed	—	206.27
Non-Native Grassland	Mediterranean California Naturalized Annual and Perennial Grassland	None	15.36
Ruderal	Upland Mustards	—	1.16
<i>Subtotal</i>			<i>258.37</i>
Other Areas			
Areas Previously Permitted and Constructed/Under Construction	Developed	—	234.43
Existing Conservation Easement ^d	Various	—	44.73
<i>Subtotal</i>			<i>279.15</i>
Total			537.52

Notes: Numbers may not sum due to rounding.

^a Holland 1986.

^b Sawyer et al. 2009.

^c NatureServe Global and State rarity ranks per Faber-Langendoen et al. (2012). Natural communities with global or state ranks of 1–3 are considered Sensitive Natural Communities by the California Department of Fish and Wildlife (CDFW) and are to be addressed in the environmental review processes of CEQA (CDFW).

^d Not Included in Project Impact Area/Not a Part.

Buckwheat Scrub

Buckwheat scrub is a form of coastal sage scrub monotypically dominated by California buckwheat (*Eriogonum fasciculatum*) in the shrub strata. The buckwheat scrub within the Project site and adjacent has large openings with a healthy soil crust. Other present species include common goldfields (*Lasthenia gracilis*), doveweed (*Croton setiger*), and everlasting nest-straw (*Stylocline gnaphaloides*). This habitat is identified as G5 and S5, meaning it is “demonstrably secure because of its worldwide/ statewide abundance” (CNPS 2019).

Developed, Developed/Ornamental, and Disturbed

Developed lands within the South Campus Specific Plan Project site support little to no native vegetation and are comprised of human-made structures and landscaping. The high level of soil disturbance allows only sparse ruderal (weedy) plant species to occur. Major developed areas within the Project site include buildings, parking lots, a manufactured slope with ornamental plants, and a paved access road along the south side of the conservation easement.

Non-Native Grassland

Non-native grassland generally occurs on fine textured loam or clay soils that are moist during the summer and fall (Holland 1986). Non-native grassland within the Project site is largely dominated by common brome (*Bromus madritensis* ssp. *rubens*) and Mediterranean schismus (*Schismus barbatus*) with scattered vinegar weed (*Trichostema lanceolatum*), short-pod mustard (*Hirschfeldia incana*), and rigid fiddleneck (*Amsinckia menziesii*). Non-native grassland on site also includes some barren areas and dirt roads.

Ruderal

Ruderal vegetation is typically found in areas with past vegetation clearing, development, or agricultural activities, and subsequently contain disturbed vegetative cover that is greater than 50% broad-leaved, non-native species. The ruderal vegetation community within the Project site is heavily dominated by short-pod mustard and stinknet (*Oncosiphon piluliferum*) with less cover of non-native grasses.

Special-Status Species

For this analysis, special-status plant species include those that are (1) endangered or threatened wildlife species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA); (2) California Rare Plant Rank (CRPR) List 1 through 2 (CNPS 2019); or (3) considered rare, endangered, or threatened by the California Department of Fish and Wildlife (CDFW) or local government agencies. Species with CRPR 1 and 2 are considered rare, threatened, or endangered in California (CNPS 2019). Species with CRPR 3 and 4 are those that require more information to determine status and plants of limited distribution (CNPS 2019). Thus, CRPR 3 and 4 plant species are not analyzed according to CEQA.

Special-status wildlife species include those that are (1) endangered or threatened wildlife species recognized in the context of CESA and FESA, (2) California Species of Special Concern and Watch List species as designated by CDFW (2018a), and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code Sections 4700 and 3511.

Special-status plant and wildlife species with a “low” or “very low” potential to occur have limited or marginally suitable habitat in the BSA and, if present, there would only be a few individuals. If a species listed under CESA or FESA has a low or very low potential to occur, it is analyzed further to address potential impacts to individuals of the species since any loss would be considered significant. If a species is not listed under CESA or FESA, the loss of a few individuals would not cause the species to be considered for listing, so additional analysis is not warranted since impacts would not be significant.

Special-Status Plants

Forty-three special-status plant species with recorded occurrences (CDFW 2018b; CNPS 2019) in the Project vicinity were surveyed for and assessed for potential to occur on the Project site. One special-status species was observed

and one special-status species was assessed to have a moderate potential to occur. The remaining 41 species were determined to have no to low potential to occur and will not be analyzed further.

Paniculate tarplant (*Deinandra paniculata*) is a special-status species that was observed within the proposed Village West Drive Extension Project site. Paniculate tarplant has a CRPR of 4.2 (CNPS 2019), meaning that the species has a limited distribution in California but is apparently secure in the state. Paniculate tarplant has the potential to occur in the non-native grasslands in the South Campus Specific Plan Project Site; however, based upon its CRPR, paniculate tarplant will not be analyzed further.

Smooth tarplant (*Centromadia pungens* ssp. *laevis*) was not observed on the Project site; however, the special-status species was observed approximately 2 miles to the southeast of the Project site (as shown in Figure 3 of Appendix D) and is determined to have a moderate potential to occur on site. Smooth tarplant has a CRPR rank of 1B.1 (CNPS 2019), meaning it is rare, threatened, or endangered in California and elsewhere, and seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat). Smooth tarplant holds the State Rank S2, meaning the plant is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

Special-Status Wildlife

Twenty-one special-status wildlife species with recorded occurrences (CDFW 2018b) in the South Campus Specific Plan Project vicinity were surveyed for and assessed for potential to occur on the Project site. No federal or state listed endangered species were observed within or immediately adjacent to the BSA during Project surveys; however, two listed species, least Bell’s vireo (*Vireo bellii pusillus*) and Stephens’ kangaroo rat have been documented historically within or immediately adjacent to the proposed South Campus Specific Plan Project site and have a moderate potential to occur on site. One CDFW Species of Special Concern, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), was observed just outside the Project site during surveys and is expected to be present on site. An additional six CDFW Species of Special Concern or Watch List species have a moderate potential to occur on the Project site and are listed in Table 4.3-2, along with the three previously discussed species.

Table 4.3-2. Special-Status Wildlife Species with Potential to Occur within the South Campus Specific Plan Biological Study Area

Species	Status	Habitat Description	Potential to Occur
coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	SSC	A variety of rocky, sandy, dry habitats including sage scrub, chaparral, woodlands on friable loose soil.	Moderate. This lizard species was not observed within the Project site during biological surveys; however, it is known to occupy marginal and moderately disturbed habitats, and is known to occur from within 1 mile of the Project site (CDFW 2018b).
orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	WL	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Moderate. This lizard species was not observed within the survey area during biological surveys; however, it is known to historical occur within 1 mile of the Project site (CDFW 2018b).

Table 4.3-2. Special-Status Wildlife Species with Potential to Occur within the South Campus Specific Plan Biological Study Area

Species	Status	Habitat Description	Potential to Occur
burrowing owl (<i>Athene cunicularia</i>) (at burrowing sites and some wintering sites)	SSC	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (<i>Otospermophilus beecheyi</i>) and other fossorial mammal burrows.	Moderate. This bird species was not observed within the Project site during biological surveys; however, it has been reported historically on the Project site (CDFW 2018b; Rocks Biological Consulting 2018a). Based on the presence of on-site suitable burrows and the ability of burrowing owls to occupy fairly disturbed and urban environments, this species has a moderate potential to occur.
red-diamond rattlesnake (<i>Crotalus ruber</i>)	SSC	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Often associated with dense vegetation in rocky areas.	Moderate. The species was not observed within the Project site during biological surveys; however, suitable vegetated rocky habitat is limited, but present. Additionally, the species is known to occur within 3 miles of the Project site (CDFW 2018b).
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	FE; ST	Habitats include annual grassland and coastal sage scrub with sparse shrub cover. Commonly in association with <i>Eriogonum fasciculatum</i> , <i>Artemisia californica</i> , and <i>Erodium cicutarium</i> , in areas with loose, friable, well-drained soil, and flat or gently rolling terrain.	Moderate. The species has been reported historically on the Project site (CDFW 2018b) and was documented approximately 1.25 miles southeast of the site in 2018 (Rocks Biological Consulting 2018b). Suitable habitat is present on the Project site and a burrow consistent with this species was observed during the 2019 general biological surveys. Due to the disturbed nature (disked soil) of the site, the probability of an extant, on-site population is not as high as it might have been historically; however, this species maintains a moderate potential for occurrence.
California horned lark (<i>Eremophila alpestris actia</i>)	WL	Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous, chaparral, and disturbed habitats.	Moderate. This bird species was not observed during biological surveys; however, the species is known to historically occur within 1 mile of the Project site (CDFW 2018b). As such, the species has a moderate potential to occur on the Project site based on the ability of the species to utilize disturbed and desert scrub habitats.

Table 4.3-2. Special-Status Wildlife Species with Potential to Occur within the South Campus Specific Plan Biological Study Area

Species	Status	Habitat Description	Potential to Occur
Loggerhead shrike (<i>Lanius ludovicianus</i>) (when nesting)	SSC	Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting.	Moderate. This bird species was not observed during biological surveys; however, suitable nesting habitat containing thorny shrubs and small trees is present on site. Adequate foraging habitat and artificial spiny structures (e.g., fencing) are present for this species to impale prey, and the species is known to occur within 3 miles of the Project site (CDFW 2018b).
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	SSC	Habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. Uses open land but requires some shrubs for cover.	Present. The species was observed to the southeast just outside the BSA. Although the Project site is fairly disturbed, suitable foraging habitat is present for this species.
least Bell's vireo (<i>Vireo bellii pusillus</i>) (when nesting)	FE; ST	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	Moderate (adjacent). No suitable habitat within the Project site; however, this bird species has been reported within the conservation easement on site (but outside the Project impact area) as well as immediately north of Van Buren Boulevard (Rocks Biological Consulting 2014, 2019; CDFW 2018b).

Status

FE: Federally Endangered Species under the Endangered Species Act

ST: State Threatened under the California Endangered Species Act

SSC: California Department of Fish and Wildlife Species of Special Concern

WL: California Department of Fish and Wildlife Watch List Species

Jurisdictional Wetlands and Non-Wetland Waters

Jurisdictional wetland areas regulated by the U.S. Army Corps of Engineers (Corps) and Regional Water Quality Control Board (RWQCB) are delineated using the routine determination methods set forth in Part IV, Section D, Subsection 2 of the Corps 1987 Wetland Delineation Manual (Environmental Laboratory 1987) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (Arid West Supplement) (Corps 2008). Jurisdictional non-wetland waters are determined by the ordinary high water mark (OHWM), which is defined in 33 Code of Federal Regulations 329.11 as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas.”

CDFW potential jurisdictional non-wetland boundaries were determined based on the presence of lake and/or streambed and riparian habitat. Streambeds considered within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (14 CCR 1.72). Waters that flow “periodically” is synonymous with

“ephemeral” flows, which occur following rain events and cease soon after. Riparian habitat refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Isolated riparian habitat (i.e., where riparian vegetation did not appear associated with a streambed) was not considered CDFW jurisdictional.

No jurisdictional wetlands, non-wetland waters, or streambed and riparian habitat are present within the Project site; however, such areas do occur within the conservation easement on the north side of South Campus Specific Plan BSA.

Wildlife Corridors

A wildlife corridor can be defined as a physical feature that links wildlife habitat, often consisting of native vegetation that joins two or more larger areas of similar wildlife habitat. Corridors enable migration, colonization, and genetic diversity through interbreeding and are therefore critical for the movement of animals and the continuation of viable populations. Corridors can consist of large, linear stretches of connected habitat (such as riparian vegetation) or as a sequence of stepping-stones across the landscape (discontinuous areas of habitat such as wetlands and ornamental vegetation), or corridors can be larger habitat areas with known or likely importance to local fauna.

Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

The Project site does not serve as a wildlife corridor, as the areas surrounding the site are substantially developed.

Village West Drive Extension Project

Vegetation Communities and Land Uses

The proposed Village West Drive Extension Project BSA supports eight vegetation communities and other land covers as identified in Table 4.3-3 and Figure 4.3-2, Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area. Most of the site has been graded so conditions are atypical; mapping was performed based on conditions observed during the July 31 and October 9, 2019, field visits for the Project site plus a 100-foot buffer.

Vegetation communities and land uses mapped within the Village West Drive Extension Project site are primarily developed and disturbed habitat; developed/ornamental lands; and non-native grassland. Areas that are developed including roads and industrial areas were mapped as developed. No jurisdictional or riparian vegetation communities are present within the Project site; however, such areas do occur immediately adjacent the Village West Drive Extension.

Table 4.3-3. Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area

Vegetation Community ^a	Vegetation Community ^b	Global, State Rank ^c	Acres
Developed/Ornamental	Developed/ Disturbed	—	3.14

Table 4.3-3. Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area

Vegetation Community ^a	Vegetation Community ^b	Global, State Rank ^c	Acres
Disturbed	Developed/ Disturbed	—	0.21
Freshwater Marsh ^d	<i>Typha</i> Herbaceous Alliance	G5, S5	—
Non-Native Grassland/Paniculate Tarplant	Mediterranean California Naturalized Annual and Perennial Grassland	None	1.39
Riversidean Sage Scrub (Disturbed)	<i>Salvia mellifera</i> Shrubland Alliance	G4, S4	0.01
Ruderal	Upland Mustards	—	0.80
Southern Riparian Forest ^{d,e}	<i>Populus fremontii</i> Forest Alliance	G4, S3.2	—
Southern Willow Scrub ^{d,e}	<i>Salix laevigata</i> Woodland Alliance	G3, S3	—
Total			5.55

Notes: Numbers may not sum due to rounding.

^a Holland 1986.

^b Sawyer et al. 2009.

^c NatureServe Global and State rarity ranks per Faber-Langendoen et al. (2012). Natural communities with global or state ranks of 1–3 are considered Sensitive Natural Communities by CDFW and are to be addressed in the environmental review processes of CEQA (CDFW).

^d Within mapping buffer only.

^e Sensitive community.

Developed/Ornamental and Disturbed

Developed lands within the Village West Drive Extension Project site support little to no native vegetation and are comprised of human-made structures and landscaping. The high level of soil disturbance allows only sparse ruderal (weedy) plant species to occur. Developed areas within the Village West Drive Extension Project site include manufactured slope with ornamental plants.

Freshwater Marsh

Freshwater marsh occurs just outside the Village West Drive Extension Project site adjacent the Village West Drive alignment, within the Project mapping buffer. This habitat supports hydrophytic species including broadleaf cattail (*Typha latifolia*), slender willow herb (*Epilobium ciliatum*), and watercress (*Nasturtium officinale*).

Non-Native Grassland/Paniculate tarplant

Non-native grassland/paniculate tarplant is similar to non-native grassland but supports paniculate tarplant as one of the dominant broadleaf plant species. Non-native grassland/paniculate tarplant occurs within and adjacent to the Village West Drive Extension Project site.

Riversidean Sage Scrub (Disturbed)

Riversidean sage scrub is a form of coastal sage scrub found in Riverside County and is typically dominated by either California buckwheat or California sagebrush (*Artemisia californica*). The Riversidean sage scrub within the Village West Drive Extension Project site is disturbed, with a large percent cover of typical disturbance species such as non-native grasses and ruderal vegetation. Other present species include thickbracted goldenbush (*Ericameria palmeri* var. *pachylepis*) and California matchweed (*Gutierrezia californica*).

Ruderal

Ruderal vegetation is typically found in areas with past vegetation clearing, development, or agricultural activities, and subsequently contain disturbed vegetative cover that is greater than 50% broad-leaved, non-native species. The ruderal vegetation community within the Village West Drive Extension Project site is heavily dominated by short-pod mustard and stinknet with less cover of non-native grasses.

Southern Riparian Forest

Southern riparian forest occurs outside the Village West Drive Extension Project site, but within the BSA. This habitat is a dense stand of riparian trees with a moderately-dense understory of small trees and shrubs. Characteristic species include cottonwoods (*Populus* spp.), sycamores (*Platanus* spp.), and willows (*Salix* spp.). Southern riparian forest on site is dominated by Goodding's black willow (*Salix gooddingii*) and Fremont's cottonwood (*Populus fremontii*) and occurs along Village West Drive.

Southern Willow Scrub

Southern willow scrub also occurs just outside the Village West Drive Extension Project site but within the BSA. This habitat is characteristically dominated by dense stands of willows (*Salix* spp.). The southern willow scrub within the Project site occurs along Village West Drive and contains stands of Goodding's black willow, red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*).

Special-Status Species

Special-Status Plants

As previously described, 43 special-status plant species with recorded occurrences (CDFW 2018b; CNPS 2019) in the Project vicinity were surveyed for and assessed for potential to occur on the Project site. One special-status species was observed and one special-status species was assessed to have a moderate potential to occur on the Village West Drive Extension Project site. The remaining 41 species were determined to have no to low potential to occur and will not be analyzed further.

Paniculate tarplant was observed within the Village West Drive Extension Project site in non-native grassland along Village West Drive. Paniculate tarplant has a CRPR of 4.2 (CNPS 2019) and a State Rank of S4 (Faber-Langendoen et al. 2012), meaning that the species has a limited distribution in California, but is apparently secure in the state. Based upon its CRPR and state status, paniculate tarplant will not be analyzed further.

Smooth tarplant was not observed in the Village West Drive Extension Project site; however, the species was observed southeast of the Project site and it is determined to have a moderate potential to occur on site. Smooth tarplant has a CRPR rank of 1B.1 (CNPS 2019), meaning it is rare, threatened, or endangered in California and elsewhere, and seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat). Smooth tarplant holds the State Rank S2, meaning the plant is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

Special-Status Wildlife

Twenty-one special status wildlife species with recorded occurrences (CDFW 2018b) in the Village West Drive Extension Project site vicinity were surveyed for and assessed for potential to occur on the Project site. No federal- or state-listed endangered species were observed within or immediately adjacent to the BSA during Project surveys; however, two listed species, least Bell’s vireo and Stephens’ kangaroo rat, have been documented historically within or immediately adjacent to the Project site and have a moderate potential to occur on site. One CDFW Species of Special Concern, San Diego black-tailed jackrabbit, was observed just outside the Project site during surveys and is expected to be present on site. An additional six CDFW Species of Special Concern or Watch List species have a moderate potential to occur in the Village West Drive Extension Project site and are listed in Table 4.3-4 along with the three previously discussed species.

Table 4.3-4. Special-Status Wildlife Species with Potential to Occur within the Village West Drive Extension Project Biological Study Area

Species	Status	Habitat Description	Potential to Occur
coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	SSC	A variety of rocky, sandy, dry habitats including sage scrub, chaparral, woodlands on friable loose soil.	Moderate. This lizard species was not observed within the Project site during biological surveys; however, it is known to occupy marginal and moderately disturbed habitats, and is known from within 1 mile of the project site (CDFW 2018b).
orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	WL	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Moderate. This lizard species was not observed within the survey area during biological surveys; however, it is known to historically occur within 1 mile of the Project site (CDFW 2018b).
burrowing owl (<i>Athene cunicularia</i>) (at burrowing sites and some wintering sites)	SSC	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (<i>Otospermophilus beecheyi</i>) and other fossorial mammal burrows.	Moderate. This bird species was not observed within the Project site during biological surveys; however, it has been reported historically on the Project site (CDFW 2018b; Rocks Biological Consulting 2018a). Based on the presence of on-site suitable burrows and the ability of burrowing owls to occupy fairly disturbed and urban environments, this species has a moderate potential to occur.
red-diamond rattlesnake (<i>Crotalus ruber</i>)	SSC	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Often associated with dense vegetation in rocky areas.	Moderate. The species was not observed within the Project site during biological surveys; however, suitable vegetated rocky habitat is limited, but present. Additionally, the species is known to occur within 3 miles of the Project site (CDFW 2018b).

Table 4.3-4. Special-Status Wildlife Species with Potential to Occur within the Village West Drive Extension Project Biological Study Area

Species	Status	Habitat Description	Potential to Occur
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	FE; ST	Habitats include annual grassland and coastal sage scrub with sparse shrub cover. Commonly in association with <i>Eriogonum fasciculatum</i> , <i>Artemisia californica</i> , and <i>Erodium cicutarium</i> , in areas with loose, friable, well-drained soil, and flat or gently rolling terrain.	Moderate. The species has been reported historically on the Project site (CDFW 2018b) and was documented approximately 1.25 miles southeast of the site in 2018 (Rocks Biological Consulting 2018b). Suitable habitat is present on the Project site and a burrow consistent with this species was observed during the 2019 general biological surveys. Due to the disturbed nature (disked soil) of the site, the probability of an extant, on-site population is not as high as it might have been historically; however, this species maintains a moderate potential for occurrence.
California horned lark (<i>Eremophila alpestris actia</i>)	WL	Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous, chaparral, and disturbed habitats.	Moderate. This bird species was not observed during biological surveys; however, the species is known to historically occur within 1 mile of the Project site (CDFW 2018b). As such, the species has a moderate potential to occur on the Project site based on the ability of the species to utilize disturbed and desert scrub habitats.
Loggerhead shrike (<i>Lanius ludovicianus</i>) (when nesting)	SSC	Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting.	Moderate. This bird species was not observed during biological surveys; however, suitable nesting habitat containing thorny shrubs and small trees is present on site. Adequate foraging habitat and artificial spiny structures (e.g., fencing) are present for this species to impale prey, and the species is known to occur within 3 miles of the Project site (CDFW 2018b).
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	SSC	Habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. Uses open land but requires some shrubs for cover.	Present. The species was observed to the southeast just outside the BSA. Although the Project site is fairly disturbed, suitable foraging habitat is present for this species.

Table 4.3-4. Special-Status Wildlife Species with Potential to Occur within the Village West Drive Extension Project Biological Study Area

Species	Status	Habitat Description	Potential to Occur
least Bell's vireo (<i>Vireo bellii pusillus</i>) (when nesting)	FE; ST	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	Moderate (adjacent). No suitable habitat within Project site; however, this bird species has been reported within the conservation easement on site (but outside the Project impact area) of the South Campus Specific Plan Project site, as well as immediately north of Van Buren Boulevard (CDFW 2018b; Rocks Biological Consulting 2014, 2019). The southern riparian forest and southern willow scrub adjacent to the Project site could provide suitable habitat for the species.

Status

FE: Federally Endangered Species under the Endangered Species Act

SE: State Endangered under the California Endangered Species Act

ST: State Threatened under the California Endangered Species Act

SSC: California Department of Fish and Wildlife Species of Special Concern

WL: California Department of Fish and Wildlife Watch List Species

Jurisdictional Wetlands and Non-Wetland Waters

Several potentially jurisdictional waters occur immediately adjacent to the Village West Drive Extension Project site boundaries, as shown in Figure 4.3-3, Aquatic Resources Delineation for the Village West Drive Extension Project Biological Study Area. Within the BSA, a total of 0.19 acres (872 linear feet) of non-wetland waters of the United States/waters of the state and 0.31 acres (150 linear feet) of wetland waters of the United States/waters of the state were identified (Table 4.3-5). Table 4.3-6 details the identified 0.24 acres (966 linear feet) of CDFW jurisdictional streambed and 0.36 acres (56 linear feet) of associated wetland/riparian habitat within the BSA. A portion of the BSA outside the proposed Project impact boundaries was not accessible during the delineation due to fencing. This area of approximately 0.43 acres of reservoir/basin is a potentially jurisdictional wetland waters of the United States/waters of the state with associated wetland/riparian habitat.

Table 4.3-5. Jurisdictional Wetlands and Non-Wetland Waters Summary within the Village West Drive Extension Project Biological Study Area

Aquatic Resource Name	Acre(s)	Linear Feet	Presence of OHWM/Wetland	Estimated OHWM Width (Min – Max) (linear feet)	Cowardin Code	Dominant Vegetation	Notes
W-1	0.31	150	Yes/Yes	5 - 25	PEM	Freshwater marsh, southern riparian forest	Small, intermittent channel and abutting wetlands, both meeting three wetland parameters

Table 4.3-5. Jurisdictional Wetlands and Non-Wetland Waters Summary within the Village West Drive Extension Project Biological Study Area

Aquatic Resource Name	Acre(s)	Linear Feet	Presence of OHWM/Wetland	Estimated OHWM Width (Min – Max) (linear feet)	Cowardin Code	Dominant Vegetation	Notes
NWW-1	0.03	94	Yes/No	7 - 7	R6	Unvegetated (concrete-lined channel)	Ephemeral channel
	0.05	324	Yes/No	15 - 15	R6	Southern willow scrub	Ephemeral channel
NWW-2	0.02	84	Yes/No	5 - 15	R6	Non-native grassland	Ephemeral channel
NWW-3	0.05	216	Yes/No	12 - 12	R6	Non-native grassland	Ephemeral channel
NWW-4	0.04	154	Yes/No	10 - 10	R6	Non-native grassland	Ephemeral channel
Reservoir/Basin*	(0.43)*	(0)*	Unknown/Unknown*	Unknown*	Unknown*	Southern willow scrub	—
Total	0.50 (0.93)	1,022 (1,022)	—	—	—	—	—

OHWM = ordinary high water mark.

* Potentially jurisdictional wetland. Field staff unable to access site and assess wetland parameters.

Table 4.3-6. CDFW Jurisdictional Wetlands Summary within the Village West Drive Extension Project Biological Study Area

Aquatic Resource Name	Aquatic Resource Type	Acres	Linear Feet	Dominant Vegetation	Notes
W-1	Wetland/Riparian Habitat	0.26	56	Freshwater marsh, southern riparian forest	Small, intermittent channel with abutting associated wetland/riparian habitat
	Streambed	0.05	94	Southern riparian forest	
NWW-1	Streambed	0.03	94	Southern willow scrub	Ephemeral
	Streambed (Concrete Drainage)	0.05	324	Unvegetated (concrete-lined channel)	Ephemeral
	Riparian Habitat	0.10	0	Southern willow scrub	—
NWW-2	Streambed	0.02	84	Non-native grassland	Ephemeral
NWW-3	Streambed	0.05	216	Non-native grassland	Ephemeral
NWW-4	Streambed	0.04	154	Non-native grassland	Ephemeral
Reservoir/Basin*	Wetland/Riparian Habitat	(0.43)*	(0)*	Southern willow scrub	—

Table 4.3-6. CDFW Jurisdictional Wetlands Summary within the Village West Drive Extension Project Biological Study Area

Aquatic Resource Name	Aquatic Resource Type	Acres	Linear Feet	Dominant Vegetation	Notes
Total	—	0.60 (1.03)	1,022 (1,022)	—	—

* Potentially jurisdictional wetland. Field staff unable to access site and assess wetland parameters.

Wetlands

Wetland 1 (W-1) is a riverine wetland (i.e., wetlands within and abutting a small channel) with wetland/riverine hydrology approximately 1,000 feet north of the Project impact area. W-1 originates west of Village West Drive within an area of freshwater marsh and near a culvert directing runoff from the neighboring residential development to the east under Village West Drive and into an area of southern riparian forest. W-1 travels east before continuing off site, eventually traveling into a small single culvert just west of the adjacent golf course. The outlet for this single culvert could not be verified in the field.

As previously noted, there is a 0.43-acre reservoir/basin located within a fenced portion of the survey area, which field staff was unable to access to assess wetland parameters. If this area of southern willow scrub habitat is not determined to be a Corps/RWQCB wetland, this area may still be considered 0.43 acres of associated riparian habitat jurisdictional by CDFW, if determined to be associated with a streambed.

Non-Wetland Waters of the United States/State or Streambed

Non-Wetland Waters 1 (NWW-1) is an ephemeral non-wetland water/streambed approximately 530 feet north of the Project impact area. NWW-1 originates west of Village West Drive as a concrete drainage, before traveling through culverts under Village West Drive, then daylighting east of Village West Drive within an area of southern willow scrub. NWW-1 travels east before continuing off site, eventually traveling into a small single culvert within the adjacent golf course, traveling under a dirt path, and outletting through another single culvert. The estimated OHWM for NWW-1 (OHWM 1) measured 7 to 15 feet wide and was defined by a change in average sediment texture, change in vegetation cover, and a gradual 1-inch high break in bank slope. The extent of the streambed equated to the delineated OHWM for the shallow channel.

NWW-2 is an ephemeral non-wetland water/streambed just north of the Project impact area, located within an area of non-native grassland that included one saltcedar (*Tamarix ramosissima*) and one Goodding's black willow. The upstream limit of NWW-2 is adjacent to a small single culvert which directs runoff from the neighboring residential development to the west of Village West Drive. The estimated OHWM for NWW-2 (OHWM 5) measured 5 to 15 feet wide and was defined by a change in average sediment texture, change in vegetation species, and a 6-inch-high break in bank slope. The extent of the streambed equated to the delineated OHWM.

NWW-3 and NWW-4 are ephemeral non-wetland waters/streambeds east of the Project impact area. Flows into NWW-3 appeared to originate from road runoff/sheet flows. Flows into NWW-4 appeared to originate from a small single culvert from under the adjacent dirt road. The estimated OHWM for NWW-3 (OHWM 4) measured 12 feet and the estimated OHWM for NWW-4 (OHWM 3) measured 10 feet. The OHWMs for NWW-3 and NWW-4 were defined by a change in average sediment texture, change in vegetation cover, and a gradual 1-inch high break in bank slope. The extent of the streambeds on both features equated to the delineated OHWM.

Wildlife Corridors

The proposed Village West Drive Extension Project site is located adjacent to both developed and open space areas, but the majority of the vicinity is developed. Wildlife may move through the Project site on a local level, but it does not provide regional habitat connectivity between large open space areas.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The FESA of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed species. The FESA regulates the “take” of any endangered fish or wildlife species, per Section 9 of the FESA. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. As development is proposed, the responsible agency or individual landowner is required to consult with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts to listed species (including plants) or its critical habitat, pursuant to Sections 7 and 10 of the FESA. USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion (BO). This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan; Section 7 of the FESA provides for permitting of federal projects on projects requiring federal permits.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 United States Code [USC] 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the Migratory Bird Treaty Act is extensive and is listed at 50 Code of Federal Regulations 10.13. The Migratory Bird Treaty Act is enforced by USFWS and prohibits “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 prohibits discharge of any material into navigable waters, or tributaries thereof, of the United States without a permit. The Act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, or channel; or to dam navigable streams without a permit.

Many activities originally covered by the Rivers and Harbors Act are now regulated under the Clean Water Act (CWA) of 1972, discussed below. However, the 1899 Act retains relevance and created the structure under which the Corps oversees CWA Section 404 permitting.

Clean Water Act

Pursuant to Section 404 of the CWA, the Corps is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the United States (including wetlands), which include those waters listed in 33 Code of Federal Regulations 328.3 (as amended at 80 Federal Register 37104, June 29, 2015). The Corps, with oversight from the U.S. Environmental Protection Agency, has the principal authority to issue CWA Section 404 permits.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The RWQCB, a division of the State Water Resources Control Board, provides oversight of the 401 permit process in California. The RWQCB is required to provide “certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards.” Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System is the permitting program for discharge of pollutants into surface waters of the United States under Section 402 of the CWA. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits.

Western Riverside County Multiple Species Habitat Conservation Plan

The Project occurs within an area covered by the Western Riverside County MSHCP. Projects where the lead agency is signatory to the Western Riverside MSHCP are covered under the MSHCP. However, the March Joint Powers Authority (JPA) is the lead agency for the Project and is not a signatory to the Western Riverside MSHCP. As such, the Project is not subject to MSHCP regulations nor does it receive take authority granted under the Western Riverside MSHCP.

Stephens’ Kangaroo Rat Habitat Conservation Plan

The Stephens’ Kangaroo Rat Habitat Conservation Plan (SKR HCP) was completed in 1996 by the Riverside County Habitat Conservation Agency (RCHCA), CDFW, and USFWS. The SKR HCP was created as a regional plan for species permitting and conservation so that individual projects could receive FESA take authority for the species through Riverside County, rather than individually. The SKR HCP established seven “core reserves,” totaling more than 41,000 acres, within a planning area of 533,000 acres. The RCHCA is responsible for “completing” the reserves through the addition of land in fee simple or through the acquisition of easements. The SKR HCP also calls for the addition of 2,500 acres of occupied Stephens’ kangaroo rat habitat into the reserves, for total acreage of occupied Stephens’ kangaroo rat habitat within core reserves to 15,000 acres (Chamberlin 1998). A portion of the reserves occurs within the former March Air Base, but outside of the South Campus Specific Plan Project site.

Under the SKR HCP, development within the Plan boundaries, but outside the Core Reserves, is deemed to have fully mitigated for any impacts to Stephen’s kangaroo rat through compliance with the SKR HCP and the payment of a fee. March JPA is not a Permittee to the SKR HCP; however, if a project is anticipated to impact (would have a take) Stephens’ kangaroo rat, the March JPA may choose to participate in the SKR HCP.

State

California Endangered Species Act and Natural Community Conservation Planning Act

The CESA of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. CDFW is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special-status species are addressed through the issuance of a 2081 permit (Memorandum of Understanding).

In 1991, the California Natural Community Conservation Planning (NCCP) Act was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. California law (Section 2800 et seq. of the California Fish and Game Code) established the NCCP program “to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth.” The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Fish and Game Code Sections 1600–1602

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake that supports fish or wildlife. A Lake or Streambed Alteration Agreement Application must be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3511, 3513, 3800, 4700, 5050, and 5515

Within California, fish, wildlife, and native plant resources are protected and managed by CDFW. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the California Fish and Game Code address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of birds of prey is provided for in Sections 3503, 3513, and 3800 of the California Fish and Game Code.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) provides for statewide coordination of water quality regulations. The State Water Resources Control Board was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

The RWQCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the California Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

California Environmental Quality Act

CEQA requires identification of a project’s potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose “survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors.” A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists “in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or ... [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered ‘threatened’ as that term is used in the federal Endangered Species Act.” Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of “Special Species” as “a general term that refers to all of the taxa the California Natural Diversity Database is interested in tracking, regardless of their legal or protection status.” This is a broader list than those species that are protected under FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including for example the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as CRPR 1 and 2 by the California Native Plant Society, and potentially some CRPR 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G, Environmental Checklist Form, of the CEQA Guidelines requires an evaluation of impacts to “any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.”

Local

Riverside County Ordinance Nos. 499 and 559 – Tree Removal

Chapter 12.08 of the Riverside County Code of Ordinances sets for regulations regarding roadside tree removal and trimming activities (County of Riverside 2020). In accordance with Unincorporated Riverside County Ordinance No. 499 (as amended through 499.13), a permit must be obtained from the Riverside County Transportation Director prior to removing trees or trimming any tree planted in the right-of-way of a Riverside County highway. If such removals are proposed, conditions may be imposed by the Riverside County Transportation Director such as requirements for use of a qualified tree surgeon or trimmer, and for bond, insurance, or security to protect from damage, as well as relocation and/or replacement by one or more other trees.

Chapter 12.24 of the Riverside County Code of Ordinances also includes regulations related to tree removal (County of Riverside 2020). According to the Unincorporated Riverside County Ordinance No. 559 (as amended through 559.7), the removal of living native trees on parcels or property greater than 0.5 acres, located in the unincorporated Riverside County, and above 5,000 feet in elevation requires a permit. The Project site elevation is below 5,000 acres; as such, this ordinance is not applicable.

Riverside County Oak Tree Management Guidelines

Riverside County Oak Tree Management Guidelines address oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering (County of Riverside 1999). A biological study is required for properties that support oak trees on a lot size of 2.5 acres or greater. Protected oaks include any individual tree larger than 2 inches in diameter at breast height or the sum of the diameters of multiple trunks at diameter at breast height. Protected species include *Quercus agrifolia*, *Q. chrysolepis*, *Q. engelmannii*, *Q. kelloggii*, *Q. ×morehus*, and *Q. wislizenii* (County of Riverside 1999).

March Joint Powers Authority General Plan

As part of the March Air Base re-alignment, the General Plan of the JPA was created as a guiding tool for development within the former Air Base. The general plan is designed to implement the March Air Force Base Master Reuse Plan, which included disposal and redevelopment of approximately 4,400 acres of the approximately 6,500 acres of the former Air Base. The General Plan serves as a blueprint for future growth and development (March JPA 1999).

Resources Management Element

The Resource Management Element provides for the conservation, development, and use of natural, historical, and cultural resources. The Resource Management Element also details plans and measures for the preservation of open space designed to promote the management of natural resources, outdoor recreation, and public health and safety. This element identifies open space lands to include the golf course, installation restoration program cleanup sites, airfield and aviation related clear zones, riparian and open space habitat areas, and the expansion areas for the Riverside National Cemetery (March JPA 1999).

The goals and policies relevant to biological resources and the Project from the Resource Management Element are described below (March JPA 1999):

Water Resources

- Policy 1.1:** Where possible, retain local drainage courses, channels and creeks in their natural condition.

Minimize Flood Hazards

- Policy 2.6:** Open channels shall be encouraged, as appropriate, to maintain or enhance riparian habitat areas.

Flora and Fauna Resources

- Goal 5:** Conserve and protect- significant stands of mature trees, native vegetation, and habitat within the planning area.
- Policy 5.1:** Where practical, conserve important plant communities and habitats such as riparian areas, wetlands, significant tree stands, and species by using buffers, creative site planning, revegetation and open space easement/dedications.
- Policy 5.2:** Encourage the planting of native species of trees and other drought-tolerant vegetation.
- Policy 5.4:** In areas that may contain important plant and animal communities, require development to prepare biological assessments identifying species types and locations and develop measures to preserve recognized sensitive species, as appropriate.
- Policy 5.5:** Where practical, allow development to remove only the minimum natural vegetation and encourage the revegetation of graded areas with native plant species.
- Policy 5.6:** Work with state, federal and local agencies in the preservation and/or mitigation of recognized sensitive vegetation and wildlife in March JPA Planning Area.

Consistency with all March JPA General Plan policies is discussed in Section 4.9, Land Use and Planning.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts related to biological resources are based on the 2019 March JPA CEQA Guidelines. According to the 2019 March JPA CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

- BIO-1:** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- BIO-2:** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- BIO-3:** Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- BIO-4:** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- BIO-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- BIO-6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 Impacts Analysis

- BIO-1.** *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

South Campus Specific Plan

Federally and/or State Listed Endangered or Threatened Species

Two federally and/or state listed species have been documented on or immediately adjacent to the South Campus Specific Plan site, and three species of special concern have potential to occur on site.

Least Bell's Vireo

The conservation easement that is within the South Campus Specific Plan and shown on Figure 4.3-2 is suitable habitat for least Bell's vireo. The 2019 biological field surveys performed by Rocks Biological Consulting confirmed that it is also occupied habitat. Because the Project will not impact the conservation easement area, the Project will not directly impact habitat for this species; however, development would occur in close proximity to occupied habitat, with some buildings proposed approximately 50–75 feet away from the conservation easement area.

Potential impacts on least Bell's vireo were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel et al. Settlement Agreement* (S.D. Cal. No. 09-cv-1854-JAH-POR). Pursuant to those agreements, 664 acres of lands were placed into conservation easement to offset potential species habitat losses due to development of the Project site and other developable lands. Additionally, the CDFW reviewed the USFWS BO decision and issued a consistency determination (2080-1999-056-6) stating that “Biological Opinion No. 1-6-99-F-13 is consistent with the CESA as to anticipated take of the least Bell's vireo and Stephens' kangaroo rat” (CDFG 1999).

Subsequently, BO FWS-WRIV-09B0221-09F1185 required conservation of 175.3 acres of least Bell's vireo habitat within the former base. This area, which occurs north and south of Van Buren Boulevard, was identified as some of the highest quality habitat in the area and included numerous breeding pairs. A portion of this conservation area is immediately south of the Project site. Note that the proposed South Campus Specific Plan impact area would not encroach into any habitat not analyzed under the previous BO.

The proposed South Campus Specific Plan would include building construction in proximity to least Bell's vireo habitat. This development was anticipated with previous South Campus plans, and no impacts not previously analyzed would occur with Project implementation. Nonetheless, and as previously identified, indirect impacts to least Bell's vireo are potentially significant. With the implementation of **Mitigation**

Measure (MM) BIO-1, Least Bell's Vireo Avoidance and Minimization Measures, and **MM-BIO-2**, Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters, temporary indirect impacts to least Bell's vireo would be reduced to **less than significant** by identifying active nests of the species and establishing no-entry buffers, instituting an environmental awareness training program that includes the species, monitoring of active nests during construction, and erecting fences around suitable habitat for the species.

Stephens' Kangaroo Rat

Stephens' kangaroo rat has been documented previously on the South Campus Specific Plan site and in surrounding areas. Suitable habitat is present within the South Campus Specific Plan area and burrows consistent with the species were observed during 2019 general biological surveys. As such, the species has a moderate potential for occurrence within the South Campus Specific Plan area. Direct impacts to Stephens' kangaroo rat could result from ground-disturbing activities (e.g., clearing, grubbing, grading). Indirect short-term impacts to Stephens' kangaroo rat include noise, vibration, lighting, and increased human presence, and substantial long-term impacts include noise, lighting, and traffic collisions to nocturnal wildlife.

Impacts within the South Campus Specific Plan area on Stephens' kangaroo rat were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13). The 1999 BO concluded that Stephens' kangaroo rat would likely be adversely affected by the project, and thus, outlined conservation measures to minimize effects to Stephens' kangaroo rat, including the consideration of suitable trade criteria for development that would affect the function and value of the Sycamore Canyon-March Air Force Base Core Reserve area. As such, the USFWS supported the release of 1,178 acres of Stephens' Kangaroo Rat Management Area/March Air Force Base West Campus for development as long as suitable replacement habitat with similar biological value of the area to be traded was exchanged. Additionally, The CDFW reviewed the USFWS BO decision and issued a consistency determination (2080-1999-056-6) stating that "BO No. 1-6-99-F-13 is consistent with the CESA as to anticipated take of the LBVI and SKR" (CDFG 1999).

In three joint wildlife agency letters dated December 29, 2003 (FWS-WRIV-883.2), October 29, 2004, and May 22, 2006 (FWS/CDFG-WRIV-3259.5), the USFWS and CDFW authorized the acquisition and conservation of the Potrero site in exchange for the former 1,178-acre March Air Force Base (now March Air Reserve Base) Stephens' Kangaroo Rat Management Area, the endowment fund transfer request from the Center for Natural Lands Management to CDFW for management of the exchange lands, and the release of the 1,178-acre March Air Force Base Stephens' Kangaroo Rat Management Area for development. In 2006, the USFWS and CDFW confirmed that the areas taken out of the Stephens' Kangaroo Rat Management Area were no longer part of the core reserve and incidental take was authorized within these areas pursuant to the SKR HCP (FWS/CDFG-WRIV-3259.5).

The release of the 1,178-acre Stephens' Kangaroo Rat Management Area for development resulted in the Center for Biological Diversity and the San Bernardino Valley Audubon Society jointly filing a lawsuit against the USFWS and the Secretary of the Interior for failure to prepare a new BO under the FESA, failure to conduct environmental analysis under the National Environmental Policy Act, and a failure to properly amend the SKR HCP. The subsequent Settlement Agreement (*Center for Biological Diversity v. Jim Bartel et. al.* [S.D. Cal. No. 09-cv-1854-JAH-POR]) required a conservation easement over 664 acres of land previously released for development to benefit SKR and other species on the former March Stephens'

Kangaroo Rat Management Area. Thus, direct impacts to Stephens' kangaroo rat are considered adequately mitigated under previous agency consultations, authorizations, correspondence, and agreements described above. Direct Project impacts would not represent a significant adverse impact to this species, conditional upon satisfaction of previous mitigation requirements within the BO (1-6-99-F-13); consistency determination (2080-1999-56-6); joint wildlife agency letters dated December 29, 2003 (FWS-WRIV-883.2), October 29, 2004, and May 22, 2006 (FWS/CDFG-WRIV-3259.5); and subsequent Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR).

The RCHCA has a Section 10A permit granted by USFWS for Stephens' kangaroo rat. This permit allows for take of Stephens' kangaroo rat as part of development activity. As individual projects are proposed and approved in the Stephens' Kangaroo Rat Habitat Conservation Plan area, public and private land developers are required to pay a Stephens' kangaroo rat mitigation fee for land that is developed and removes habitat of Stephens' kangaroo rat. The mitigation fee is \$500 per gross acre of the parcels proposed for development. The mitigation fee shall be paid upon issuance of a grading permit, a certificate of occupancy, or upon final inspection, whichever occurs first (RCHCA 2020).

The 2003 Focused EIR determined the 2003 Approved South Campus's direct and indirect impacts on the Stephens' kangaroo rat were less than significant with mitigation pursuant to the 1999 BO. The South Campus Specific Plan Project's direct and indirect impacts on the Stephen's kangaroo rat are comparable to those of the 2003 Approved South Campus and will be mitigated through implementation of all 1999 BO and 2012 Settlement Agreement requirements, and the implementation of **MM-BIO-2**, which would limit impacts to suitable habitat for the species. As such, the Project's impacts to the Stephens' kangaroo rat would be **less than significant**. Additionally, as part of the Conditions of Approval, the Project applicant shall provide evidence that the Stephens' kangaroo rat impact fee has been paid for the site.

Non-Listed Special-Status Species

Smooth Tarplant

Impacts to smooth tarplant within the South Campus Specific Plan area were not analyzed as a part of the 2003 Approved South Campus or Master EIR for the General Plan of the March Joint Powers Authority (March JPA 1999). One CRPR plant species, smooth tarplant (CRPR 1B.1; State Rank S2), has a moderate potential to occur on the South Campus Specific Plan Project site. No smooth tarplant was found on site during the 2019 field surveys conducted by Rocks Biological Consulting. CRPR 1B plants "meet the definitions of the California Endangered Species Act of the California Fish and Game Code and are eligible for state listing." Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines Section 15125(c) and/or Section 15380 (CNPS 2019). State Rank of S2 means that the plant species is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CNPS 2019).

As part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including development of the South Campus Specific Plan Project site. Conserved areas occur west of Interstate 215 and approximately 1 mile north of the South Campus Specific Plan Project site and provide similar habitats to those that will be impacted by the Project. The conservation area is comprised of similar habitats as those

occurring on the South Campus Specific Plan Project site, and at least one population of 50 smooth tarplant individuals was observed during a 2018 general reconnaissance survey of the conservation area (Appendix D). Because the potential loss of smooth tarplant from the Project site has already been accounted for through upland habitat mitigation completed as part of the March Air Base closure process (March JPA 1999), potential impacts on smooth tarplant, if present on site, would be **less than significant** due to the preservation of suitable habitat for the species.

Burrowing Owl

Burrowing owl individuals or sign (e.g., active burrow, white-wash, pellets) was not observed during 2019 biological surveys of the South Campus Specific Plan Project site. Suitable foraging and nesting habitat (burrows) occur on the South Campus Specific Plan Project site and there is potential for this species to occur on site or to colonize the site prior to Project construction. If present, direct impacts in the form of habitat destruction, and potentially death, injury, or harassment of nesting birds, their eggs, and their young could occur. Injury or mortality occurs most frequently during the vegetation clearing stage of construction and involves eggs, nestlings, and recently fledged young that cannot safely avoid equipment, or construction activities that cause adults to abandon a burrow with eggs or nestlings. Potential impacts on burrowing owl were identified in the Master EIR for the General Plan of the March Joint Powers Authority (March JPA 1999), and project impacts on burrowing owls are potentially significant. With the implementation of **MM-BIO-3**, Burrowing Owl Avoidance and Minimization Measures, direct and indirect impacts to burrowing owl would be reduced to **less than significant** through preconstruction surveys for the species, no-work buffers around occupied burrows, or the preparation of a Burrowing Owl Relocation and Mitigation Plan.

Other Special-Status Wildlife

Four additional California Species of Special Concern, coastal whiptail, loggerhead shrike, red diamond rattlesnake, and San Diego black-tailed jackrabbit, have a moderate potential for occurrence based on suitable habitat or observation during 2019 surveys of the South Campus Specific Plan Project site. Additionally, two Watch List wildlife species, California horned lark and orange-throated whiptail, have a moderate potential for occurrence based on the presence of suitable habitat. Coastal whiptail, orange-throated whiptail, and black-tailed jackrabbit are highly mobile species and it would be expected that most individuals would naturally leave the area during the commencement of Project activities and impacts to these species would be **less than significant**. Red diamond rattlesnake are typically found associated with chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. The loss of 0.11 acres of buckwheat scrub that is potential suitable for the species is not expected to impact the regional population of the species; thus impacts to the species would be **less than significant**. Adult and juvenile loggerhead shrike and California horned lark would also be highly mobile and would be expected to avoid construction; however, the nests of the species with eggs or hatched young that do not have the mobility to safely leave the nest could be directly impacted by the removal of vegetation or indirectly impacted if the adults abandon an active nest. Thus, potentially significant impacts could occur if vegetation clearing is undertaken during the breeding season. Implementation of **MM-BIO-4**, Nesting Bird Avoidance and Minimization Measures, would reduce the impacts to **less than significant** by implementing preconstruction surveys for active nests and establishing no-work buffers around active nests.

Additionally, as part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including

development of the South Campus Specific Plan area. As such, many habitat and species losses have already been addressed through conservation of the 664 acres of lands. According to the Center for Natural Lands Management's Stephens' kangaroo rat monitoring report (CNLM 2012), the SKR HCP preserve lands are dominated by non-native grasslands, with patches of Riversidean sage scrub and riparian areas, which are similarly suitable habitats for California horned lark, coastal whiptail, loggerhead shrike, orange-throated whiptail, red diamond rattlesnake, and San Diego black-tailed jackrabbit.

Nesting Birds

The South Campus Specific Plan site has the potential to support avian nests, which would be protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code (Section 3503), under which it is unlawful to "take, possess, or needlessly destroy" avian nests or eggs. Thus, potentially significant impacts could occur if vegetation clearing is undertaken during the breeding season. With the implementation of **MM-BIO-4**, Nesting Bird Avoidance and Minimization Measures, indirect impacts to nesting birds would be reduced to **less than significant**.

Village West Drive Extension Project

Federally and/or State Listed Endangered or Threatened Species

Two federally and/or state listed species have been documented on or immediately adjacent the Village West Drive Extension Project site, and three species of special concern have potential to occur on the Project site.

Least Bell's Vireo

Least Bell's vireo has been documented (CDFW 2018b) in the vicinity of the Village West Drive Extension Project site and there is suitable habitat (southern riparian forest and southern willow scrub, as shown in Figure 4.3-2) present in the BSA. The Project would not directly impact suitable or occupied habitat for this species; however, development would occur in close proximity to suitable habitat for the species. As such, temporary indirect impacts are potentially significant. With the implementation of **MM-BIO-1**, Least Bell's Vireo Avoidance and Minimization Measures, and **MM-BIO-2**, Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters, temporary indirect impacts to least Bell's vireo would be reduced to **less than significant** by identifying active nests of the species and establishing no-entry buffers, instituting an environmental awareness training program that includes the species, monitoring of active nests during construction, and erecting fences around suitable habitat for the species.

Stephens' Kangaroo Rat

Stephens' kangaroo rat has been documented previously (CDFW 2018b) adjacent to the Village West Drive Extension Project site and in surrounding areas. Suitable habitat is present within the alignment site and burrows consistent with the species were observed during 2019 general biological surveys. As such, the species has a moderate potential for occurrence within the roadway alignment. Direct impacts to Stephens' kangaroo rat could result from ground-disturbing activities (e.g., clearing, grubbing, grading). Indirect short-term impacts to Stephens' kangaroo rat include noise, vibration, lighting, and increased human presence, and substantial long-term impacts include noise, lighting, and traffic collisions to nocturnal wildlife.

The Village West Drive Extension Project is located within the SKR HCP area for the endangered Stephens' kangaroo rat, which was implemented by the RCHCA and allows for incidental take of Stephens' kangaroo rat for qualifying projects located within the SKR HCP area. No portion of the Project site is located within this designated Stephens' Kangaroo Rat Management Area. As required, an RCHCA fee must be paid for incidental take of Stephens' kangaroo rat pursuant to the SKR HCP. The mitigation fee is \$500 per gross acre of the parcels proposed for development. The mitigation fee shall be paid upon issuance of a grading permit, a certificate of occupancy, or upon final inspection, whichever occurs first (RCHCA 2020). Additionally, **MM-BIO-2**, Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters, would be implemented to mitigate for indirect impacts to the species by limiting impacts to suitable habitat for the species. As such, impacts to Stephens' kangaroo rat would be reduced to **less than significant**

Non-Listed Special-Status Species

Smooth Tarplant

One CRPR plant species, smooth tarplant (CRPR 1B.1; State Rank S2), has a moderate potential to occur on the Village West Drive Extension Project site. Smooth tarplant is primarily found in chenopod scrub, meadows and seeps, playa, riparian woodland, and valley and foothill grassland. Valley and foothill grassland is synonymous with non-native grassland, and 1.39 acres of non-native grassland/paniculate tarplant would be removed as part of the Village West Drive Extension Project. Smooth tarplant was not observed in the Project site, and if it does occur, it is not expected to occur in large numbers, since the Project site is not located within a Criteria Area as designated by the MSHCP (RCA 2020). Focused surveys for the species are required within Criteria Areas. As such, the loss of any individuals of the species due to construction of the Village West Drive Extension Project is not expected to cause regional declines in the species and would not conflict with the goals of the MSHCP in regards to the species, although the March JPA is not a participant under the MSHCP. Potential impacts on smooth tarplant, if present, would be **less than significant**.

Burrowing Owl

Burrowing owl individuals or sign (e.g., active burrow, white-wash, pellets) was not observed during 2019 biological surveys of the Village West Drive Extension Project site. Suitable foraging and nesting habitat (burrows) occur on the Village West Drive Extension Project site and there is potential for this species to occur on site or to colonize the site prior to Project construction. As such, direct and indirect impacts are potentially significant. With the implementation of **MM-BIO-3**, Burrowing Owl Avoidance and Minimization Measures, direct and indirect impacts to burrowing owl would be reduced to **less than significant**.

Other Special-Status Wildlife

Four additional California Species of Special Concern, coastal whiptail, loggerhead shrike, red diamond rattlesnake, and San Diego black-tailed jackrabbit, have a moderate potential for occurrence based on suitable habitat or observation during 2019 surveys of the Village West Drive Extension Project site. Additionally, two Watch List wildlife species, California horned lark and orange-throated whiptail, have a moderate potential for occurrence based on the presence of suitable habitat. Coastal whiptail, orange-throated whiptail, and black-tailed jackrabbit are highly mobile species and it would be expected that most individuals would naturally leave the area during the commencement of Project activities and impacts to these species would be **less than significant**. Red diamond rattlesnakes are typically found associated with

chaparral and coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Impacts from the Village West Drive Extension Project are proposed in developed/ornamental, disturbed, non-native grassland/paniculate tarplant, and ruderal areas that are only marginally suitable for the species, and the species is not likely to be encountered during construction; thus, impacts to the species would be **less than significant**. Adult and juvenile loggerhead shrike and California horned lark would also be highly mobile and would be expected to avoid construction; however, the nests of the species with eggs or hatched young that do not have the mobility to safely leave the nest could be directly impacted by the removal of vegetation or indirectly impacted if the adults abandon an active nest. Thus, potentially significant impacts could occur if vegetation clearing is undertaken during the breeding season. Implementation of **MM-BIO-4**, Nesting Bird Avoidance and Minimization Measures, would reduce the impacts to **less than significant**.

Nesting Birds

The Village West Drive Extension Project area has the potential to support avian nests, which would be protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code (Section 3503), under which it is unlawful to “take, possess, or needlessly destroy” avian nests or eggs. Thus, potentially significant impacts could occur if vegetation clearing is undertaken during the breeding season. Implementation of **MM-BIO-4**, Nesting Bird Avoidance and Minimization Measures, would reduce the impacts to **less than significant**.

BIO-2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

South Campus Specific Plan

The proposed Project would occur primarily on previously disturbed and developed land (Table 4.3-7). The one native habitat present within the Project site is buckwheat scrub (*Eriogonum fasciculatum* shrubland alliance).

Table 4.3-7. Vegetation Communities/Land Use Project Impacts for the South Campus Specific Plan

Vegetation Community (Holland Code)	Vegetation Community (MCV 2)	Global, State Rank	Acres
Buckwheat Scrub	<i>Eriogonum fasciculatum</i> Shrubland Alliance/Buckwheat Scrub	G5, S5	0.11
Developed	Developed/Disturbed	—	26.08
Developed/Ornamental	Developed/Disturbed	—	9.39
Disturbed	Developed/Disturbed	—	206.27
Non-Native Grassland	Mediterranean California Naturalized Annual and Perennial Grassland	None	15.36
Ruderal	Upland Mustards	—	1.16
Total			258.37

Buckwheat scrub habitat is identified as G5 and S5, meaning it is “demonstrably secure because of its worldwide/ statewide abundance” (CNPS 2019). As such, it is not a rare habitat for which impacts would be significant. Further, impacts on buckwheat scrub are extremely small (0.11 acres) and impacts on

upland habitats within the Project site were addressed under previous EIR documentation (SCH 2002071089). Impacts on this habitat would be **less than significant**.

The loss of 15.36 acres of non-native grassland would not be a significant loss of this habitat locally or regionally. Further, impacts on upland habitats within the Project site were addressed under the previous EIR documentation (SCH 2002071089). As part of the March Air Base realignment and subsequent negotiations, 664 acres of native habitat were set aside for conservation in consideration of development within the March Air Base re-use area. These conservation areas include upland habitats similar to those that occur on site. As such, impacts on upland habitats are considered adequately mitigated under previous agency consultation and are **less than significant**.

Village West Drive Extension Project

The proposed Village West Drive Extension Project would occur primarily on previously disturbed and developed land, and non-native grasslands (Table 4.3-8). The one native habitat present within the BSA is Riversidean Sage Scrub (Disturbed) (*Eriogonum fasciculatum* shrubland alliance), which is located outside of the Project site footprint and would not be impacted.

Table 4.3-8. Vegetation Communities/Land Use Project Impacts Within the Village West Drive Extension Project Site

Vegetation Community (Holland Code)	Vegetation Community (MCV 2)	Global, State Rank	Acres
Developed/Ornamental	Developed/Disturbed	—	3.14
Disturbed	Developed/Disturbed	—	0.21
Non-Native Grassland/Paniculate Tarplant	Mediterranean California Naturalized Annual and Perennial Grassland	None	1.39
Ruderal	Upland Mustards	—	0.80
Total			5.54

Similar to the loss of non-native grassland, the loss of 1.39 acres of non-native grassland/paniculate tarplant would not be a significant loss of this habitat locally or regionally. Mapping efforts conducted for the MSHCP calculated that there were 151,403 acres of non-native grassland within the MSHCP plan area (Dudek 2003). Impacts to less than 0.001% of non-native grassland would be **less than significant**.

BIO-3. Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

South Campus Specific Plan

No jurisdictional wetlands or non-wetland waters were identified on the South Campus Specific Plan Project site; as such, **no impacts** would occur.

Village West Drive Extension Project

No direct impacts would occur to jurisdictional wetlands or non-wetland waters due to the implementation of the Village West Drive Extension Project. However, due to the proximity of jurisdictional wetlands and waters (see Figure 4.3-3), potential temporary indirect significant impacts could occur from construction activities resulting from accidental incursion into the areas, generation of fugitive dust, and introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, as discussed further in Section 4.8, Hydrology and Water Quality, erosion-control measures would be implemented during construction as part of the Storm Water Pollution Prevention Plan for the Project. Prior to the start of construction activities, the Contractor is required to file a Notice of Intent with the State Water Resources Control Board to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that result in the disturbance of 1 acre or more of total land area, unless it is part of a larger plan of development. The required Storm Water Pollution Prevention Plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. With the implementation of **MM-BIO-2**, Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters, and compliance with existing regulations, temporary indirect impacts to wetlands would be reduced to **less than significant**.

- BIO-4.** *Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

South Campus Specific Plan

The South Campus Specific Plan Project is surrounded in all directions by developed land. Thus, the Project site does not serve as a wildlife corridor, and therefore, the Project would not impact wildlife corridors. Impacts would be **less than significant**.

Village West Drive Extension Project

The proposed Village West Drive Extension Project site is located adjacent to both developed and open space areas, but the majority of the vicinity is developed. Wildlife may move through the Project site on a local level, but it does not provide regional habitat connectivity between large open space areas. Therefore, the Project would not impact wildlife corridors. Impacts would be **less than significant**.

BIO-5 *Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

South Campus Specific Plan

The March JPA General Plan Resource Management Element provides for the conservation, development, and use of natural resources. The Resource Management Element also details plans and measures for the preservation of open space designed to promote the management of natural resources.

Policy 1.1 Where possible, retain local drainage courses, channels and creeks in their natural condition.

Policy 2.6 Open channels shall be encouraged, as appropriate, to maintain or enhance riparian habitat areas.

The proposed South Campus Specific Plan Project would not impact streams or riparian habitat.

Goal 5: Conserve and protect- significant stands of mature trees, native vegetation, and habitat within the planning area.

Policy 5.1 Where practical, conserve important plant communities and habitats such as riparian areas, wetlands, significant tree stands, and species by using buffers, creative site planning, revegetation and open space easement/dedications.

The proposed South Campus Specific Plan Project would not impact mature trees, riparian areas, wetlands, and significant tree stands. Impacts to 0.11 acres of buckwheat scrub by the Project would be not be significant in the context of the extent of the vegetation community in the Project region.

Policy 5.4 In areas that may contain important plant and animal communities, require development to prepare biological assessments identifying species types and locations and develop measures to preserve recognized sensitive species, as appropriate.

A biological resources report (Rocks Biological Consulting 2020) was developed for the proposed Project that identified plant and wildlife species present or with the potential to be present on the South Campus Specific Plan Project site, along with measures to mitigate the project's potential impacts to those species.

Policy 5.5 Where practical, allow development to remove only the minimum natural vegetation and encourage the revegetation of graded areas with native plant species.

The proposed South Campus Specific Plan Project would impact 0.11 acres of buckwheat scrub. **MM-BIO-2**, Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters, would be implemented to restrict project impacts to buckwheat scrub to the minimal extent needed for project construction.

Policy 5.6 Work with state, federal and local agencies in the preservation and/or mitigation of recognized sensitive vegetation and wildlife in March JPA Planning Area.

Potential impacts on sensitive wildlife were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR).

As such, impacts to the March JPA General Plan would be **less than significant**.

Village West Drive Extension Project

No native oaks occur within the Village West Drive Extension Project BSA; therefore, no impacts to oaks that are protected under the Riverside County Oak Tree Management Guidelines would occur with Project implementation.

The Village West Drive Extension Project site elevation is below 5,000 acres; as such, Riverside County Ordinance No. 559 is not applicable, and **no impacts** to trees protected under this ordinance would occur with Project implementation.

BIO-6 *Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

South Campus Specific Plan

The South Campus Specific Plan Project impacts were addressed under the 2003 Focused EIR and as part of the March Air Base realignment. This area is included in the Western Riverside MSHCP. Based upon the Regional Conservation Authority MSHCP Information Map (RCA 2020), the Project site is not located within a criteria cell and does not require a review for compliance with the Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy process. The Project site is within an area where burrowing owl surveys are required, but not in an area where amphibian, mammal, or narrow endemic plants are required (RCA 2020). Though the March JPA is an independent agency and therefore not a participant under the Western Riverside MSHCP, proposed Project mitigation (**MM-BIO-2**) is consistent with the Western Riverside MSHCP conditions for burrowing owl. All CESA and FESA listed species mitigation were included as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel et. al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR). As such, impacts to the MSHCP would be **less than significant**.

Village West Drive Extension Project

The Village West Drive Extension Project impacts were not considered in connection with the larger March Air Base re-use, and this area is included in the Western Riverside MSHCP. Based upon the Regional Conservation Authority MSHCP Information Map (RCA 2020), the Project site is not located within a Criteria Cell and does not require a review for compliance with the Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy process. Therefore, the Village West Drive Extension Project is not within an area designated for conservation and would not conflict with the goal of the MSHCP for acquiring lands of high habitat value. The Project is within an area where burrowing owl surveys are required, but not in an area where amphibian, mammal, or narrow endemic plants are required (RCA 2020). For wildlife species

that are covered under the MSHCP, impacts are fully mitigated for covered activities within Riverside County by payment of the MSHCP fee and compliance with conditions of the burrowing owl assessment area. Although the March JPA is an independent agency and therefore not a participant under the MSHCP, proposed Project mitigation (**MM-BIO-3**) is consistent with the Western Riverside MSHCP conditions for burrowing owl. As such, impacts to the MSHCP would be **less than significant**.

4.3.5 Mitigation Measures

The following mitigation measures were included in the 2003 Focused EIR and are applicable to the proposed South Campus Specific Plan Project and will be incorporated into the MMRP for the Project.

- D-1** Prior to construction activity, the applicant shall coordinate with USFWS to assure that the requirements and stipulations of the 1999 Biological Opinion and the Biological Opinion Clarification Letter (September 6, 2002) are met. The 1999 Biological Opinion and the 1999 Biological Opinion Clarification Letter are included in Appendices A and B of the Biological Resources Review found in Appendix D of the 2003 Focused EIR. Mitigation for potential impacts to federal or state listed species shall be as per the 1999 Biological Opinion and the 1999 Biological Opinion Clarification Letter issued by USFWS. This mitigation shall include the replacement 35.2 acres of impacted occupied Stephens' kangaroo rat (SKR) habitat at a 1:1 ratio. As of September 2002, the March JPA is responsible for 14.2 acres of mitigation at a 1:1 ratio, as 21 acres of USFWS approved occupied habitat have previously been acquired by the March JPA and serve as mitigation for 21 acres of SKR occupied habitat. Other required mitigation (78.4 acres discussed in the 1999 Biological Opinion Clarification letter) will be at a fee of \$500 per acre.
- D-2** Per the 1999 Biological Opinion, avoid 13 acres of USFWS designated least Bell's vireo riparian habitat north and south of Van Buren Boulevard by utilizing 100-foot buffer zones in these areas.
- D-3** If construction activity is planned during nesting/breeding season, a qualified environmental scientist shall conduct a field review of the affected areas prior to vegetation clearing activity to assess the areas for occupancy by the least Bell's vireo.
- D-4** Prior to construction activity, the applicant shall coordinate with the L.A. District Corps office to assure conformance with the requirements of Section 404 of the Clean Water Act.
- D-5** Prior to construction activity, the applicant shall coordinate with the Santa Ana Water Quality Board (Region 8) to assure conformance with the requirements of Section 404/401 of the Clean Water Act and the State of California Porter Cologne Water Quality Control Act.
- D-6** Prior to activity within waters of the U.S., the applicant shall coordinate with the California Department of Fish and Game (Eastern Sierra and Inland Dessert Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements.

Additionally, the following mitigation measures would be implemented to further reduce potentially significant impacts to biological resources for the South Campus Specific Plan and Village West Drive Extension Project.

- MM-BIO-1** **Least Bell's Vireo Avoidance and Minimization Measures.** Least Bell's vireo have been documented adjacent to proposed South Campus Specific Plan Project work areas within the conservation

easement and there is suitable habitat for the species along the Village West Drive Extension Project. Species-specific mitigation will include construction timing and noise restrictions in accordance with the *Center of Biological Diversity v. Jim Bartel et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR) and standard vireo noise avoidance techniques to avoid noise impacts on this species. The following avoidance and minimization measures shall be implemented during Project construction activities and confirmed by the March Joint Powers Authority (JPA):

- 1) **Preconstruction Least Bell's Vireo Nesting Survey.** Construction activities within 500 feet of the conservation area (see Figure 4.3-1) and suitable habitat for least Bell's vireo (southern riparian forest and southern willow scrub) along the Village West Drive Extension Project (see Figure 4.3-2) shall commence outside of the nesting season for least Bell's vireo (April 10 to July 31). If construction activities occur during the least Bell's vireo nesting season, a qualified biologist shall conduct a focused least Bell's vireo nesting bird survey within 3 days of the start. If least Bell's vireo nests or occupied habitat are found within 500 feet of project activity, then the qualified biologist shall establish an avoidance buffer radius of 500 feet, or as approved by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), which shall be maintained and avoided during construction activities until the nest is determined by the biologist to no longer be active.
 - a. If construction activity within 500 feet of the conservation area commences outside of the nesting bird season, then it is assumed that birds that nest within the conservation area during ongoing activity are unaffected by the Project.
- 2) **Environmental Awareness Training.** A qualified biologist shall prepare an environmental awareness training program that must be taken by all construction personnel working on projects within 500 feet of the conservation area prior to their involvement with activities on the project site. The training shall cover the following points: least Bell's vireo natural history, protected species avoidance measures to be implemented by all personnel, and the role and responsibility of the biological monitor. The training shall be prepared in a digital format (e.g., Microsoft PowerPoint) that will allow the project contractor to administer it on a daily basis throughout construction, if needed, and a sign-in sheet indicating the personnel who have received the training shall be submitted to the March JPA as needed.
- 3) **Construction Monitoring.** If least Bell's vireo nests or occupied habitat are found during the initial survey, then a qualified biological monitor shall be present fulltime during initial grading activities within 1,000 feet of the nest/occupied habitat location or until they determine in their professional opinion that monitoring is no longer needed. The biological monitor shall be responsible for taking noise level measurements at the accessible edge of the habitat using a decibel meter. construction noise levels shall not exceed 60 A-weighted decibels sound equivalent level (dBA L_{eq}) hourly average in riparian habitats occupied by least Bell's vireo unless authorized by the appropriate regulatory authorities (i.e., CDFW and USFWS). The biological monitor shall have the authority to stop work as needed to avoid indirect impacts to least Bell's vireo due to noise level exceeding a 60 dBA L_{eq} hourly average or a noise level authorized by the appropriate regulatory authorities (i.e., CDFW and USFWS). A weekly biological monitoring report shall be submitted to March JPA that shall include noise level data and any action taken to reduce noise. A post-construction biological monitoring report shall be prepared to document compliance with these requirements and shall be submitted to the satisfaction of the March JPA.

MM-BIO-2 Construction Limits Demarcation for Sensitive Habitat and Jurisdictional Waters. Prior to the start of all earth-moving activities (e.g., clear and grub, grading) adjacent to the conservation area and buckwheat scrub within the South Campus Specific Plan Project, and for work near the delineated jurisdictional waters (see Figure 4.3-3), southern riparian forest, and southern willow scrub on the Village West Drive Extension Project, and adjacent to suitable habitat for Stephen's kangaroo rat (non-native grasslands), the project contractor shall demarcate the construction limits with temporary construction fencing so that sensitive habitats and jurisdictional waters are avoided by construction personnel and equipment. The fencing shall be maintained until construction is completed in those areas.

MM-BIO-3 Burrowing Owl Avoidance and Minimization Measures. Prior to the initiation of construction activities, a qualified biologist shall conduct preconstruction surveys for burrowing owl within suitable habitat (non-native grassland, non-native grassland/paniculate tarplant, disturbed habitat, and ruderal areas) to determine presence/absence of the species. The survey shall be conducted in accordance with the most current California Department of Fish and Wildlife (CDFW) protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Preconstruction surveys shall include suitable burrowing owl habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If burrowing owls are not detected during the clearance survey, no additional mitigation is required.

If burrowing owl is located, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained between Project activities and nesting burrowing owls during the nesting season, unless otherwise authorized by CDFW.

If burrowing owl is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow. Alternatively, a Burrowing Owl Relocation and Mitigation Plan may be prepared and submitted for approval by CDFW. Once approved, the Plan would be implemented to relocate non-breeding burrowing owls from the Project site. The Plan shall detail methods and guidance for passive relocation of burrowing owls from the Project site, provide monitoring and management of the replacement burrow sites, reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprint. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.

The Project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the March Joint Powers Authority, to document compliance with this mitigation measure.

MM-BIO-4 Nesting Bird Avoidance and Minimization Measures. To avoid direct impacts to raptors and/or native/migratory birds (including loggerhead shrike and California horned lark), vegetation removal

and grading activities should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a preconstruction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service as applicable for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the preconstruction survey, no further mitigation is required.

4.3.6 Level of Significance After Mitigation

The federal- and state-listed least Bell's vireo is known to occur within the conservation area of the South Campus Specific Plan Project site and in the vicinity of the Village West Drive Extension Project site. Construction activities associated with the Project could cause temporary indirect impacts that could cause nests to fail. **MM-BIO-1** requires preconstruction surveys, buffers for occupied habitat and nests, workers environmental training, and construction monitoring. **MM-BIO-2** requires that fences be installed around sensitive habitat that may support the species. Potential temporary indirect impacts to least Bell's vireo would be less than significant with implementation of **MM-BIO-1** and **MM-BIO-2**.

Burrowing owl, considered a Species of Special Concern by CDFW, has historically been found on the South Campus Specific Plan Project site and in the vicinity of the Village West Drive Extension Project site. Construction activities associated with the Project could cause direct impacts to occupied burrows used by the species or indirect impacts due to adults abandoning their eggs or nestlings. **MM-BIO-3** requires preconstruction surveys, buffers for occupied burrows, the preparation of a Burrowing Owl Relocation and Mitigation Plan, and habitat compensation for the loss of occupied habitat. Potential permanent direct and temporary indirect impacts to burrowing owl would be less than significant with implementation of **MM-BIO-3**.

The two components of the Project, the South Campus Specific Plan area and Village West Drive Extension site, support habitat that could be used by birds for nesting. Construction activities associated with the Project could result in direct impacts by the loss of active nests and indirect impacts from adults abandoning active nests due to nearby construction activity. **MM-BIO-4** requires nesting bird surveys of the Project impact areas; if active nests are found, the biologist shall establish buffers and/or implement monitoring to avoid impacting avian nesting success. Potential direct and indirect impacts to protected nesting birds would be less than significant with implementation of **MM-BIO-4**.

The Village West Drive Extension Project site has adjacent jurisdictional waters. The Project could indirectly impact these areas by accidental incursions into the delineated limits by Project personnel. **MM-BIO-2** requires that fences be installed around jurisdictional waters to prohibit entry. Potential indirect impacts to jurisdictional waters would be less than significant with implementation of **MM-BIO-2**.

4.3.7 Cumulative Effects

South Campus Specific Plan

The geographic extent for this cumulative impact analysis includes the jurisdiction of the March JPA Planning Area. This accounts for development projects within the nearby vicinity that may provide habitat for the same species as the Project site. As discussed in Section 4.3.1, Existing Conditions, several special-status plant and wildlife species were determined to be present or have the potential (including low to high potential) to occur on the Project site; these species include smooth tarplant, orange-throated whiptail, coastal whiptail, red-diamond rattlesnake, burrowing owl, California horned lark, loggerhead shrike, least Bell's vireo, Stephen's kangaroo rat, and San Diego black-tailed jackrabbit. Potential impacts on least Bell's vireo and Stephen's kangaroo rat were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR). To offset potential habitat losses for the other non-listed species due to development of the Project site and other developable lands, 664 acres of lands were placed into conservation easement. To further reduce potential impacts to these species associated with Project implementation, **MM-BIO-1** through **MM-BIO-4** (refer to Section 4.3.5, Mitigation Measures, of this SEIR) would be implemented. With implementation of these mitigation measures, Project impacts to special-status wildlife species would be less than significant. Given that Project-specific impacts to special-status species can be mitigated to a less-than-significant impact, the Project would not create or contribute to a significant cumulative impact.

The South Campus Specific Plan Project would not impact sensitive vegetation communities, jurisdictional waters, or resources protected by local ordinances, so the Project would not create or contribute to a significant cumulative impact in these categories.

Development that would occur on previously undeveloped land within the March JPA Planning Area would be required to identify and mitigate any potentially significant impacts to biological resources. Cumulative projects within the MSHCP Plan Area would be subject to consistency with the MSHCP and any relevant habitat conservation plans. Projects that would occur on previously developed land or in a highly urbanized area would have less potential to significantly impact biological resources. Given that March JPA is not a permittee under the Western Riverside MSHCP, the Project would not result in impacts. As such, the proposed Project, in combination with related projects within the March JPA Planning Area, would not result in or contribute to cumulatively significant impacts.

Village West Drive Extension Project

As discussed in Section 4.3.1, several special-status plant and wildlife species were determined to be present or to have the potential (including low to high potential) to occur on the Village West Drive Extension Project site; these species include smooth tarplant, orange-throated whiptail, coastal whiptail, red-diamond rattlesnake, burrowing owl, California horned lark, loggerhead shrike, least Bell's vireo, Stephen's kangaroo rat, and San Diego black-tailed jackrabbit. The Project would have a less-than-significant impact on smooth tarplant, orangethroat whiptail, coastal whiptail, red-diamond rattlesnake, California horned lark, loggerhead shrike, and San Diego black-tailed jackrabbit, and would not result in or contribute to cumulatively significant impacts to these species. Implementation of **MM-BIO-3** would reduce the Project's impact on burrowing owl and the Project would not result in or contribute to cumulatively significant impacts to this species. Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce the Project's impact on least Bell's vireo, and the Project would not result in or contribute to cumulatively significant impacts to this species. The Project applicant shall provide evidence that the Stephens' kangaroo rat impact fee has been paid for the site, and the Project would not result in or contribute to cumulatively significant impacts to this species.

The Village West Drive Extension Project would not impact sensitive vegetation communities or resources protected by local ordinances, so the Project would not create or contribute to a significant cumulative impact in these categories. The Project could potentially have indirect impacts on jurisdictional waters. To reduce potential impacts to jurisdictional waters, **MM-BIO-2** (refer to Section 4.3.5 of this SEIR) would be implemented. With implementation of this mitigation measure, Project impacts to jurisdictional waters would be less than significant. Given that Project-specific impacts to special-status species can be mitigated to a less-than-significant impact, the Project would not create or contributed to a significant cumulative impact.

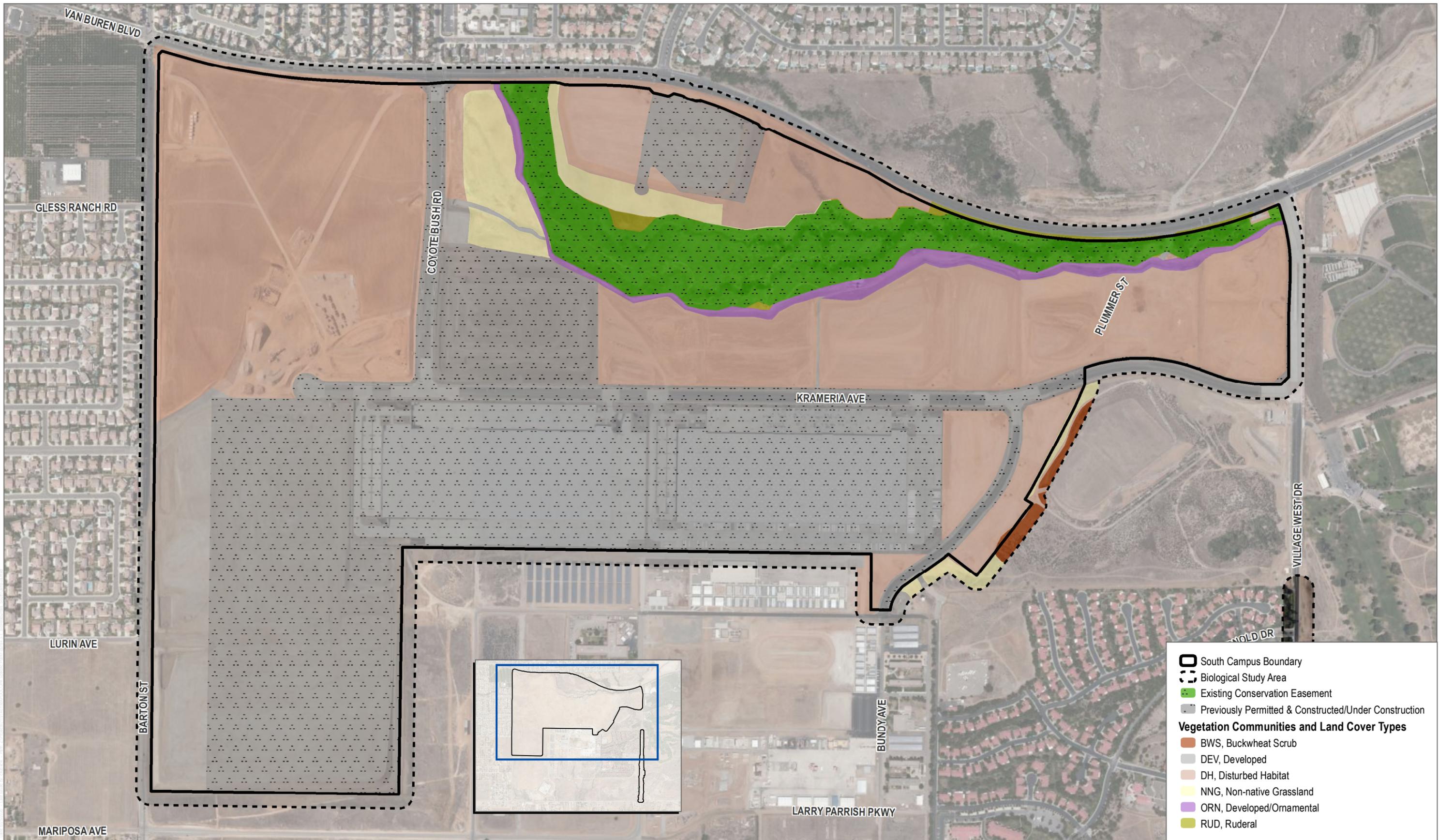
Table 4-1 within Chapter 4, Environmental Analysis, of this SEIR includes a list of cumulative development proposals within the vicinity of the Project site. No projects have been identified to date along the Village West Drive Extension Project site, but new projects may be proposed once the roadway is completed. Proposed future cumulative projects will undergo an evaluation for consistency with biological resources policies, as the proposed Project has done above, and will be required to mitigate impacts to less-than-significant levels.

The Village West Drive Extension Project site is not located within a criteria cell and does not require a review for compliance with the Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy process. Therefore, the Village West Drive Extension Project site is not within an area designated for conservation and would not conflict with the goal of the MSHCP for acquiring lands of high habitat value. For wildlife species that are covered under the MSHCP, impacts are fully mitigated for covered activities within Riverside County by payment of the MSHCP fee and compliance with conditions of the burrowing owl assessment area. Proposed Project mitigation (**MM-BIO-3**) is consistent with the Western Riverside MSHCP conditions for burrowing owl. With implementation of this mitigation measure, Project impacts to the goals of the MSHCP would be less than significant. Given that Project-specific impacts to the MSHCP can be mitigated to a less-than-significant impact, the Project would not create or contributed to a significant cumulative impact.

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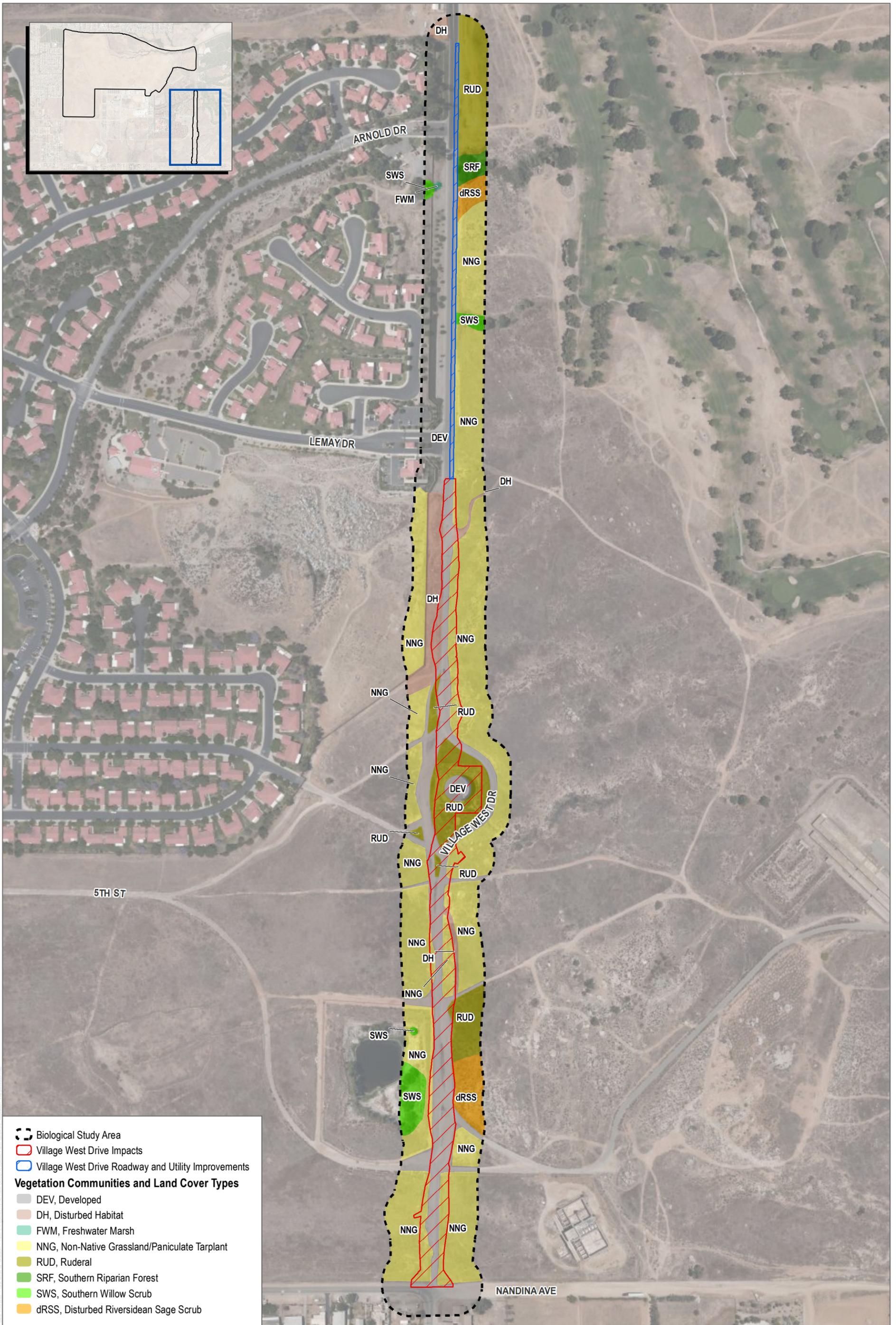
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- Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.



SOURCE: Bing Maps 2020; Rocks Biological Consulting 2020

FIGURE 4.3-1
Vegetation Communities and Land Uses within the South Campus Specific Plan Biological Study Area
JPA Specific Plan

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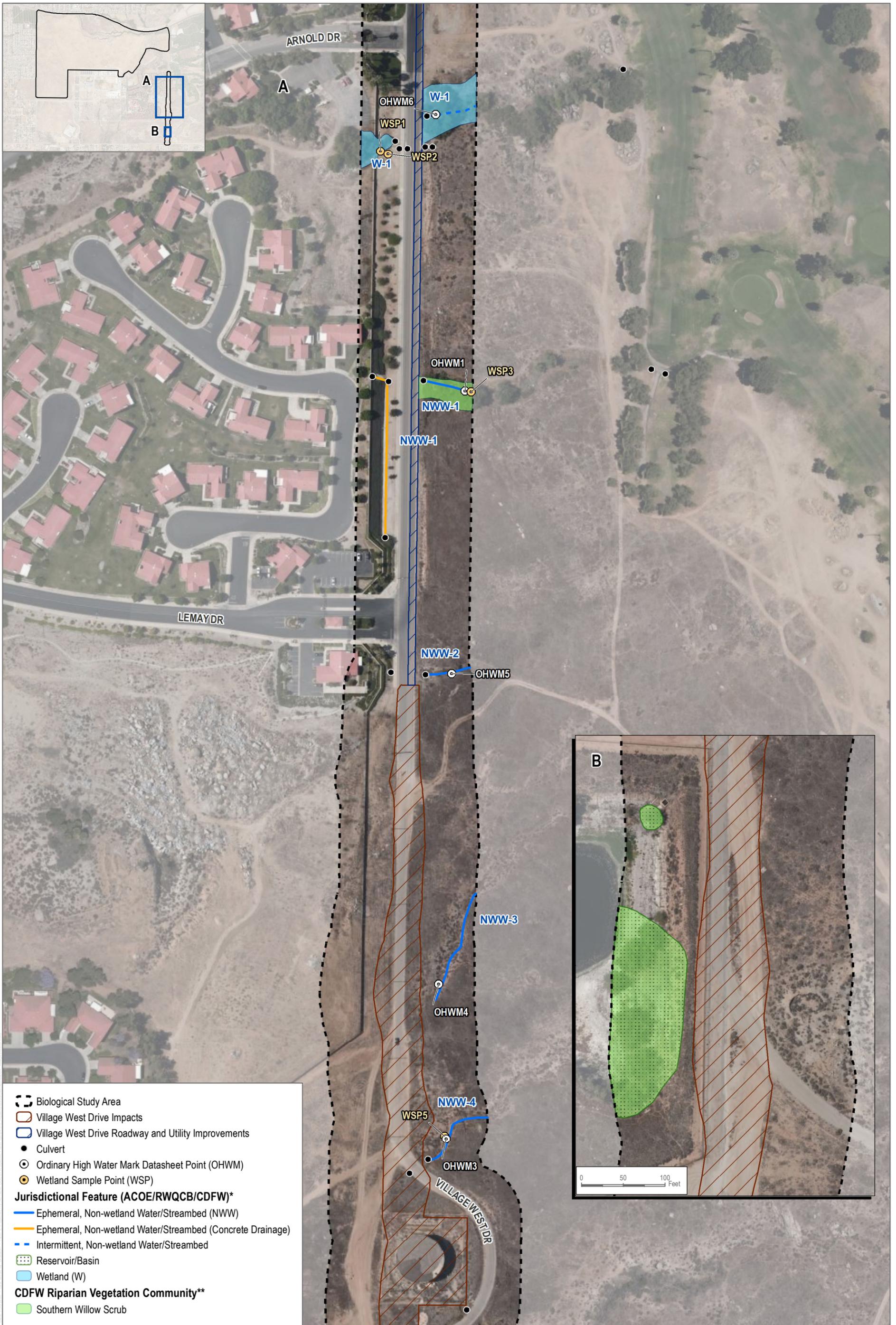
SOURCE: Bing Maps 2020; Rocks Biological Consulting 2020



FIGURE 4.3-2 Vegetation Communities and Land Uses within the Village West Drive Extension Project Biological Study Area

JPA Specific Plan

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SOURCE: Bing Maps 2020; Rocks Biological Consulting 2020
 * Potentially jurisdictional features based on formal delineation conducted 10/22/2019.
 ** Field staff unable to access site and assess wetland parameters.

FIGURE 4.3-3 Aquatic Resources Delineation for the Village West Drive Extension Project Biological Study Area

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4.4 Energy

The following discussion and analysis is based on the California Environmental Quality Act (CEQA) Guidelines, Section 15126.4, and Appendix F of the CEQA Guidelines, which require that Environmental Impact Reports (EIRs) include a discussion of the potential energy impacts of projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (14 CCR 15000 et seq.). This section is also related to the potential impacts to energy consumption, including electricity, natural gas, diesel, and gasoline, from implementation of the proposed Meridian South Campus Specific Plan and Village West Drive Extension Project (Project). This analysis is based on calculations included in Appendix E of this Subsequent EIR (SEIR), which are built using the emissions calculations and California Emissions Estimator Model (CalEEMod) outputs presented in the Greenhouse Gas Analysis, incorporated by reference and energy calculations and included as Appendix G and E of this SEIR, respectively.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus. The proposed Project would involve a shift in land uses as compared to the 2003 Approved South Campus. The net change in energy impacts is considered the “Project.” As such, this SEIR provides energy impacts for both the proposed Project and the 2003 Approved South Campus conditions to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project and will be included in the Mitigation Monitoring and Reporting Program for the Project. For issues not evaluated in the 2003 Approved South Campus, this SEIR analyzes the proposed Project against existing conditions.

Built/Entitled Land Uses

The following uses that are built or entitled, but not yet occupied and operational are included as part of the proposed Project scenarios:

- Amazon (Building A) – 1,000,000 square feet
- Parcel Delivery (Building B) – 1,000,000 square feet
- Parking Lot – 61.0 acres
- Building C (Warehousing) – 500,000 square feet
- Commercial (Parcel 72) – 14,267 square feet¹
- Electrical Substation – 0.9 acre

¹ At the time the Greenhouse Gas Report was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 square feet. However, the actual square footage for Parcel 72 is 14,267 square feet. For the purposes of the Greenhouse Gas Reports, the 15,485 square feet of commercial use results in a higher trip generation and GHG emissions (therefore more conservative) as opposed to evaluating the 14,267 square feet of commercial use.

Figure 3-3 shows the Project site plan with the proposed uses. At the time this SEIR was prepared, the tenants of the Project were unknown. This SEIR is intended to evaluate impacts associated with the expected typical 24 hours per day, 7 days per week operational activities at the Project site.

4.4.1 Existing Conditions

Electricity

According to the U.S. Energy Information Administration, California used approximately 257,268 gigawatt hours of electricity in 2017. By sector in 2017, commercial uses utilized 46% of the state's electricity, followed by 35% for residential uses, and 19% for industrial uses (EIA 2019a). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the commercial sector is lower than any other state except Hawaii (EIA 2018).

Southern California Edison (SCE) provides electricity to the Project site. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. According to the California Public Utilities Commission (CPUC), approximately 84 billion kilowatt-hours of electricity were used in SCE's service area in 2017. Demand forecasts anticipate that approximately 75 billion kilowatt-hours of electricity will be used in SCE's service area in 2020 (CPUC 2018).

SCE receives electric power from a variety of sources. According to CPUC's 2019 California Renewables Portfolio Standard Annual Report, 36% of SCE's power came from eligible renewables, such as biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2019). The California Energy Commission (CEC) estimates that about 29% of the state's electricity retail sales in 2017 came from renewable energy (CEC 2016a). The California Renewables Portfolio Standard (RPS) Program establishes a goal for California to increase the amount of electricity generated from renewable energy resources to 20% by 2010, and to 33% by 2020. Senate Bill (SB) 100 (2018) increased the standards set forth in SB 350. SB 100 establishes that 44% of the total electricity sold per year to retail customers in California be secured from qualifying renewable energy sources by December 31, 2024, with that number increasing to 52% by December 31, 2027, and 60% by December 31, 2030.

Natural Gas

According to the CEC, California used approximately 21,690 million therms² of natural gas in 2018 (EIA 2020). In 2017, by sector, industrial uses utilized 37% of the state's natural gas, followed by 32% from electric power, 19% from residential, 11% from commercial, and 1% from transportation uses (CEC 2018). Although the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 90% of its supply (EIA 2019b).

The Southern California Gas Company (SoCalGas) provides the Project site with natural gas service. The territory serviced by SoCalGas encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Demand mid-energy demand scenario, natural gas demand is projected to have an annual growth rate of 0.03% in SoCalGas's service territory. As of 2017, approximately 7.2 billion therms were used in SoCalGas's service area per year. Around the time of the initiation of Project construction in 2021, natural gas demand is anticipated to be

² One therm is equal to 100,000 British thermal units (BTU) or 100 thousand British thermal units (kBTU).

approximately 7.4 billion therms per year in SoCalGas's service area (CEC 2014). The total capacity of natural gas available to SoCalGas in 2016 is estimated to have been 3.9 billion cubic feet per day. In 2020, the total capacity available is also estimated to be 3.9 billion cubic feet per day³ (California Gas and Electric Utilities 2016). This amount is approximately equivalent to 3.98 billion thousand British thermal units per day or 39.8 million therms per day. Over the course of a year, the available capacity would, therefore, be 14.5 billion therms per year, which is well above the existing and future anticipated natural gas demand in the area serviced by SoCalGas.

Petroleum

According to the CEC, California used approximately 18.6 billion gallons of petroleum in 2017 (EIA 2019c). This equates to a daily use of approximately 51 million gallons of petroleum. By sector, transportation uses utilize approximately 85.5% of the state's petroleum, followed by 11.1% from industrial, 2.5% from commercial, 0.9% from residential, and 0.01% from electric power uses (EIA 2018). In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. Production of petroleum in the United States was 9.7 million barrels per day during April 2015, which was the highest output since April 1971 (CEC 2016b).

4.4.2 Relevant Plans, Policies, and Ordinances

Federal

Clean Vehicles

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce greenhouse gas (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO₂) per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards would cut CO₂ emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams per mile of CO₂ by model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the

³ One cubic foot of natural gas has approximately 1,020 BTUs of natural gas or 1.02 kBTUs of natural gas.

2014 model year and achieve up to a 20% reduction in CO₂ emissions and fuel consumption by the 2018 model year. For heavy-duty trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12% and 17%, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which finds that the model years 2022 to 2025 GHG standards are not appropriate and should be revised (88 FR 16077). This Final Determination serves to initiate a notice to further consider appropriate standards for model years 2022 to 2025 light-duty vehicles. On August 24, 2018, the EPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the Clean Air Act to establish more stringent standards (EPA and NHTSA 2018). As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule, which increased stringency of CAFE and CO₂ emissions standards by 1.5% each year through model year 2026 (NHTSA 2020).

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS), Section 202
- Appliance and Lighting Efficiency Standards, Sections 301–325
- Building Energy Efficiency, Sections 411–441

This federal legislation (the RFS) requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2017). The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the Energy Policy Act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program (RFS2) includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green” jobs.

State

Warren–Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974, which created the CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation’s first energy conservation standards for buildings constructed and appliances sold in California.
- It removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The Energy Action Plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies. It also identified cost-effective and environmentally sound energy policies, strategies, and actions for California’s consumers and taxpayers. In 2005, the CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new Energy Action Plan. This determination was based, in part, on a finding that the state’s energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new Energy Action Plan, the CEC and CPUC prepared an “update” that examines the state’s ongoing actions in the context of global climate change.

Senate Bill 1078 (2002)

SB 1078 established the California RPS Program, and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. SB 1078 relatedly required the CEC to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy.

Senate Bills 107 (2006), X1-2 (2011), 350 (2015), and 100 (2018)

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by the end of 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20% had to come from renewables; by December 31, 2016, 25% had to come from renewables; and by December 31, 2020, 33% will come from renewables.

SB 350 (2015) requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) increased the standards set forth in SB 350. SB 100 establishes that 44% of the total electricity sold per year to retail customers in California be secured from qualifying renewable energy sources by December 31, 2024, with that number increasing to 52% by December 31, 2027, and 60% by December 31, 2030. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. SB 100 requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid, and that the achievement not be achieved through resource shuffling.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 60% RPS in 2030. Therefore, any project's reliance on non-renewable energy sources would also be reduced.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

In 2006, the State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 required California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focused on increasing energy efficiencies, using renewable resources, and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 4.6, Greenhouse Gas Emissions, of this SEIR.

California Building Standards

Part 6 of Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The 2019 Title 24 Building Energy Efficiency Standards became effective January 1, 2020, which will reduce energy used and associated GHG emissions compared to the 2016 Title 24 building energy standards. Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24 also includes Part 11, the California Green Building Standards (CALGreen). The CALGreen standards took effect in January 2011, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The 2019 CALGreen standards are applicable to the Project and require the following:

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (Section 5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (Section 5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles, as shown in Table 5.106.5.2 (Section 5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3, or meet a local construction and demolition waste management ordinance, whichever is more stringent (Section 5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phase project, such material may be stockpiled on site until the storage site is developed (Section 5.408.3).
- Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (Section 5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (Section 5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (Section 5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (Section 5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi [pounds per square inch] (Section 5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (Section 5.303.3.3.2).
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (Section 5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi (Section 5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (Section 5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (Section 5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (Section 5.303.3.4.5).

- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELo), whichever is more stringent (Section 5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 square feet, or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gallons per day (Sections 5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requires a building or landscape permit (Section 5.304.3).
- Commissioning. For new buildings 10,000 square feet and greater, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (Section 5.410.2).

Integrated Energy Policy Report

The CEC is responsible for preparing integrated energy policy reports that identify emerging trends related to energy supply, demand, conservation, public health and safety, and maintenance of a healthy economy. The CEC's 2019 Integrated Energy Policy Report discusses the state's goal to decarbonize the state's electricity system in response to SB 100, or remove carbon from other portions of the state's energy system. Strategies to increase energy efficiency in existing buildings and, more broadly, to achieve a statewide doubling of energy efficiency savings from electricity and natural gas end uses by 2030 (CEC 2020). Refer to Section 4.6, Greenhouse Gas Emissions, of this SEIR for additional information on the state's net zero emission objectives and how the state's achievement of its objectives would serve to beneficially reduce the project's GHG emissions profile and energy consumption.

Assembly Bill 1493

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phased in during the 2009 through 2016 model years. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California (CARB 2011).

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code Section 65080, SB 375 requires metropolitan planning organizations (e.g., Southern California Association of Governments) to include a Sustainable Communities Strategy in their Regional Transportation Plan. The main focus of the Sustainable Communities Strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also part of a larger effort to address other development issues, including transit and vehicle miles traveled (VMT), which influence the consumption of petroleum-based fuels.

Local

March Joint Powers Authority General Plan

The Noise/Air Quality Element of the 1999 March Joint Powers Authority (JPA) General Plan includes goals and policies that will be applied to the Project related to GHG emissions, which will also reduce energy consumption. Consistency with these goals and policies are discussed in Section 4.9, Land Use and Planning. The following goals and policies from the Noise/Air Quality Element apply to the Project (March JPA 1999):

- Goal 3:** Reduce air pollution through proper land use, transportation, and energy use planning.
- Policy 3.4:** Encourage ride share programs.
- Goal 6:** Reduce emissions associated with vehicle/engine use.
- Policy 6.1:** Reduce idling emissions by increasing traffic flow through synchronized traffic signals.
- Policy 6.2:** Work with Riverside Transit Agency (RTA) to develop a local transit system and facilitate connections of the local transit system with regional transit systems.
- Policy 6.3:** Encourage diversion of peak hour truck traffic, whenever feasible, to off-peak periods to reduce roadway congestion and associated emissions.
- Policy 6.4:** Work with Caltrans [California Department of Transportation] and traffic engineers to ensure that roadways and freeway on-ramps that are heavily utilized by trucks are designed to safely accommodate trucks.
- Policy 6.5:** Encourage trucks operating within March JPA Planning Area to maintain safety equipment and operate at safe speeds so as to reduce the potential for accidents which create congestion and related emissions.
- Policy 6.6:** Reduce vehicle emissions through improved parking design and management that provide for safe pedestrian access to and from various facilities.
- Policy 6.8:** Encourage the use of compressed natural gas, clean diesel and/or alternative fuels in engines.

- Goal 7:** Reduce emissions associated with energy consumption.
- Policy 7.1:** Support the use of energy-efficient equipment and design in the March JPA Planning Area for facilities and infrastructure.
- Policy 7.2:** Encourage incorporation of energy conservation features in development.
- Policy 7.3:** Support passive solar design in new construction.
- Policy 7.4:** Support recycling programs which reduce emissions associated with manufacturing and waste disposal.
- Policy 7.5:** Support drought-resistant vegetation in landscaping areas to reduce energy needed to pump water.

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the proposed Project's impacts on energy are based on the March JPA 2019 CEQA Guidelines. For the purposes of this energy analysis, a significant impact would occur if the Project would do either of the following (14 CCR 15000 et seq.):

- ENG-1** Result in wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
- ENG-2** Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.4.4 Impacts Analysis

ENG-1. *Would the Project result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Implementation of the Project would increase the demand for electricity and natural gas at the Project site, and petroleum consumption in the region during construction and operation.

Electricity

Construction Use. Temporary electric power for lighting and electronic equipment, such as computers, may be needed inside temporary construction trailers. However, the electricity used for such activities would be temporary and would be substantially less than that required for Project operation, and would have a negligible contribution to the Project's overall energy consumption.

Operational Use. The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, appliances, and electronics.

The electricity consumption associated with the proposed Project would be approximately 30,102,581 kilowatt-hours per year (Appendix E), not accounting for mitigation measures, such as installation of solar photovoltaic systems that would generate approximately 20,201 megawatt-hours per year (Appendix G).

The building envelope; heating, ventilation, and air conditioning (HVAC) system; lighting; and other systems, such as electric motor equipment, would be designed to maximize energy performance. The Project is subject to statewide mandatory energy requirements as outlined in CCR Title 24, Part 6. CCR Title 24, Part 11, contains voluntary energy measures that are applicable to Project under CALGreen. Prior to Project approval, March JPA would ensure that the Project would meet Title 24 requirements applicable at that time, as required by state regulations, through its plan review process. Project-consumed electricity is also subject to the cap-and-trade regulation. Furthermore, the Project would include mitigation measure **(MM)-GHG-1**, install 12 megawatts of solar photovoltaic electricity generation; **MM-GHG-2**, install Energy Star-certified light bulbs and light fixtures; **MM-GHG-3**, install duct insulation; and **MM-GHG-4**, design cool roofs, use energy-efficient HVAC equipment, and lighting fixtures (see Section 4.6). The Project's energy requirements would not significantly affect local and regional supplies or require additional capacity. The Project's energy usage during peak and base periods would also be consistent with electricity future projections for the region. For these reasons, the electricity consumption of the Project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

For comparison purposes, CalEEMod (Version 2016.3.2) was used to estimate the 2003 Approved South Campus and Project (Proposed Project + Built/Entitled Land Use) emissions from energy uses (see Appendix B for calculations). According to these estimations, the net change in electricity consumption associated with the 2003 Approved South Campus to the currently proposed Project (Proposed Project + Built/Entitled Land Use) would consume a net reduction in approximately 32,224,921 kilowatt-hours per year (Appendix E). The electricity consumption associated with the proposed Project would be less than the 2003 Approved South Campus.

Natural Gas

Construction Use. Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation, and would have a negligible contribution to the Project's overall energy consumption.

Operational Use. Natural gas consumption during operation would be required for various purposes, including building heating and cooling. The natural gas consumption associated with the proposed Project would be approximately 42,189,886 thousand British thermal units per year (Appendix E). As with electricity demand, natural gas demand calculations for the Project assumed compliance with Title 24 standards for 2019. The building envelope, HVAC system, lighting, and other systems would be designed to maximize energy performance. The Project is subject to statewide mandatory energy requirements, as outlined in CCR Title 24, Part 6. CCR Title 24, Part 11, contains voluntary energy measures that are applicable to the Project under CALGreen. Prior to Project approval, March JPA would ensure that the Project would meet Title 24 requirements applicable at that time, as required by state regulations, through its plan review process. Project-consumed natural gas is also subject to the cap-and-trade regulation. Furthermore, the Project would include **MM-GHG-4**, use energy-efficient HVAC equipment and energy-efficient water heaters. The Project's energy requirements would not significantly affect local and regional supplies or require additional capacity. The Project's energy usage during peak and base periods would also be consistent with natural gas future projections for the region. For these reasons, the natural gas consumption of the Project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

For comparison purposes, default natural gas generation rates in CalEEMod for the 2003 Approved South Campus land uses and the proposed Project land uses and climate zone were used, but the proposed Project land uses were adjusted based on compliance with 2019 Title 24 (see Appendix E for calculations). According to these estimations, the net change in natural gas consumption associated with the 2003 Approved South Campus to the proposed Project (Proposed Project + Built/Entitled Land Use) would be a net reduction in consumption by approximately 33,800,123 thousand British thermal units per year (Appendix E). The natural gas consumption associated with the proposed Project would be less than the 2003 Approved South Campus.

Petroleum

Construction Use. Petroleum would be consumed throughout construction of the Project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty equipment associated with construction activities would rely on diesel fuel. Construction workers would travel to and from the Project site throughout the duration of construction. It was assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles.

Heavy-duty equipment of various types would be used during construction. CalEEMod was used to estimate construction equipment usage; results are included in Appendix E of this SEIR. Based on that analysis, diesel-fueled construction equipment would operate for an estimated 76,648 hours, as summarized in Table 4.4-1.

Table 4.4-1. Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
<i>Village West Drive Extension</i>	
Grubbing/Land Clearing	128
Grading/Excavation	2,400
Drainage/Utilities/Subgrade	1,920
Paving	560
<i>Meridian South Campus</i>	
Site Preparation	4,200
Grading	6,400
Building Construction	54,000
Paving	5,280
Architectural Coating	1,760
Total	76,648

Source: Appendix E.

Fuel consumption from construction equipment and vehicles was estimated by converting the total CO₂ emissions from each construction phase to gallons using conversion factors for CO₂ to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton CO₂ per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO₂ per gallon (The Climate Registry 2019). The estimated diesel fuel use from construction equipment is shown in Table 4.4-2.

Table 4.4-2. Construction Equipment Diesel Demand

Phase	Pieces of Equipment ^a	Equipment CO ₂ (Metric Tons) ^a	Kilograms of CO ₂ per Gallon ^b	Gallons
Village West Drive Extension				
Grubbing/Land Clearing	2	5.19	10.21	508.76
Grading/Excavation	12	106.63	10.21	10,443.70
Drainage/Utilities/Subgrade	10	76.52	10.21	7,494.63
Paving	7	13.06	10.21	1,279.47
Meridian South Campus				
Site Preparation	7	189.43	10.21	18,552.95
Grading	8	314.16	10.21	30,769.43
Building Construction	9	1,398.18	10.21	136,942.31
Paving	6	110.15	10.21	10,788.03
Architectural Coating	1	37.45	10.21	3,667.75
Total				220,447.06

Sources:^a Appendix E.^b The Climate Registry 2019.**Note:** CO₂ = carbon dioxide

Fuel consumption from worker and vendor trips was estimated by converting the total CO₂ emissions from the construction phase to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel (The Climate Registry 2019). Worker vehicles were assumed to be gasoline fueled, and vendor vehicles were assumed to be diesel fueled. Calculations for total worker and vendor fuel consumption are provided in Table 4.4-3 and Table 4.4-4. Project calculations did not include any hauler-truck trips.

Table 4.4-3. Construction Worker Vehicle Gasoline Demand

Phase	Trips	Vehicle CO ₂ (Metric Tons) ^a	Kilograms of CO ₂ per Gallon ^b	Gallons
Village West Drive Extension				
Grubbing/Land Clearing	80	0.36	8.78	40.49
Grading/Excavation	900	4.00	8.78	455.56
Drainage/Utilities/Subgrade	720	3.20	8.78	364.45
Paving	240	1.07	8.78	121.48
Meridian South Campus				
Site Preparation	1,350	6.00	8.78	683.34
Grading	2,000	8.89	8.78	1,012.36
Building Construction	1,279,500	5,353.72	8.78	609,763.29
Paving	1,650	6.55	8.78	746.53
Architectural Coating	150,040	603.55	8.78	68,740.90
Total				681,928.39

Sources:^a Appendix E.

^b The Climate Registry 2019.

Note: CO₂ = carbon dioxide.

Table 4.4-4. Construction Vendor Truck Diesel Demand

Phase	Trips	Vehicle CO ₂ (Metric Tons) ^a	Kilograms of CO ₂ per Gallon ^b	Gallons
Village West Drive Extension				
Grubbing/Land Clearing	0	0.00	10.21	0.00
Grading/Excavation	0	0.00	10.21	0.00
Drainage/Utilities/Subgrade	0	0.00	10.21	0.00
Paving	0	0.00	10.21	0.00
Meridian South Campus				
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Building Construction	517,500	6,171.18	10.21	604,425.48
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
Total				604,425.48

Sources:

^a Appendix E.

^b The Climate Registry 2019.

Note: CO₂ = carbon dioxide.

As shown in Tables 4.4-2 through 4.4-4, the Project is estimated to consume 1,506,801 gallons of petroleum during the construction phase. By comparison, approximately 83.8 billion gallons of petroleum would be consumed in California over the course of the Project's construction phase based on the California daily petroleum consumption estimate of approximately 51 million gallons per day (CEC 2018). Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant**.

Operational Use. The majority of fuel consumption resulting from the Project's operational phase would be attributable to motor vehicles traveling to and from the Project site, and employee vehicles traveling around the Project site. Similar to construction worker and vendor trips, fuel consumption for operation was estimated by converting the total CO₂ emissions from each land use type to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. The passenger vehicles and truck fleet mix were provided in the Traffic Impact Analysis (Appendix K).

The annual mobile-source fuel consumption associated with the proposed Project would consume approximately reduction in approximately 730,276 gallons of gasoline per year and increase in approximately 2,390,861 gallons of diesel consumed per year beginning in 2024 (Appendix E), not accounting for mitigation measures, such as installation of electric vehicle charging stations. Over the lifetime of the Project, the fuel efficiency of the vehicles being used by the employees is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the number of plug-in hybrids

and zero-emissions vehicles in California (CARB 2013). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions from 2005 levels by 8% by 2020, and 18% by 2035 for light-duty passenger vehicles in the planning area for the Southern California Association of Governments. As such, operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy.

Although the Project would increase petroleum use during operation as a result of employees commuting to the site, the use would be a small fraction of the statewide use and, due to efficiency increases, would diminish over time. Also, although not quantified herein, **MM-GHG-8**, installing 20 electric vehicle charging stations; **M-GHG-9**, reserving 5% of parking spaces for preferential parking for carpool and vanpool; **MM-GHG-10**, employers providing video conferencing facilities for employees; **MM-GHG-11**, installing bicycle parking facilities; **MM-GHG-12**, providing showers, lockers and changing space for employees; **MM-GHG-13**, providing on-site food vending machines and accommodations; and **MM-GHG-14**, accommodate SmartWay trucks would reduce petroleum use during operation, as implementation of these mitigation measures would reduce the amount of fuel consumption by the Project. **MM-GHG-14** would reduce petroleum use from trucks during operation, since SmartWay trucks use less fuel than non-SmartWay trucks (see Section 4.6, Greenhouse Gas Emissions). The transportation energy supplies would be sufficient to serve the Project's peak energy consumptions, and the project would comply with existing energy standards with regards to transportation fuel consumption. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

For comparison purposes, calculations for the net change in annual mobile-source fuel consumption are provided in Table 4.4-5. Mobile sources from the net change associated with the proposed Project as compared to the 2003 Approved South Campus would result in a reduction in approximately 730,276 gallons of gasoline per year and increase in approximately 2,390,861 gallons of diesel consumed per year beginning in 2024. By comparison, California as a whole consumes approximately 18.6 billion gallons of petroleum in 2017 (EIA 2019c). Furthermore, the Project would include on-site cargo handling equipment. For this Project, it was assumed that on-site modeled operational equipment would include up to 11 200-horsepower, compressed natural gas or gasoline-powered yard tractors operating 4 hours per day, 365 days a year.

Table 4.4-5. Petroleum Consumption – Operation

Fuel	Vehicle CO ₂ (Metric Tons) ^a	Kilograms of CO ₂ per Gallon ^b	Gallons
Proposed Project Net Total			
Gasoline	-6,411.83	8.78	-730,276
Diesel	24,410.69	10.21	2,390,861
Proposed Project Net Total			1,660,585

Sources:

^a Appendix E .

^b The Climate Registry 2018.

Note: CO₂ = carbon dioxide

ENG-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

CCR Title 24 contains energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand. Specifically, CCR Title 24 addresses a number of

energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs. CCR Part 6 of Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption.

The Project would comply with CCR Title 24, Part 6 per state regulations. In accordance with CCR Title 24 Part 6, The Project would have sensor-based lighting controls for fixtures located near windows, and the lighting would be adjusted by taking advantage of available natural light.

CCR Title 24, Part 11, contains voluntary and mandatory energy measures that are applicable to the Project under CALGreen. As discussed under the previous threshold, the Project would result in a decreased demand for electricity and natural gas, and an increased demand for petroleum as compared to 2003 Approved South Campus. In accordance with CCR Title 24 Part 11, the Project would divert 65% of its construction and demolition waste from landfills; have mandatory inspections of energy systems to ensure optimal working efficiency; provide low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards; and have a 20% reduction in indoor water use. Compliance with all of these mandatory measures would decrease the consumption of electricity, natural gas, and petroleum from the Project. The Project would be consistent with the County of Riverside's Climate Action Plan (County of Riverside 2019) and would support the reduction targets established in Senate Bill 32 and the CARB 2017 Scoping Plan, as further described in Section 4.6, Greenhouse Gas Emissions.

Because the Project would comply with CCR Title 24, Part 6 and Part 11, no conflict with existing energy standards or regulations would occur. Furthermore, Project design features, compliance with state and local regulations, and mitigation measures (**MM-GHG-1** through **MM-GHG-4**) would further reduce the Project's energy impacts. **MM-GHG-8** through **MM-GHG-14** would reduce petroleum use during operation, since it would reduce the amount of fuel consumption by the Project (see Section 4.6, Greenhouse Gas Emissions). Therefore, impacts would be **less than significant**.

4.4.5 Mitigation Measures

Impacts to energy would be less than significant. Therefore, no mitigation measures are required.

4.4.6 Level of Significance After Mitigation

Since there would be no significant impacts requiring mitigation, residual impacts would be **less than significant**. However, there are various Project design features, compliance with state and local regulations, and mitigation measures (**MM-GHG-1** through **MM-GHG-4**) that would further reduce the Project's energy impacts. **MM-GHG-8** through **MM-GHG-14** would reduce petroleum use during operation, since it would reduce the amount of fuel consumption by the Project (see Section 4.6, Greenhouse Gas Emissions).

4.4.7 Cumulative Effects

Cumulative projects that could exacerbate the proposed Project's impacts include any projects that could result in wasteful, inefficient, or unnecessary use of energy (see Table 4-1 in Chapter 4, Environmental Analysis). Future projects would be subject to CEQA and would require an energy analysis, consistency with existing plans and policies for renewable energy and energy efficiency, and implementation of control measures and mitigation, if necessary to avoid wasteful, inefficient or unnecessary consumption of energy resources. The Project would result in a net

reduction in electricity and natural gas consumption, and the Project would be designed to maximize energy performance. Over the lifetime of the Project, the fuel efficiency of the vehicles used by the employees and commercial vehicles are expected to increase. CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the number of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions from 2005 levels by 8% by 2020, and 18% by 2035 for light-duty passenger vehicles in the planning area for the Southern California Association of Governments. As such, operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. In summary, although the Project would increase petroleum use during operation as a result of employees commuting to the site, the use would be a small fraction of the statewide use and, due to efficiency increases, would diminish over time. Furthermore, the Project would minimize construction and operational activities through energy reduction strategies pursuant to the Project's **MM-GHG-1** through **MM-GHG-4**, and **MM-GHG-8** through **MM-GHG-14** (see Section 4.6, Greenhouse Gas Emissions). Therefore, the Project's contribution to cumulative impacts would not be cumulatively considerable and cumulative impacts to energy use would be **less than significant**.

4.4.8 References Cited

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4.5 Geology and Soils

This section describes the existing geology and soils conditions of the South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to the implementation of the proposed Project. The following analysis is based in part upon the following documents:

- Geotechnical Exploration Update, Proposed Meridian South Campus Phase I, Tract No. 30857-7, County of Riverside, California, prepared by Leighton Consulting Inc. in February 2016, included as Appendix F1 of this Subsequent Environmental Impact Report (SEIR).
- Geotechnical Exploration, Proposed Meridian Park South Campus – Phase II, County of Riverside, California, prepared by Leighton Consulting in September 2019, included as Appendix F2 of this SEIR.
- Geotechnical Exploration, Proposed Village West Drive Extension, County of Riverside, California, prepared by Leighton Consulting in February 2020, included as Appendix F3 of this SEIR.
- County of Riverside General Plan Safety Element (County of Riverside 2019).

Other sources consulted are listed in Section 4.5.8, References Cited.

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project and will be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As discussed in detail in Chapter 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.5.1 Existing Conditions

South Campus Specific Plan

Site Topography

The topography of the South Campus Specific Plan area consists of low rolling hills, with undulating topography. The western portion of the Project site consists of two hills with gentle slope gradients radiating to the north, west, south, and east. The eastern portion of the Project site consists of an overall gentle to moderate slope gradient to

the east. Project site elevations range from approximately 1,760 feet above mean sea level (AMSL) in the northwest portion of the site, to approximately 1,613 feet AMSL in the northeast area (Figure 4.5-1, Existing Topography) (Appendices F1 and F2). An east-trending incised drainage is located in the northern portion of the Project site and a northeast-trending drainage is located in the southeast portion of the Project site. Locally steep slopes are present adjacent to the northern creek. The topography has been altered by cut-and-fill grading for existing large warehouses and associated roadways, resulting in level building pads surrounded by cut and fill slopes.

Earth Materials

Based on South Campus Specific Plan area geotechnical investigations conducted by Leighton Consulting in 2016 and 2019, on-site materials include the following units: undocumented artificial fill, topsoil/colluvium, alluvium, older alluvium, and overlying granitic Val Verde Tonalite (Appendices F1 and F2). Descriptions of these geologic units include those described below.

Undocumented Artificial Fill

Undocumented artificial fill was encountered within the eastern and southern portions of the South Campus Specific Plan area. Additional undocumented fill may be present at or below the surface that was not identified during the geotechnical investigations. The observed artificial fill generally consists of silty sand with varying amounts of gravel and traces of clay.

Topsoil/Colluvium

Topsoil and colluvial materials mantle the majority of the South Campus Specific Plan area. The topsoil generally consists of a thin surface layer (up to 3 feet below ground surface [bgs]). Colluvium is generally encountered on slopes mantling the bedrock, to a maximum depth of approximately 6 feet bgs in some areas. Colluvial materials are generally porous, have a low expansion potential, and generally consist of loose, light to dark brown silty sand.

Younger Alluvium

Younger alluvial soils are generally present within the upper 3 to 10 feet within the drainage swales and low lying area in the northwest and eastern portion of the South Campus Specific Plan area. These soils generally consist of silty to clayey sand with low to very low expansion potential.

Older Alluvium

Consistent with mapping by the U.S. Geological Survey (USGS) (USGS 2001), the geotechnical investigations encountered older alluvial soils within the upper 3.0 to 12.5 feet at various locations across the South Campus Specific Plan area, including the northeast region of the South Campus Specific Plan area. These soils consist of individual layers that vary in color, moisture content, density, and composition. Unit layers are typically composed of moist, medium dense to dense silty sand, lesser silty/clayey sand with scattered pebbles and minor porosity. Isolated pockets of thicker older alluvial soils may also be present. This older alluvium appears to be generally dense and generally possesses a low to very low expansion potential.

Val Verde Tonalite

Val Verde Tonalite (Cretaceous granite) is present at depths ranging from 8.0 to 10.5 feet bgs across the majority of the South Campus Specific Plan area. This bedrock material varies in integrity from completely disintegrated

rock, which has become a dense soil-like deposit, to moderately weathered rock. Where encountered, the bedrock is generally massive and is expected to range from readily rippable (easily excavated) to non-rippable (cannot be excavated), depending on the degree of weathering. Excavation of less weathered granitic rock is anticipated to generate sand, gravel, cobble, and possibly oversize boulders. The latter requires special placement methods of infill during grading. However, the excavation of the weathered bedrock is anticipated to produce fine to coarse sand, with silt and gravel size rock fragments, which is generally suitable for re-use as compacted fill.

Liquefaction/Lateral Spreading

Liquefaction occurs primarily in saturated, loose, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the surface. Shaking causes the soils to lose strength and behave like a liquid. Excess water pressure is vented upward through fissures and soil cracks, and can also result in a water-soil slurry flowing onto the ground surface. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping (County of Riverside 2019).

Lateral spreading is the lateral movement of gently to steeply sloping saturated soil deposits that are caused by earthquake-induced liquefaction. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases.

The California Geological Survey (CGS) has not evaluated the liquefaction potential for the Riverside East Quadrangle, in which the South Campus Specific Plan is located. However, according to the County of Riverside General Plan Safety Element, Figure S-3, Generalized Liquefaction, the northeast corner of the South Campus Specific Plan area is located in an area with a high susceptibility of liquefaction (County of Riverside 2019).

While the site-specific geotechnical evaluations for the South Campus Specific Plan did not encounter groundwater to the maximum depth explored of approximately 25 feet, a previous geotechnical investigation encountered groundwater at a depth of 11.6 to 25.0 feet in the northeastern portion of the Project area. However, due to the general lack of shallow groundwater and relatively dense nature of the underlying materials, both liquefaction and lateral spreading are not considered potential geologic hazards (Appendices F1 and F2).

Subsidence

Subsidence is the permanent collapse of the pore space within a soil or rock and downward settling of the earth's surface relative to its surrounding area. Subsidence can result from the extraction of water or oil, the addition of water to the land surface—a condition called “hydrocompaction,” or peat loss. The compaction of subsurface sediment caused by the withdrawal or addition of fluids can cause subsidence. Land subsidence can disrupt surface drainage; reduce aquifer storage; cause earth fissures; damage buildings and structures; and damage wells, roads, and utility infrastructure. In Riverside County, subsidence and fissuring have been caused by falling groundwater tables and by hydrocollapse when groundwater tables rise. However, as indicated by the County of Riverside General Plan Safety Element, Figure S-7, Documented Subsidence Areas (County of Riverside 2019), there have been no recorded instances of subsidence within the Project site. In addition, according to the USGS Survey Areas of Land subsidence in California map, there have been no recorded instances of subsidence in the Project site associated with groundwater pumping, peat loss, or oil extraction (USGS 2020).

Collapsible Soils

Collapsible soils typically occur in recently deposited Holocene soils that were deposited in an arid or semi-arid environment. Soils prone to collapse are commonly associated with human-deposited fill, wind-laid sands, silts, alluvial fan sediments, and mudflow sediments deposited during flash floods. These soils typically contain minute pores and voids. The soil particles may be partially supported by clay or silt, or chemically cemented with carbonates. When saturated, collapsible soils undergo a rearrangement of their grains, and the water removes the cohesive (or cementing) material, resulting in a rapid substantial settlement. An increase in surface water infiltration, such as from irrigation, or a rise in the groundwater table, combined with the weight of a building or structure, can initiate settlement and cause foundations and walls to crack. In the County of Riverside, collapsible soils occur predominantly at the base of the mountains, where loose, Holocene-age alluvial fan and wash sediments have been deposited during rapid runoff events. In addition, some windblown sands may be vulnerable to collapse and hydroconsolidation. Typically, differential settlement of structures occurs when lawns or plantings are heavily irrigated in proximity to the structure's foundation (County of Riverside 2019).

Although the South Campus Specific Plan area is not located at the base of a mountain, alluvial sediments are present on site. Laboratory testing indicates that these on-site soils (alluvium and older alluvium) are expected to possess a slight collapse potential (Appendices F1 and F2).

Landslide

Slope failures include many phenomena that involve the downslope displacement and movement of material, triggered either by gravity or seismic forces. Exposed bedrock slopes may experience rockfalls, rockslides, rock avalanches, and deep-seated rotational slides, and soil slopes may experience soil slumps and rapid debris flows. Slope stability can depend on a number of complex variables, including the geology, structure, and amount of groundwater, as well as external processes such as climate, topography, slope geometry, and human activity. The factors that contribute to slope movements include those that decrease the resistance in the slope materials and those that increase the stresses on the slope. Slope failure can occur on slopes of 15% or less, but the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges.

The CGS has not evaluated the seismically induced landslide potential for the Riverside East Quadrangle in which the South Campus Specific Plan area is located. In addition, as indicated by the County of Riverside Safety Element, Figure S-4, Earthquake-Induced Slope Instability Map (County of Riverside 2019), the County of Riverside has not evaluated the landslide potential for the South Campus Specific Plan area. However, the South Campus Specific Plan geotechnical studies determined that there was no evidence of on-site landslides, debris flows, or thick surficial deposits typically associated with landslides (Appendices F1 and F2). As such, the potential for on-site landslides is considered low.

Village West Drive Extension

Site Topography

The Village West Drive Extension extends from Lemay Drive to Nandina Avenue, approximately 0.8 miles to the south. Similar to the South Campus Specific Plan area, the topography of the Village West Drive Extension consists of low rolling hills with undulating topography. The Village West Drive Extension consists of an overall gentle to moderate slope gradient to the northeast, with elevations ranging from approximately 1,675 feet AMSL in the northern portion of the site to approximately 1,725 feet AMSL in the southern portion (Figure 4.5-1) (Appendix F3).

Earth Materials

Based on a geotechnical investigation of the Village West Drive Extension conducted by Leighton Consulting in 2020, materials on site include the following units: topsoil/colluvium, alluvium deposits, and granitic bedrock/Val Verde Tonalite (Appendix F3). Descriptions of these geologic units include those listed below.

Topsoil/Colluvium

A thin veneer (i.e., less than 1 foot) of topsoil/colluvial deposits, generally consisting of loose silty sand with gravel, was encountered in most test pits.

Alluvial Deposits

Alluvial deposits were encountered in most test pits, to a maximum depth of 6 feet bgs. The alluvium generally consisted of loose to medium dense, red-brown to dark brown silty sand to clayey sand, with interbedded poorly to well-graded sand and sandy clay layers. These soil deposits are expected to have a very low soil expansion potential.

Granitic Bedrock/Val Verde Tonalite

Granitic bedrock was encountered as shallow as 0.5 feet bgs and as deep as 6 feet bgs. The granitic bedrock is highly weathered/completely weathered in the upper 2 to 3 feet. Some bedrock boulders/outcropping are exposed near an existing water tank. The bedrock is expected to range from readily rippable to locally nonrippable depending on the degree of weathering and size of boulders. This weathered bedrock is likely to produce fine to coarse sand with gravel size rock fragments and is expected to be generally suitable for re-use as compacted fill. However, it should be anticipated that deeper excavations of the alignment may encounter undulating/less weathered bedrock surfaces that may be very difficult to excavate and generate boulders or core stones (greater than 12 inches).

Liquefaction/Lateral Spreading

The CGS has not evaluated the liquefaction potential for the Riverside East Quadrangle, in which the Village West Drive Extension is located. However, according to the County of Riverside General Plan Safety Element, Figure S-3, Generalized Liquefaction, the Village West Drive Extension is not located with a liquefaction zone (County of Riverside 2019).

Subsidence

According to the County of Riverside General Plan Safety Element, Figure S-7, Documented Subsidence Areas (County of Riverside 2019), there have been no recorded instances of subsidence within the Project site. In addition, according to the USGS Survey Areas of Land Subsidence in California map, there have been no recorded instances of subsidence in the region associated with groundwater pumping, peat loss, or oil extraction (USGS 2020).

Soil Collapse

As previously discussed, collapsible soils within Riverside County are typically found at the bases of mountains and consist of loose alluvial soils. As the Village West Extension site is underlain by fill and alluvial soils composed of medium dense to sands and silty sands, on-site soils have a slight collapse potential.

Landslides

The CGS has not evaluated the seismically induced landslide potential for the Riverside East Quadrangle, in which the Project site is located. In addition, as indicated by the County of Riverside Safety Element, Figure S-4, Earthquake-Induced Slope Instability Map (County of Riverside 2019), the County of Riverside has not evaluated the landslide potential for the Project site. However, the topography of the Village West Drive Extension consists of low rolling hills with undulating topography and is not located near any steep or unstable hillslopes. As a result, the potential for on-site landslides is low.

4.5.2 Relevant Plans, Policies, and Ordinances

Federal

No federal regulations are applicable to geology and soils.

State

California Building Standards Code

The state regulations protecting structures from geo-seismic hazards are contained in the California Building Code (CBC) (24 CCR Part 2), which is updated on a triennial basis. These regulations apply to public and private buildings in the state. Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained additions, amendments, and repeals specific to building conditions and structural requirements of the State of California. The 2019 CBC, effective January 1, 2020, is based on the 2018 International Building Code and enhances the sections dealing with existing structures. Seismic-resistant construction design is required to meet more stringent technical standards than those set by previous versions of the CBC.

Chapters 16 and 16A of the 2019 CBC include structural design requirements governing seismically resistant construction, including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design. Chapters 18 and 18A include the requirements for foundation and soil investigations (Sections 1803 and 1803A); excavation, grading, and fill (Sections 1804 and 1804A); damp-proofing and water-proofing (Sections 1805 and 1805A); allowable load-bearing values of soils (Sections 1806 and 1806A); the design of foundation walls, retaining walls, embedded posts and poles (Sections 1807 and 1807A), and foundations (Sections 1808 and 1808A); and design of shallow foundations (Sections 1809 and 1809A) and deep foundations (Sections 1810 and 1810A). Chapter 33 of the 2016 CBC includes requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304).

Construction activities are subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in Chapter 33 of the CBC. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The Specific Plan would be required to employ these safety measures during excavation and trenching.

California Health and Safety Code

Sections 17922 and 17951–17958.7 of the California Health and Safety Code require cities and counties to adopt and enforce the current edition of the CBC, including a grading section. Sections of Volume II of the CBC specifically apply to select geologic hazards.

Local**March Joint Powers Authority General Plan****Resource Management Element**

The March Joint Powers Authority (JPA) General Plan Resource Management Element outlines conservation programs associated with resource utilization, preservation techniques, and the regulation of activities that affect or preclude the utilization of resources, including open space. Within the March JPA Planning Area, open space includes rock outcropping hillside areas, which limit development. The Resource Management Element complies with regulations in Section 65302(d) and 65302(e) of the California Government Code and the State Mining and Reclamation Act. According to these requirements, this element must contain goals and policies that further the protection and maintenance of the state’s natural resources, including water, soils, and minerals, and prevent wasteful exploitation, degradation, and destruction of those resources. The Resource Management Element identifies significant resources within the planning area and establishes a plan for conservation, management, or preservation of those resources.

The following goal and policies address the geologic resources within the planning area that can become strained as development creates a greater demand on significant natural features (March JPA 1999):

- Goal 3:** Conserve and protect significant land forms, important watershed areas, mineral resources, and soil conditions.
- Policy 3.1:** Conserve hillsides and rock outcroppings in the planning area through the use of master-planned developments which create “campus-like” setting, and encourage the creative siting of building areas as a means of retaining natural areas and open space.
- Policy 3.2:** Encourage the use of contour grading methods when grading of hillsides.
- Policy 3.3:** Conserve mineral resources, if any are identified by the State Mining and Geology Board, by limiting or phasing development in the areas of the most desirable mineral extraction sites.
- Policy 3.4:** Reclaimed land impacted by mining shall be in accordance with the State Surface Mining and Reclamation Act.
- Policy 3.5:** Require and practice proper soil management techniques to reduce erosion, sedimentation and other soil-related problems.
- Policy 3.6:** Control erosion during and following construction through proper grading techniques, vegetation replanting, and the installation of proper drainage control improvements.

Policy 3.7: Require erosion control measures such as binders, revegetation, slope covers, and other practices which reduce soil erosion due to wind and water.

Policy 3.8: Protect important mineral resources, prominent and geological features by maintaining their locations in open space or through a protected status.

Safety/Risk Management Element

The Safety/Risk Management Element of the March JPA General Plan presents a planning area-wide approach for preventing the creation of hazards in the planning area and for minimizing the potential for injury, damage, and disruption brought by natural and human-made catastrophes and emergencies. The element maps the location of known hazard areas and establishes safety standards and programs to protect life and property. Public safety standards include guidelines for activities involving risk to the public and measures to follow when development occurs in areas susceptible to natural or human-made hazards.

Seismic and Geologic Hazards

The following goal and policies address the prevention of seismic and geologic hazards within the planning area:

Goal 1: Minimize injury and loss of life, property damage, and other impacts caused by seismic shaking, fault rupture, ground failure, and landslides.

Policy 1.1 Require geological and geotechnical investigations in areas of potential seismic or geologic hazards as part of the environmental and development review process. Require mitigation of seismic or geologic hazards to the satisfaction of the responsible agencies.

Policy 1.2 Ensure all grading plans comply with the Uniform Building Code (UBC) and California Building Code including, if necessary, requiring preliminary investigations of development sites by a State-registered geotechnical engineers and certified engineering geologists.

Policy 1.3 If necessary, require liquefaction assessment in studies in any area identified as having moderate to high liquefaction susceptibility.

Policy 1.4 Support earthquake strengthening and provisions for alternative or back-up essential services, such as water, sewer, electricity, and natural gas pipelines and connections, especially in areas of high seismic or geologic hazards.

Hillside Management

The following goal and policies address the preservation of natural topography:

Goal 2: Minimize grading and otherwise changing the natural topography, while protecting the public safety and property from geologic hazards.

Policy 2.1 Discourage any grading beyond that which is necessary to create adequate building pad area.

- Policy 2.2** Discourage excessive grading of slopes greater than 3:1 (three horizontal to one vertical), but where allowed, encourage varied slope ratios on design slopes to reduce the visual impact of grading.

4.5.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts related to geology and soils are based on the following 2019 March JPA California Environmental Quality Act (CEQA) Guidelines. A project would result in significant impacts if it would:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
- b) Result in substantial soil erosion or the loss of topsoil.
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Through the analysis in the Initial Study (see Appendix A), it was determined that, with implementation of mitigation measures K-1 through K-5 from the 2003 Focused EIR, the proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death related to fault surface rupturing, strong ground shaking, seismic-related ground shaking, including liquefaction and landslides. In addition, the Initial Study concluded that the Project would not result in substantial soil erosion or loss of topsoil; is not located on an expansive soil; would not use septic tanks or alternative wastewater disposal systems; and would not destroy a unique paleontological resource, with implementation of mitigation measure L-1 from the 2003 Focused EIR. Accordingly, these issues are not further analyzed in this SEIR. Based on the remaining thresholds, a significant impact related to the proposed Project would occur if the Project would:

- GEO-1:** Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

4.5.4 Impacts Analysis

GEO-1. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

South Campus Specific Plan

Landslides/Slope Instability

As previously discussed, neither CGS nor the March JPA nor the County of Riverside has evaluated the seismically induced landslide potential within or near the South Campus Specific Plan area. However, the site-specific South Campus Specific Plan geotechnical investigations revealed no indications of slope instability and no evidence of on-site landslides, debris flows, or rock falls (Appendices F1 and F2). As a result, the South Campus Specific Plan would not be located in an area susceptible to landslides. However, Project grading would result in the creation of cuts up to 15 feet and fill slopes up to 31 feet to create finish site grades (Appendices F1 and F2). Improper construction of finish cuts and fill slopes could potentially result in slope failure. In addition, the over steepening of temporary slopes during grading and construction could result in slope failure/collapse and improper grading could result in soil collapse during project operations. The environmental analysis in the 2003 Focused EIR included a brief analysis related to this issue and identified mitigation measures K-1 through K-5 (see Section 4.5.5, Mitigation Measures, for a listing of these measures) to reduce impacts to less than significant. Based on the analysis done specifically for the development planned within the South Campus Specific Plan area, the Project would not result in any changes to or differences from the previously identified impacts associated with the 2003 Approved South Campus. Impacts would be **less than significant with mitigation**, as the 2003 Focused EIR mitigation measures K-1 through K-5 as well as the new **mitigation measure MM-GEO-1** would require that recommendations of a geotechnical report be implemented during design and construction, thus minimizing the potential for landslides/slope instability.

Liquefaction/Lateral Spreading

As previously discussed, the CGS has not evaluated the liquefaction potential for the Riverside East Quadrangle, in which the South Campus Specific Plan area is located. According to the County of Riverside General Plan Safety Element, Figure S-3, Generalized Liquefaction, the northeast corner of the Project site is located in an area with a high susceptibility of liquefaction. However, the site-specific geotechnical investigations (Appendices F1 and F2) determined that due to the lack of shallow groundwater and the relatively dense nature of the underlying materials, the potential for liquefaction and lateral spreading to occur within the South Campus Specific Plan area is considered remote. Regardless, as with all development within Riverside County, the proposed Project would be required to comply with the CBC and County of Riverside Building Code, which includes requirements to ensure that new development would not cause or exacerbate geological and soil hazards, including liquefaction and lateral spreading. Furthermore, the development of the proposed Project would not directly or indirectly cause or exacerbate adverse effects involving liquefaction and lateral spreading. The environmental analysis in the 2003 Focused EIR included a brief analysis related to this issue and identified mitigation measures K-1 through K-5 (see Section 4.5.5 for a listing of these measures) to reduce impacts to less than significant. Based on the analysis done specifically for the development planned within the South Campus Specific Plan area, the Project would not result in any changes to or differences from the previously identified impacts associated

with the 2003 Approved South Campus. As a result, potential impacts associated with liquefaction and lateral spreading would be **less than significant**, and no additional mitigation is required.

Subsidence

As previously discussed, according to the USGS Areas of Land Subsidence in California Map, as well as the County of Riverside General Plan Figure S-7, Documented Subsidence Areas, there have been no recorded instances of subsidence in the South Campus Specific Plan area associated with groundwater pumping, peat loss, or oil extraction. The environmental analysis in the 2003 Focused EIR includes a brief analysis related to this issue and identified mitigation measures K-1 through K-5 (see Section 4.5.5 for a listing of these measures) to reduce impacts to less than significant. Based on the analysis done specifically for the development planned within the South Campus Specific Plan area, the Project would not result in any changes to or differences from the previously identified impacts associated with the 2003 Approved South Campus and potential impacts associated with subsidence would be **less than significant**. No new mitigation is required.

Collapsible Soils

The Project's near-surface soils consist of undocumented artificial fill, topsoil/colluvium, alluvium, and older alluvium, generally composed of medium dense to dense silty to clayey sand. The geotechnical investigations performed within the South Campus Specific Plan area concluded that both soil and geologic conditions were suitable for Project development, with the implementation of site-specific recommendations set forth in the site-specific geotechnical reports (Appendices F1 and F2). These recommendations include the over-excavation of compressible soils, compaction of all fill materials, and structural specifications designed to withstand 1 inch of total static settlement and 0.5 inches of static differential settlement, within a 40-foot horizontal distance. In addition, development within the South Campus Specific Plan would comply with CBC requirements, which include an additional standard, design-level geotechnical investigation and building foundation requirements appropriate to site conditions. The environmental analysis in the 2003 Focused EIR includes a brief analysis related to this issue and identified mitigation measures K-1 through K-5 (see Section 4.5.5 for a listing of these measures) to reduce impacts to less than significant. Based on the analysis done specifically for the development planned within the South Campus Specific Plan area, the development of the proposed Project would not directly or indirectly cause or exacerbate adverse effects involving collapsible soils. Therefore, potential impacts associated with collapsible soils would be **less than significant**, and no new mitigation is required.

Village West Drive Extension

Landslides/Slope Instability

Neither CGS nor the March JPA or the County of Riverside has evaluated the seismically induced landslide potential within or near the Village West Drive Extension. In addition, the site-specific geotechnical evaluation of the Village West Drive Extension (Appendix F3) did not evaluate landslide potential within the Project area. However, the Village West Drive Extension is composed of low rolling hills with undulating topography and is not located near any steep or unstable slopes. In addition, the Village West Drive Extension would only involve improvements to an existing road, and no substantial cut or fill slopes would be created. Therefore, the proposed Project would not directly or indirectly cause potential adverse effects involving landslides and **no impacts** would occur.

Liquefaction/Lateral Spreading

According to the County of Riverside General Plan Safety Element, Figure S-3, Generalized Liquefaction, the Village West Drive Extension is not located within an area susceptible to liquefaction. Moreover, the Village West Drive Extension would be built in accordance with the recommendations of a Project-specific geotechnical report (Appendix F3). These recommendations include over-excavation of incompetent materials, compaction of soils, and pavement design specifications designed to resist changes in loads and pressure. Furthermore, the development of the proposed Project would not directly or indirectly cause or exacerbate adverse effects involving liquefaction and lateral spreading. As a result, potential impacts associated with liquefaction/lateral spreading would be **less than significant**, and no mitigation is required.

Subsidence

According to the USGS Areas of Land Subsidence in California Map, as well as the County of Riverside General Plan Figure S-7, Documented Subsidence Areas, there have been no recorded instances of subsidence within the Village West Drive Extension area associated with groundwater pumping, peat loss, or oil extraction. Therefore, potential impacts associated with subsidence would be **less than significant**, and no mitigation is required.

Collapsible Soils The near-surface soils underlying the Village West Drive Extension consist of topsoil/colluvium, alluvium, and granitic bedrock/Val Verde tonalite. Artificial fill was not encountered during the geotechnical investigation but is expected to be locally present on site. The topsoil/colluvium and alluvium are generally composed of medium dense to dense silty to clayey sand. The geotechnical analysis concluded that both soil and geologic conditions were suitable for Project development, with implementation of Project-specific recommendations, including the removal of all existing paved areas, over-excavation of compressible soils, compaction of fill materials, and pavement specifications based on soil testings (Appendix F3). Furthermore, construction of Village West Drive Extension would not directly or indirectly cause or exacerbate adverse effects involving collapsible soils. Therefore, impacts associated with collapsible soils would be **less than significant**, and no mitigation is required.

4.5.5 Mitigation Measures

Section 15126.4 of the State CEQA Guidelines requires EIRs to describe feasible measures that can minimize associated adverse impacts.

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce geology and soils impacts to less than significant and will be included in the MMRP for the Project:

- K-1** All grading should be performed in accordance with the grading guidelines outlined in the March JPA Development Code.
- K-2** All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the Preliminary Geotechnical Investigation: March Business Park Phase 1-3 prepared by Inland Foundation Engineering, Inc., dated July 10, 2002. This report contains specific recommendations for mitigating geotechnical conditions related to soils earthwork, slope stability, and ground and surface waters. All recommendations contained in the report shall be incorporated into all final and engineering and grading plans.

- K-3** All future development shall use proper erosion control measures during and following construction.
- K-4** Revegetate graded area with native plants compatible to the area to prevent erosion.
- K-5** All future development of the project site shall adhere to the Uniform Building Code and State building requirements in effect at the time specific development is proposed.

The following new mitigation measure (i.e., not included in the 2003 Approved South Campus) would apply to all areas of proposed grading and construction associated with the South Campus Specific Plan:

- MM-GEO-1** Prior to the issuance of grading permits, the Project applicant shall submit evidence to the satisfaction of the March Joint Powers Authority (JPA) that all future grading and construction on the Project site shall comply with the geotechnical recommendations contained in the Geotechnical Exploration Update; Proposed Meridian South Campus Phase 1, Tract No. 30857-7, Riverside, California, dated February 11, 2016 (included as Appendix F1 of this Subsequent Environmental Impact Report [SEIR]); Geotechnical Exploration, Proposed Meridian Park South Campus-Phase II, County of Riverside, California, dated September 16, 2019 (included as Appendix F2 of this SEIR); and design-level geotechnical reports. Proposed tentative tract map (i.e., pertaining to grading) and construction approval letters from the March JPA Planning Director constitute evidence that all future grading and construction on the Project site would comply with the applicable geotechnical recommendations.

4.5.6 Level of Significance After Mitigation

Potentially significant soil and slope stability impacts within the South Campus Specific Plan area would be reduced to **less than significant** with implementation of mitigation measures K1 through K5 from the 2003 Focused EIR and **MM-GEO-1**. All other geology and soils impacts within the South Campus Specific Plan area, as well as impacts associated with Village West Drive, would be less than significant, and no additional mitigation is required.

4.5.7 Cumulative Effects

Potential cumulative impacts on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions. The majority of impacts from geologic hazards, such as liquefaction, landslides, and unstable soils, are site-specific and are therefore generally mitigated on a project-by-project basis. Each cumulative project would be required to adhere to required building engineering design per the most recent version of the CBC to ensure the safety of building occupants and avoid a cumulative geologic hazard. Additionally, as needed, projects would incorporate individual mitigation or geotechnical requirements for site-specific geologic hazards present on each individual cumulative project site. Therefore, a potential cumulative impact related to site-specific geologic hazards such as subsidence, and soil collapse would not occur. Therefore, the proposed Project, in combination with other cumulative projects, **would not contribute to a significant cumulative impact** associated with geology and soils.

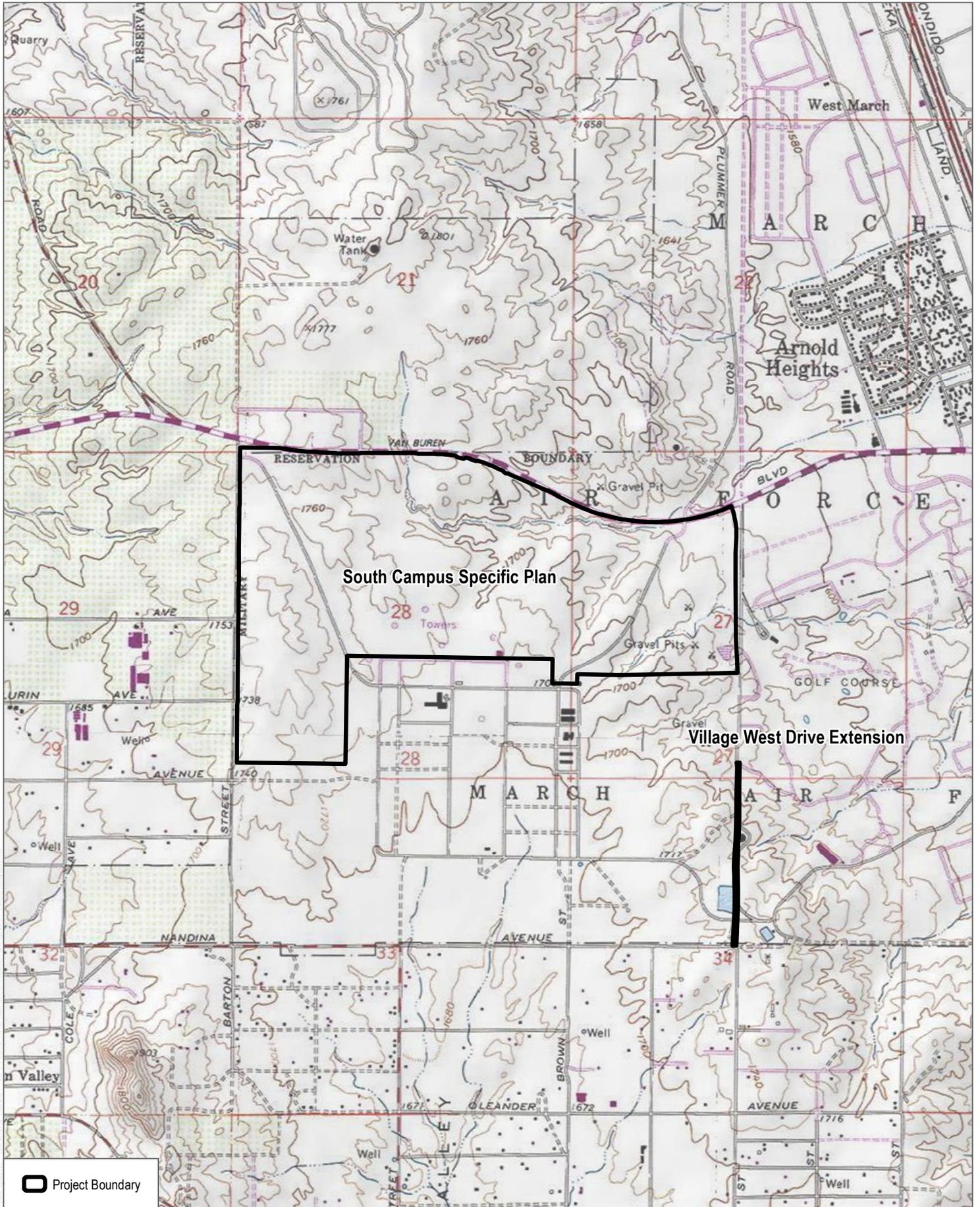
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SOURCE: USGS 7.5-Minute Series Riverside East and Steele Peak Quadrangles

FIGURE 4.5-1

Existing Topography

JPA Specific Plan

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4.6 Greenhouse Gas Emissions

This section describes the existing greenhouse gas (GHG) conditions of the project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Meridian South Campus Specific Plan and Village West Drive Extension Project (Project). This analysis is based on the emission calculations and the California Emissions Estimator Model (CalEEMod) outputs presented in the Greenhouse Gas Analysis (Appendix G), incorporated by reference.

This section evaluates the net change in potential impacts associated with Phase III of the 2003 Focused Environmental Impact Report (EIR) (referred to herein as the 2003 Approved South Campus) compared to the currently proposed Project. As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area, as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

At the time the 2003 Focused EIR was certified, there was no legislation or regulatory guidance with respect to California Environmental Quality Act (CEQA) analysis of GHG emissions and climate change. Thus, the 2003 Approved South Campus impacts with respect to GHG emissions were not evaluated in the 2003 Focused EIR because there was no regulatory guidance regarding climate change impacts. This Subsequent EIR (SEIR) provides GHG emissions for both the proposed Project and the 2003 Approved South Campus conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project and will be incorporated into the Mitigation Monitoring and Reporting Program (MMPR) for the Project. For issues not evaluated in the 2003 Focused EIR, this section analyzes the proposed Project against existing conditions.

Built/Entitled Land Uses

The following uses that are built or entitled, but not yet occupied and operational are included as part of the proposed Project scenarios:

- Amazon (Building A) – 1,000,000 square feet
- Parcel Delivery (Building B) – 1,000,000 square feet
- Parking Lot – 61 acres
- Building C (Warehousing) – 500,000 square feet
- Commercial (Parcel 72) – 14,267 square feet¹
- Electrical Substation – 0.9 acre

¹ At the time the Greenhouse Gas Report was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 square feet. However, the actual square footage for Parcel 72 is 14,267 square feet. For the purposes of the Greenhouse Gas Report, the 15,485 square feet of commercial use results in a higher trip generation and higher GHG emissions (therefore more conservative) as opposed to evaluating the 14,267 square feet of commercial use.

Figure 3-3 shows the Project site plan with the proposed uses. At the time this SEIR was prepared, the tenants of the Project were unknown. This SEIR is intended to evaluate impacts associated with the expected typical 24-hour, 7 days per week operational activities at the Project site.

4.6.1 Existing Conditions

Global Climate Change

Global climate change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs from human activity and industrialization over the past 200 years (Appendix G).

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages (Appendix G).

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activities. Without the natural GHG effect, the earth's average temperature would be approximately 61°F cooler than it is currently. The accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature (Appendix G).

Effects of Climate Change in California

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat (Appendix G).

Water Resources

A vast network of artificial reservoirs and aqueducts captures and transports water throughout the state from Northern California rivers and the Colorado River. The current distribution system relies on the Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages (Appendix G).

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70% to 90%. Under the lower warming range scenario, snowpack losses could be only half as much as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends, in part, on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. Winter tourism could be adversely affected, under the lower warming range, the ski season at lower elevations could be reduced by as much as 1 month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other winter activities (Appendix G).

The state's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major fresh water supply (Appendix G).

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less-reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests, and interferes with plant growth (Appendix G).

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts (Appendix G).

In addition, continued GCC could shift the ranges of existing invasive plants and weeds, and alter competition patterns with native plants. Range expansion could occur in many species, while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates (Appendix G).

Forests and Landscapes

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in Northern California could increase by up to 90% due to decreased precipitation (Appendix G).

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the state’s forests has the potential to decrease as a result of GCC (Appendix G).

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state’s coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12 to 14 inches (Appendix G).

GHGs have varying global warming potential (GWP) values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time, and represents the potential of a gas to trap heat in the atmosphere. CO₂ is used as the reference gas for GWP, and thus has a GWP of 1. Carbon dioxide equivalent (CO₂e) is a term used for describing the difference GHGs in a common unit. CO₂e signifies the amount of CO₂ that would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.6-1. As shown in the table, GWP from the Second Assessment Report of the Intergovernmental Panel on Climate Change ranges from 1 for CO₂ to 23,900 for SF₆ (IPCC 2007), and GWP from the Intergovernmental Panel on Climate Change’s Fifth Assessment Report ranges from 1 for CO₂ to 23,500 for SF₆ (IPCC 2016).

Table 4.6-1. Global Warming Potential and Atmospheric Lifetime of Select Greenhouse Gases

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-Year Time Horizon)	
		Second Assessment Report	Fifth Assessment Report
CO ₂	See*	1	1
CH ₄	12.4	21	28
N ₂ O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF ₆	3,200	23,900	23,500

Sources: IPCC 2007; Table 2.14; IPCC 2016

Note:

* As per Appendix 8.A. of IPCC 2016, no single lifetime can be given.

Greenhouse Gas Emissions Inventories

Global

Worldwide anthropogenic GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. Based on the latest available data, the sum of these emissions totaled approximately 29,216,501 gigagram of CO₂e² as summarized on Table 4.6-2 (United Nations 2018a, 2018b).

United States

As noted in Table 4.6-2, the United States, as a single country, was the No. 2 producer of GHG emissions in 2017.

Table 4.6-2. Top Greenhouse Gas Producing Countries and the European Union

Emitting Countries	Greenhouse Gas Emissions (Gg CO ₂ e)
China	11,911,710
United States	6,456,718
European Union (28 member countries)	4,323,163
India	3,079,810
Russian Federation	2,155,470
Japan	1,289,630
Total	29,216,501

Sources: United Nations 2018a; consulted the CAIT Climate Data Explorer (<https://www.climatewatchdata.org>) to reference the Non-Annex I countries of China and India.

Notes: Gg = gigagram; CO₂e = carbon dioxide equivalent.

State of California

California has significantly slowed its rate of growth of GHG emissions due to implementation of energy efficiency programs and the adoption of strict emissions controls, but it is still a substantial contributor to the emissions inventory total for the United States (World Resources Institute 2019). The California Air Resource Board (CARB) compiles GHG inventories for California. Based on the latest year for which data are available (the 2000–2017 GHG emissions period), California emitted an average 424.1 million metric tons (MMT) of CO₂e per year (CARB 2019a).

4.6.2 Relevant Plans, Policies, and Ordinances

International

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

² The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change, and Forestry (LULUCF). For countries without 2017 data, the data for the most recent year were used. For United Nations Framework Convention on Climate Change, “Annex I Parties – GHG total without LULUCF,” the most recent GHG emissions for China and India are from 2014.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nation’s Framework Convention on Climate Change (Framework Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Framework Convention. Under the Framework Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

International Climate Change Treaties. The Kyoto Protocol is an international agreement linked to the Framework Convention. The major feature of the Kyoto Protocol is that it set binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the 5-year period 2008–2012. The Framework Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Kyoto Protocol commits them to do so. Developed countries have contributed more emissions compared to non-developed countries over the last 150 years; therefore, the Kyoto Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the United Nations Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The United Nations Climate Change Committee held additional meetings in Durban, South Africa, in November 2011; Doha, Qatar, in November 2012; and Warsaw, Poland, in November 2013.

On September 23, 2014, more than 100 heads of state and government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Climate Summit, heads of government, business, and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the United Nations Framework Convention on Climate Change reached a landmark agreement on December 12, 2015, in Paris, charting a fundamentally new course in the two-decades-old global climate effort. Culminating a 4-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by the parties were the key outcomes of the conference, known as the 21st Session of the United Nations Framework Convention on Climate Change Conference of the Parties. Together, the Paris Agreement and the accompanying Conference of the Parties decision did the following (C2ES 2015):

- Reaffirmed the goal of limiting global temperature increase well below 2 °C, while urging efforts to limit the increase to 1.5 °C.
- Established binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them.
- Committed all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review.
- Committed all countries to submit new NDCs every 5 years, with the clear expectation that they will “represent a progression” beyond previous ones.
- Reaffirmed the binding obligations of developed countries under the United Nations Framework Convention on Climate Change to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries.
- Extended the current goal of mobilizing \$100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025.
- Extended a mechanism to address “loss and damage” resulting from climate change, which explicitly will not “involve or provide a basis for any liability or compensation.”
- Required parties engaging in international emissions trading to avoid “double counting.”
- Called for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country’s NDC.

On November 4, 2019, the Trump administration formally notified the United Nations that the United States would withdraw from the Paris Agreement. Under the terms of the agreement, the United States cannot formally announce its resignation until November 4, 2019. Subsequently, withdrawal would be effective 1 year after notification in 2020.

Federal

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG Endangerment. In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the U.S. Supreme Court (Supreme Court) found that four GHGs, including CO₂, are air pollutants subject to regulation under Section 202(a)(1) of the Federal Clean Air Act (CAA). The Supreme Court held that the U.S. Environmental Protection Agency (EPA) Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section “Clean Vehicles,” below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator’s findings (EPA 2009).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009, President Barack Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They required these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards aimed to cut CO₂ emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams per mile of CO₂ by model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDTs) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies proposed engine and vehicle standards that began in the 2014 model year and aimed to achieve up to a 20% reduction in CO₂ emissions and fuel consumption by the 2018 model year. For HDTs and vans, the agencies proposed separate gasoline and diesel-truck standards, which phased in starting in the 2014 model year and achieved up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12% and 17%, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards achieved up to a 10% reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which finds that the model years 2022 to 2025 GHG standards are not appropriate and should be revised (88 FR 16077). This Final Determination serves to initiate a notice to further consider appropriate standards for model years 2022 to 2025 light-duty vehicles. On August 24, 2018, the EPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California’s waiver under the CAA to establish more stringent standards (EPA and NHTSA 2018). As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule, which increased stringency of CAFE and CO₂ emissions standards by 1.5% each year through model year 2026 (NHTSA 2020).

Mandatory Reporting of GHGs. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons (MT) per year or more of GHG emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these CAA permitting programs to limit which facilities are required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states the following:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation’s largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO₂ for new, affected, fossil-fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of CO₂ per megawatt-hour, based on the performance of widely used natural gas combined-cycle technology. On February 9, 2016, the U.S. Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has signed a measure to repeal the Clean Power Plan, including the CO₂ standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule. Under the Affordable Clean Energy rule, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

Cap-and-Trade. Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the N₂O Budget Trading Program, and the Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO₂ emissions

from power plants, auctions CO₂ emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Regional GHG Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative partner jurisdictions developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the Western Climate Initiative has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, Senate Bill (SB) 32, requires that California, a major partner in the Western Climate Initiative, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SmartWay Program. The SmartWay Program is a public/private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of GHG emissions and air pollution) of the goods movement supply chains. SmartWay consists of four components (EPA 2019):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay refers to requirements geared toward reducing fuel consumption. Most large trucking fleets with newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs will have to comply with the CARB's Tractor-Trailer GHG Regulation that is designed with the SmartWay Program in mind to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53-foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain 10% or more fuel savings over traditional trailers.

Through the SmartWay Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects, and technical literature review. As a result, the EPA determined that the following types of technologies provide fuel saving and/or emissions-reducing benefits when used properly in their designed applications, and has verified certain products (EPA 2019):

- Idle reduction technologies to provide for less idling of the engine when it is not needed reduces fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low-rolling-resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.

- Retrofit technologies include things such as diesel particulate filters and emissions upgrades (to a higher tier), which reduce emissions.
- Federal excise tax exemptions.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act was signed into law on December 19, 2007, by President Bush. The Energy Independence and Security Act updates the 1992 Energy Policy Act, which covered low-voltage, general-purpose, three-phase electric motors from 1 to 200 horsepower. The Energy Independence and Security Act aims to reduce GHG emissions through the following actions:

- Expanding the Renewable Fuel Standard so that nearly 20% of transportation fuel sold in the United States by 2022 will be from biofuels (36 billion gallons).
- Increase the efficiency of products, buildings, and vehicles.
- Promote research on and deploy GHG capture and storage options.
- Requiring 27% greater efficiency by 2014 for common household light bulbs and 60%–70% more efficient by 2022.
- Improve vehicle fuel economy.

State

Legislative Actions to Reduce Greenhouse Gases

The California Legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB) 32, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 and Title 20 energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of California’s legislation.

EO S-3-05. California Governor Arnold Schwarzenegger announced on June 1, 2005, through EO S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

AB 32. The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by 2020 (this goal has been met³). “GHGs,” as defined under AB 32, include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32,

³ Based on the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000–2017 GHG emissions period, California emitted an average 424.1 MMT CO₂e. This is less than the 2020 emissions target of 431 MMT CO₂e.

CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

SB 375 – Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, SB 375 was signed by Governor Schwarzenegger on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 also requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss growth-inducing impacts, or any project-specific or cumulative impacts from cars or light-duty truck trips generated by a project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493. California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by EPA’s denial of an implementation waiver. EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22% reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30% reduction. The near-term (2009–2012) standards were estimated to result in a 22% reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards were estimated to result in a 30% reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and

allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for AB 1493 was incorporated into amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350 – Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved and Governor Jerry Brown signed SB 350, which reaffirms California’s commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the Renewables Portfolio Standard (RPS), higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from SB 350 because of opposition and concern that it would prevent the bill’s passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utilities Commission, the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

SB 32. On September 8, 2016, Governor Jerry Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in EO B-30-15. The new legislation builds on the AB 32 goal of 1990 levels by the end of 2020, and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature.

Progress in Achieving Assembly Bill 32 Targets and Remaining Reductions Required

The state has made steady progress in implementing AB 32 and achieving targets included in Executive Order (EO) S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (CARB 2014). The state has achieved the EO S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 MMT CO₂e (AB 32 2020 target)
- 2000: 463 MMT CO₂e (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 MMT CO₂e (an average 5% reduction needed to achieve 1990 base)

As described earlier, CARB revised the 2020 business as usual (BAU) inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 MMT CO_{2e} BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

CARB Scoping Plan. CARB’s Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the state’s emissions to 1990 levels by the end of 2020 to comply with AB 32 (CARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the 2020 emissions target—each sector has a different emissions-reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target are as follows (CARB 2008):

- Expanding and strengthening existing energy efficiency programs, and building and appliance standards
- Achieving a statewide renewables energy mix of 33%
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California’s clean car standards, goods movement measures, and the Low-Carbon Fuel Standard (LCFS)
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state’s long-term commitment to AB 32 implementation

CARB approved the First Scoping Plan Update on May 22, 2014. The First Scoping Plan Update identifies the next steps for California’s climate change strategy. The First Scoping Plan Update shows how California will continue on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emissions reductions. The Scoping Plan Update establishes a broad framework for continued emissions reductions beyond 2020, on the path to 80% below 1990 levels by 2050. The First Scoping Plan Update identifies progress made to meet the near-term objectives of AB 32, and defines California’s climate change priorities and activities for the next several years. The First Scoping Plan Update does not set new targets for the state, but describes a path that would achieve the long-term 2050 goal of EO S-05-03 for emissions to decline to 80% below 1990 levels by 2050 (CARB 2014).

Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the amount of reductions California must achieve to return to the 1990 emissions level by the end of 2020 as required by AB 32. The no-action scenario is known as “business-as-usual” or BAU. CARB originally defined the BAU scenario as emissions in the absence of any GHG emissions-reduction measures discussed in the Scoping Plan.

2017 Climate Change Scoping Plan Update

In compliance with AB 32 and the 2008 Scoping Plan, the target year 2020 has been fulfilled and will look onward to the 2017 Scoping Plan that should be in compliance by 2030.

In November 2017, CARB released the Final 2017 Scoping Plan Update, which identifies the state’s post-2020 reduction strategy. The Final 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by EO B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon are

the Cap-and-Trade Program; the LCFS and much cleaner cars, trucks, and freight movement; using cleaner, renewable energy; and strategies to reduce CH₄ emissions from agricultural and other wastes (CARB 2017).

The Final 2017 Scoping Plan Update establishes a new emissions limit of 260 MMT CO₂e by 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (CARB 2017).

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission-vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low-carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH₄, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities, and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts to tighten emission limits on a broad spectrum of industrial sources. Major elements of the Final 2017 Scoping Plan Update framework are as follows (CARB 2017):

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission-vehicle buses and trucks.
- Implementing the LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, uses near-zero emissions technology, and uses deployment of zero-emission trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH₄ and HFC emissions by 40%, and anthropogenic black carbon emissions by 50% by 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the 2017 Scoping Plan acknowledges the following (CARB 2017):

Achieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.

In addition to the statewide strategies listed above, the Final 2017 Scoping Plan Update also identifies local governments as essential partners in achieving the state's long-term GHG reduction goals, and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 MT CO₂e or less per capita by 2030, and 2 MT CO₂e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the state's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible, or use a performance-based metric using a CAP or other plan to reduce GHG emissions (CARB 2017).

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32 (LBNL 2015a). The research used a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that GHG emissions through 2020 could range from 317 to 415 MT CO_{2e} per year, “indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32]” (LBNL 2015b). CALGAPS also showed that by 2030, emissions could range from 211 to 428 MT CO_{2e} per year, indicating that “even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]” (LBNL 2015b). CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the state’s 80% reduction goal by 2050, various combinations of policies could allow California’s cumulative emissions to remain very low through 2050 (LBNL 2015a).

Cap-and-Trade Program. The 2017 Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a Cap-and-Trade Program will help put California on the path to meeting its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under the Cap-and-Trade Program, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap are able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32 (see Title 17 of the California Code of Regulations [CCR] Sections 95801–96022). The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program’s duration.

Covered entities that emit more than 25,000 MT CO_{2e} per year must comply with the Cap-and-Trade Program. Triggering of the 25,000 MT CO_{2e} per year “inclusion threshold” is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule).

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender “compliance instruments” for each MT CO_{2e} of GHG they emit (CARB 2019a). There also are requirements to surrender compliance instruments covering 30% of the prior year’s compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30% of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the First Update of the Climate Change Scoping Plan (CARB 2014):

The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other

words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.

The Cap-and-Trade Program covered approximately 80% of California’s GHG emissions. If California’s direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California’s direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program ensures that California will meet its 2020 GHG emissions reduction mandate as follows (CARB 2014):

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the LCFS, and the 33 percent RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California’s 2020 limit will be met because the regulation sets a firm limit on 85 percent of California’s GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State’s emissions forecasts and the effectiveness of direct regulatory measures.

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85% of California’s GHG emissions (CARB 2015). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects’ electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Cap-and-Trade Program’s first compliance period. Although the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, fuel suppliers did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are “supplied” (i.e., delivered into commerce). Accordingly, as with stationary-source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle miles traveled are covered by the Cap-and-Trade Program (CARB 2016). In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed Cap-And-Trade Program. The Scoping Plan states that the inclusion of these emissions within the Cap-And-Trade Program will help ensure that 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by the end of 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be

subject to the Cap-And-Trade Program emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions (CARB 2008).⁴

California Integrated Waste Management Act of 1989 and AB 341. The California Integrated Waste Management Act of 1989, later modified by AB 341, required an implementation schedule from each jurisdictions' source reduction and recycling element, to include the following:

- Diversion of 25% of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities
- Diversion of 50% of all solid waste on and after January 1, 2000
- Source reduction, recycling, and composting of 75% of all sold waste on or after 2020 and annually thereafter

The California Department of Resources Recycling and Recovery (CalRecycle) was required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

AB 1613. AB 1613 directed the CEC, the California Public Utilities Commission, and CARB to implement the Waste Heat and Carbon Emissions Reduction Act, which is designed to encourage development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts. The CEC later published modified final guidelines that established the technical criteria for eligibility of combined heat and power systems for programs to be developed by the California Public Utilities Commission and publicly owned utilities. Section 2843 of AB 1613 provides that the CEC's guidelines require combined heat and power systems do the following:

- Be designed to reduce waste energy
- Have a minimum efficiency of 60%
- Have oxides of nitrogen (NO_x) emissions of no more than 0.07 pounds per megawatt-hour
- Be sized to meet the eligible customer generation thermal load
- Operate continuously in a manner that meets the expected thermal load, and optimizes the efficient use of waste heat
- Be cost-effective, technologically feasible, and environmentally beneficial

Water Conservation Act of 2009 (SB X7-7). SB X7-7, enacted in November 2009, requires all water suppliers increase their water use efficiency. It sets an overall goal of reducing per-capita urban water use by 20% by December 31, 2020. SB X7-7 required the state to make incremental progress by reducing per-capita water usage by at least 10% by December 31, 2015.

The measure covers projects divided into five teams that work on three types of project: urban water projects, agriculture projects, and urban and agriculture projects. The urban team focuses on several measures, including reducing per-capita urban water use by 20% by December 31, 2020, and revising loan/grant criteria for water suppliers so that they will be ineligible for funding without complying with the regulations set by the Department of Water Resources.

⁴ On March 17, 2011, the San Francisco Superior Court issued a final decision in Association of Irrigated Residents v. California Air Resources Board (Case No. CPF-09-509562). While the Court upheld the validity of the CARB Scoping Plan for implementation of AB 32, the Court enjoined CARB from further rulemaking under AB 32 until CARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, CARB filed an appeal. On June 24, 2011, the Court of Appeal granted CARB's petition staying the trial court's order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, CARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The CARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

The Department of Water Resources adopted a regulation on February 16, 2011, that sets forth criteria and methods for exclusion of industrial process water from the calculation of gross water use for purposes of urban water management planning. The regulation applies to all urban retail water suppliers required to submit an Urban Water Management Plan, as set forth in the Water Code, Division 6, Part 2.6, Sections 10617 and 10620.

SB 1389. SB 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial Integrated Energy Policy Report (IEPR) that assesses major energy trends and issues facing the state’s electricity, natural gas, and transportation fuel sectors. The IEPR also provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state’s economy; and protect public health and safety (California Public Resources Code Section 25301a). The CEC prepares these assessments and associated policy recommendations every 2 years, with updates in alternate years, as part of the IEPR.

The 2018 IEPR was adopted on February 20, 2019, and continues to work toward improving electricity, natural gas, and transportation fuel energy use in California. The 2018 IEPR focuses on a variety of topics, such as the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast (CEC 2018a).

Executive Orders Related to GHG Emissions

California’s Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders.

EO S-13-08. EO S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the executive order, the 2009 California Climate Adaptation Strategy was adopted, which is the “first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

EO B-30-15. On April 29, 2015, Governor Jerry Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor’s executive order aligned California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 to ensure that California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050, and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMT CO₂e. The executive order also requires the state’s climate adaptation plan to be updated every 3 years, and for the state to continue its climate change research program, among other provisions. As with EO S-3-05, this executive order is not legally enforceable for local governments or the private sector. Legislation that would update AB 32 to make post-2020 targets and requirements a mandate is in process in the State Legislature.

EO S-01-07 – LCFS. Governor Arnold Schwarzenegger signed EO S-01-07 on January 18, 2007. The order mandates that a statewide goal be established to reduce the carbon intensity of California’s transportation fuels by at least 10% by the end of 2020. In particular, the executive order established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the “life-cycle carbon intensity” of transportation fuels.

This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by CEC on December 24, 2007) and was submitted to CARB for consideration as an “early action” item under AB 32. The CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court’s ruling issued on December 29, 2011, included a preliminary injunction against CARB’s implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court’s decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB was not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled that CARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court’s judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS, as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

EO B-55-18 and SB 100. SB 100 and EO B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California’s RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, EO B-55-18 establishes a carbon neutrality goal for California by 2045, and sets a goal to maintain net negative emissions thereafter. The executive order directs the California Natural Resources Agency, California Environmental Protection Agency, California Department of Food and Agriculture, and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California’s energy consumption relatively flat, even with rapid population growth.

Title 20 CCR. CCR, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. A total of 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 CCR. CCR Title 24 Part 6: The California’s Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, and state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The California Building Code provides the minimum standard that buildings must meet to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

The 2019 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the South Coast Air Basin and across California. For example, the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) will use approximately 30% less energy due to lighting upgrade requirements.

Because the Project would be constructed after January 1, 2020, the 2019 CALGreen standards are applicable to the Project and require the following, among other items:

- **Short-term bicycle parking.** If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors’ entrance, readily visible

to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (Section 5.106.4.1.1).

- **Long-term bicycle parking.** For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (Section 5.106.4.1.2).
- **Designated parking for clean air vehicles.** In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles, as shown in Table 5.106.5.2 (Section 5.106.5.2).
- **Electric vehicle charging stations.** New construction shall facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (Section 5.106.5.3).
- **Outdoor light pollution reduction.** Outdoor lighting systems shall be designed to meet the backlight, uplight, and glare ratings per Table 5.106.8 (Section 5.106.8).
- **Construction waste management.** Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3, or meet a local construction and demolition waste management ordinance, whichever is more stringent (Section 5.408.1).
- **Excavated soil and land clearing debris.** 100% of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (Section 5.408.3).
- **Recycling by occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (Section 5.410.1).
- **Water conserving plumbing fixtures and fittings.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - **Water closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (Section 5.303.3.1)
 - **Urinals.** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (Section 5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (Section 5.303.3.2.2).
 - **Showerheads.** Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi [pounds per square inch] (Section 5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (Section 5.303.3.3.2).
 - **Faucets and fountains.** Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (Section 5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (Section 5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (Section 5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (Section 5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (Section 5.303.3.4.5).

- **Outdoor potable water use in landscaped areas.** Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELo), whichever is more stringent (Section 5.304.1).
- **Water meters.** Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 square feet, or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gallons per day (Sections 5.303.1.1 and 5.303.1.2).
- **Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 square feet.** Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requires a building or landscape permit (Section 5.304.3).
- **Commissioning.** For new buildings 10,000 square feet and greater, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (Section 5.410.2).

Model Water Efficient Landscape Ordinance. The MWELo was required by AB 1881, the Water Conservation Act. AB 1881 required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the MWELo by January 1, 2010. Reductions in water use of 20% consistent with the SB X-7-7 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed the Department of Water Resources to update the MWELo through expedited regulation. The California Water Commission approved the revised MWELo on July 15, 2015, effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the MWELo. The update requires the following:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high-water-use plants
- Reporting requirements for local agencies

CARB Refrigerant Management Program. CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring; leak repair; system retirement and retrofitting; reporting and recordkeeping; and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in Sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high-GWP refrigerant. The refrigerant management program is designed to reduce emissions of high-GWP GHG refrigerants from leaky stationary, nonresidential refrigeration equipment; reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and verify GHG emission reductions.

Tractor-Trailer GHG Regulation. The tractors and trailers subject to this regulation must either use EPA SmartWay-certified tractors and trailers or retrofit their tractors and trailers with SmartWay-verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including dry-van and refrigerated-van trailers, and owners of the tractors that pull the trailers on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay-verified low-rolling-resistance tires. There are also requirements for trailers to have low-rolling resistance-tires and aerodynamic devices.

Phase 1 and 2 Heavy-Duty Vehicle GHG Standards. CARB adopted a regulation for GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emissions limits on truck and engine manufacturers, and harmonizes with the EPA rule for new trucks and engines nationally. Existing heavy-duty-vehicle regulations in California include engine criteria emissions standards; tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation); and in-use fleet retrofit requirements, such as the Truck and Bus Regulation. In September 2011, the EPA adopted its rule for heavy-duty trucks and engines. The EPA rule has compliance requirements for compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with model year 2014, with stringency levels increasing through model year 2018. The rule organizes truck compliance into three groupings: heavy-duty pickups and vans, vocational vehicles, and combination tractors. The EPA rule does not regulate trailers.

CARB staff have worked jointly with the EPA and NHTSA on the next phase of federal GHG emissions standards for medium-duty trucks and heavy-duty trucks, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emissions standards, and represent a significant opportunity to achieve further GHG reductions for 2018 and later-model-year heavy-duty trucks, including trailers. But as discussed above, the EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests that a similar rollback of Phase 2 standards for medium-duty trucks and heavy-duty trucks may be pursued.

SB 97 and the CEQA Guidelines. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states, “(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR [Office of Planning and Research] pursuant to subdivision (a).” Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010, for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. Public Resources Code Section 21097 was repealed by its own terms, operative January 1, 2010. In 2012, Public Resources Code Section 21083.05 was amended to state the following:

The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

On December 28, 2018, the Natural Resources Agency announced that the Office of Administrative Law approved the amendments to the CEQA Guidelines for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4 was added in the CEQA Guidelines and states that in determining the significance of a project’s GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of a project’s emissions to the effects of climate change. A project’s incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. The agency’s

analysis should consider a timeframe that is appropriate for that project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Regional

Southern California Association of Governments. On May 7, 2020, the Southern California Association of Governments' (SCAG) Regional Council adopted Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy) (RTP/SCS) for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians (SCAG 2020).

South Coast Air Quality Management District. The Project site is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD is the agency responsible for air quality planning and regulation in the South Coast Air Basin. The SCAQMD addresses the impacts to climate change of projects subject to an SCAQMD permit as the lead agency if it is the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for a project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the SCAQMD helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group identified several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, but no thresholds for CEQA land use development projects were adopted. The Working Group has not convened a meeting since November 2009, nor has the Working Group provided additional guidance since release of the interim guidance in 2008.

March Joint Powers Authority General Plan

The Noise/Air Quality Element of the March Joint Powers Authority (JPA) General Plan includes goals and policies that will be applied to the Project related to GHG emissions (March JPA 1999). Consistency with these goals and policies are discussed in Section 4.9, Land Use and Planning, of this SEIR. The following goals and policies from the Noise/Air Quality Element apply to the Project (March JPA 1999):

Goal 3: Reduce air pollution through proper land use, transportation, and energy use planning.

Policy 3.4: Encourage ride share programs.

Goal 6: Reduce emissions associated with vehicle/engine use.

Policy 6.1: Reduce idling emissions by increasing traffic flow through synchronized traffic signals.

Policy 6.2: Work with Riverside Transit Agency (RTA) to develop a local transit system and facilitate connections of the local transit system with regional transit systems.

Policy 6.3: Encourage diversion of peak hour truck traffic, whenever feasible, to off-peak periods to reduce roadway congestion and associated emissions.

Policy 6.4: Work with Caltrans [California Department of Transportation] and traffic engineers to ensure that roadways and freeway on-ramps that are heavily utilized by trucks are designed to safely accommodate trucks.

Policy 6.5: Encourage trucks operating within March JPA Planning Area to maintain safety equipment and operate at safe speeds so as to reduce the potential for accidents which create congestion and related emissions.

Policy 6.6: Reduce vehicle emissions through improved parking design and management that provide for safe pedestrian access to and from various facilities.

Policy 6.8: Encourage the use of compressed natural gas, clean diesel and/or alternative fuels in engines.

Goal 7: Reduce emissions associated with energy consumption.

Policy 7.1: Support the use of energy-efficient equipment and design in the March JPA Planning Area for facilities and infrastructure.

Policy 7.2: Encourage incorporation of energy conservation features in development.

Policy 7.3: Support passive solar design in new construction.

Policy 7.4: Support recycling programs which reduce emissions associated with manufacturing and waste disposal.

Policy 7.5: Support drought-resistant vegetation in landscaping areas to reduce energy needed to pump water.

Local

County of Riverside Climate Action Plan

The County of Riverside (County) adopted its updated Climate Action Plan (CAP) on December 17, 2019. The CAP was designed under the premise that the County, and the community it represents, is uniquely capable of addressing emissions associated with sources under the County’s jurisdiction, and that the County’s emission reduction efforts should coordinate with the state strategies of reducing emissions to accomplish these reductions

in an efficient and cost-effective manner. The County plans to reduce community-wide emissions to 3,576,598 MT CO₂e per year by 2030 (County of Riverside 2019).

The Project site is located in the jurisdiction of the March JPA within the County of Riverside. Although the County of Riverside does not have direct authority over the Project, consistency with the County's CAP provides an additional metric to determine if the Project's impacts are significant. This information is presented for informational purposes to illustrate how the Project has been designed to reduce GHG emissions.

To evaluate consistency with the CAP, the County provided screening tables to aid in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The CAP contains a menu of measures potentially applicable to discretionary development that include energy conservation, water use reduction, increased residential density or mixed uses, transportation management, and solid waste recycling. Individual sub-measures are assigned a point value within the overall screening table of GHG implementation measures. The point values are adjusted according to the intensity of action items with modest adoption/installation (those that reduce GHG emissions by modest amounts) worth the least number of points, and greatly enhanced adoption/installation worth the most (County of Riverside 2019). Projects that garner at least 100 points (equivalent to an approximate 49% reduction in GHG emissions) are determined to be consistent with the reduction quantities anticipated in the County's CAP Update, and consequently would be consistent with the CAP. As such, projects that achieve a total of 100 points or more are considered to have a less-than-significant individual and cumulative impact on GHG emissions (County of Riverside 2019).

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the Project's impacts to GHGs and climate change are based on March JPA's 2019 CEQA Guidelines. According to March JPA's 2019 CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

- GHG-1:** Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

For GHG-1, in the absence of any adopted quantitative threshold, March JPA, as the lead agency, has determined that a project would not have a significant effect on the environment if a project is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions analyzed in GHG-2.

For GHG-2, the Project is evaluated for the following:

- Consistency with AB 32/SB 32 through evaluating the Project's consistency and compliance with applicable statewide and local regulatory programs designed to reduce GHG emissions consistent with AB 32/SB 32.
- Project consistency with the CAP using the CAP Screening Tables. Since the County of Riverside CAP was developed using AB 32/SB 32, this approach is also supports the Project's consistency with AB 32/SB 32.
- Consistency with SB 375. Consistency with SB 375 was evaluated based on the growth assumptions of SCAG's 2016–2040 RTP/SCS.

4.6.4 Approach and Methodology

Construction Emissions

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association and other California Air Quality Management Districts, released the latest version of CalEEMod (v2016.3.2). Accordingly, the latest version of CalEEMod was used for this Project to determine GHG emissions. The Project is proposed to consist of 388,011 square feet of office, 221,394 square feet of commercial, 61,336 square feet of grocery store, 1,764,180 square feet of business park, 800,000 square feet of high-cube warehouse, 700,000 square feet of high-cube cold storage warehouse, 274,437 square feet of warehousing, and a 6.2-acre dog park.

Project-specific sources resulting from the Village West Drive Extension and associated water tank removal were estimated using the most recent Road Construction Emission Model (RCEM), Version 9.0. RCEM was developed by the Sacramento Metropolitan Air Quality Management District as part of its CEQA Guidelines and Tools to analyze new road construction, road widening, bridge/overpass construction, and other linear projects. Although CalEEMod is typically used for land use development projects in this region, the SCAQMD has identified the RCEM as an acceptable emissions modeling program when the use of CalEEMod is not appropriate, as is the case with projects such as this. Based on the nature of the proposed Project, emissions associated with construction of the Village West Drive Extension are considered within the scope of this assessment.⁵

Construction is expected to commence in January 2021 and will last through July 2024. As a conservative measure, it was assumed that the Village West Drive Extension would be constructed concurrent with the Meridian South Campus. The construction schedule used in the analysis, shown in Table 4.6-3, Construction Schedule, represents a “worst-case” analysis scenario should construction occur any time after the respective dates, since emissions factors for construction decrease as time passes and the analysis year increases due to emissions regulations becoming more stringent.⁶ The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required per the CEQA Guidelines. The duration of construction activity was based on the Project’s 2024 opening year.

Table 4.6-3. Construction Schedule

Activity	Start Date	End Date	Days
<i>Village West Drive Extension</i>			
Grubbing/Land Clearing	01/04/2021	01/13/2021	8
Grading/Excavation	01/14/2021	02/17/2021	25
Drainage/Utilities/Subgrade	02/18/2021	03/23/2021	24
Paving	03/24/2021	04/06/2021	10
<i>Meridian South Campus</i>			
Site Preparation	01/04/2021	04/16/2021	75
Grading	04/17/2021	09/03/2021	100
Building Construction	09/04/2021	07/19/2024	750
Paving	02/18/2024	07/19/2024	110

⁵ The specific RCEM option for new road construction was used for analysis of this Project. Subsequent subphases and equipment lists are part of the defaults in that model and were therefore used in the analysis.

⁶ As shown in the CalEEMod User’s Guide Version 2016.3.2, Section 4.3, OFFROAD Equipment, as the analysis year increases, emissions factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer, less-polluting equipment and new regulatory requirements.

Table 4.6-3. Construction Schedule

Activity	Start Date	End Date	Days
Architectural Coating	09/16/2023	07/19/2024	220

Notes: See Appendix G.

Based on information provided by the Project applicant, earthwork activities are expected to balance on site, and no import or export of soils would be required. Construction emissions for construction-worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site), were estimated based on information from CalEEMod defaults. The site-specific construction fleet may vary due to specific Project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults. Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, vendors, and water trucks commuting to and from the site. A detailed summary of construction equipment assumptions by phase is provided in Table 4.6-4.

Table 4.6-4. Construction Equipment Assumptions

Activity	Equipment	Amount/ Number	Hours Per Day	Horsepower	Load Factor
Village West Drive Extension					
Grubbing/Land Clearing	Crawler Tractors	1	8	212	0.43
	Excavator	1	8	158	0.38
	Signal Boards	2	8	6	0.82
Grading/Excavation	Crushing/Proc. Equipment	1	8	85	0.78
	Forklifts	3	8	89	0.20
	Graders	1	8	187	0.41
	Rollers	2	8	80	0.38
	Rubber Tired Loaders	1	8	247	0.40
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Drainage/Utilities/ Subgrade	Air Compressors	1	8	78	0.48
	Generator Sets	1	8	84	0.74
	Graders	1	8	187	0.41
	Plate Compactors	1	8	8	0.43
	Pumps	1	8	84	0.74
	Rough Terrain Forklifts	1	8	100	0.40
	Scrapers	2	8	367	0.48
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Paving	Pavers	1	8	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	3	8	80	0.38
	Signal Boards	2	8	6	0.82
	Tractors/Loaders/Backhoes	2	8	97	0.37
Meridian South Campus					
Site Preparation	Crawler Tractors	4	8	212	0.43
	Rubber-Tired Dozers	3	8	247	0.40
Grading	Crawler Tractors	2	8	212	0.43

Table 4.6-4. Construction Equipment Assumptions

Activity	Equipment	Amount/ Number	Hours Per Day	Horsepower	Load Factor
	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	1	8	247	0.40
	Scrapers	2	8	367	0.48
Building Construction	Cranes	1	8	231	0.29
	Crawler Tractors	3	8	212	0.43
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	8	78	0.48

Note: To account for fugitive dust emissions associated with Meridian South Campus site preparation and grading activities, crawler tractors were used in lieu of tractors/loaders/backhoes. See Appendix G.

March JPA has established limits to the hours of construction. Section 9.10.030 of March JPA's Development Code provides that noise-generating Project construction activities shall only occur between 7:00 a.m. and 7:00 p.m. As such, construction activities are permitted to occur up to 12 hours per day pursuant to March JPA's Development Code. Under Section 9.10.140 of the March JPA Development Code, outdoor construction and grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing, or demolition work within 500 feet of the property line of a residential use, is further prohibited between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a federal holiday. However, the identified construction equipment would not be used during every hour of the day. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4.6-4 would operate up to 8 hours per day, or approximately two-thirds of the period during which construction activities are allowed pursuant to March JPA's Development Code. Most pieces of equipment would likely operate fewer hours per day.

Operational Emissions

Operational activities associated with the Project would result in emissions of CO₂, CH₄, and N₂O from area, energy, mobile, water supply treatment and distribution, and solid waste sources, and from on-site cargo handling equipment. Project operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas, and electricity would be supplied to the Project by Southern California Edison. The intensity factors for CH₄ and N₂O used for the Project were modified based on Southern California Edison's 2017 and 2018 energy delivery data to account for the RPS requirement for 2020. The emissions factors presented herein were calculated using linear trajectory to reach the 50% project RPS consistent with SB 32 and SB 350 for 2024 (Appendix G).

The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. As such, the analysis herein assumes compliance with the 2019 Title 24 Standards because the Project would be constructed after January 1, 2020. The CEC anticipates that nonresidential buildings will use approximately 30% less energy compared to the prior code. The CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standard.

Refrigerant use is based on the amount and type of refrigerant used and recovery rate. The most commonly used refrigerant for a smaller facility such as a grocery store is HFC-134a, which has a GWP of 1,360. For a larger facility, such as the proposed cold storage warehouse (up to 700,000 square feet), HFC 401-A is used, which has a GWP of 1,920. The typical annual recovery rate is 95% for both large and small facilities. Therefore, if a facility had 1,000 kilograms of refrigerant, as is expected in a large warehouse, and 50 kilograms escape every year, then the total CO_{2e} would be 96 MT per year. If a grocery store had 100 kilograms of refrigerant on file and 5 kilograms escape every year, then the total CO_{2e} would be 6.8 MT per year. This can be reduced significantly by using either R-744 for large facilities or HC-290 for small facilities, which have a GWP of 1 and 5, respectively (International Institute of Refrigeration 2019). Notwithstanding, the estimation of refrigerant loss is speculative at this time and not included in the emissions calculations for the Project.

The County CAP includes Measure R2-CE1, which requires one or more new buildings totaling more than 100,000 gross square feet of commercial, office, industrial, or manufacturing development to offset its energy demand by 20% (County of Riverside 2019). Pursuant to **MM-GHG-4**, the proposed Project would install approximately 12-megawatt of solar PV electricity generation which equates to approximately 40% of the Project's energy demand. With implementation of MM-GHG-4, the Project satisfies, and in fact exceeds, the minimum requirements set forth by R2-CE1.

Project-related GHG emissions would derive primarily from vehicle trips generated by the Project. Trip characteristics available from the Project's Traffic Impact Analysis were used in this analysis. Per the Traffic Impact Analysis (Appendix K), the Project is expected to generate approximately 47,564 two-way vehicular trips per day (23,782 inbound and 23,782 outbound), which includes 4,594 two-way truck trips per day (2,297 inbound and 2,297 outbound). The passenger car and truck fleet for the proposed industrial uses are broken down by passenger car and truck type (or axle type).

Mobile-source emissions were calculated based on trip rates from the Traffic Impact Analysis, trip lengths from CalEEMod, and emission factors from EMFAC 2017. Separate model runs were used to more accurately model emissions resulting from passenger car and truck operations (Appendix G). The Proposed Project + Built/Entitled Land Uses are expected to generate a total of approximately 31,424 two-way vehicular trips per day which includes 26,950 two-way passenger car trips and 4,475 two-way truck trips. The 2003 Approved South Campus Land Uses are expected to generate a total of approximately 28,140 two-way vehicular trips per day which includes 26,058 two-way passenger car trips and 2,082 two-way truck trips. As such, the Proposed Project is expected to generate a net total of 3,284 two-way vehicular trips per day which includes 892 two-way passenger car trips and 2,393 two-way truck trips.⁷

For passenger-car trips (light-duty-auto, light-duty trucks [LDT1],⁸ light-duty trucks [LDT2],⁹ and medium-duty trucks), the CalEEMod default for a one-way trip length of 16.6 miles was assumed. For heavy duty trucks (two-axle/light-heavy-duty trucks, three-axle/medium-heavy-duty trucks, and four-plus-axle/heavy-heavy-duty trucks), a one-way trip length of 60 miles was assumed. 60 miles is a more conservative assumption than the SCAQMD recommended 40-mile trip length and is consistent with past projects that the March JPA has entitled in the Meridian Business Center Specific Plan area.

Cargo-handling equipment was assumed to have a horsepower range of approximately 175 to 200 horsepower. Based on the latest available information from the SCAQMD, high-cube warehouse projects typically have 3.6 yard trucks per 1 million square feet of building space (CARB 2014). For this particular Project, based on the maximum

⁷ VMT for transportation is calculated as an efficiency metric using a home-based work VMT measure per the Governor's Office of Planning and Research Guidelines. The home-based work VMT measure is a measure of all auto trips between home and work, and does not include heavy duty truck trips or freight. Therefore, it is more appropriate for the analysis herein to rely on the trip rates from the Traffic Impact Analysis and the associated trip lengths established by similar projects within the SCAQMD jurisdiction.

⁸ Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 pounds and equivalent test weight (ETW) of less than or equal to 3,750 pounds.

⁹ Vehicles under the LDT2 category have a GVWR of less than 6,000 pounds and ETW between 3,751 and 5,750 pounds.

square footage of industrial building space permitted by the Project, on-site modeled operational equipment included up to eleven 200-horsepower, compressed natural gas or gasoline-powered yard tractors operating at 4 hours a day for 365 days of the year (four yard tractors for warehouse [70% of business park], one yard tractor for the warehouse, three yard tractors for the high-cube transload short-term warehouse use, and three yard tractors for the high-cube cold storage warehouse use). In order to account for emissions associated with the 11 on-site pieces of cargo handling equipment, these were input into CalEEMod under the on-site equipment screen as 200 horsepower tractor/loader/backhoes with a load factor of 0.37 and a selection of natural gas as the fuel type. It should be noted that the resulting emissions calculations in CalEEMod from on-site equipment are the same for both natural gas and gasoline-powered equipment for this category.

The land uses proposed by the Project would result in the generation and disposal of solid waste. A large percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill.

4.6.5 Impacts Analysis

GHG-1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

In the absence of any adopted quantitative threshold, March JPA, as the lead agency, has determined that a project would not have a significant effect on the environment if it is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions identified in GHG-2.

Construction Phase

For construction-phase Project emissions, GHGs were quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life, then adding that number to the annual operational-phase GHG emissions (SCAQMD 2009). As such, construction emissions were amortized over a 30-year period and added to the annual operational-phase GHG emissions. The amortized construction emissions are presented in Table 4.6-5.

Table 4.6-5. Amortized Annual Construction Emissions

Year	Construction Equipment CO ₂ e Emissions (metric tons per year)	On-Road Vehicle CO ₂ e Emissions (metric tons per year)	Total CO ₂ e Emissions (metric tons per year)
2021	836.07	1,396.98	2,233.04
2022	488.06	4,073.95	4,562.01
2023	500.56	4,154.49	4,655.05
2024	407.85	2,558.02	2,965.87
Total Annual Construction Emissions	2,232.53	12,183.43	14,415.96
Amortized Construction Emissions (Metric Tons CO ₂ e)			480.53

Source: Appendix G

Note: CO₂e = carbon dioxide equivalent

The annual GHG emissions associated with operation of the Proposed Project Land Uses are estimated to be 74,495.65 MT CO₂e per year, as summarized in Table 4.6-6.

Table 4.6-6. Proposed Project Land Uses Operational Greenhouse Gas Emissions (without Mitigation)

Emission Source	CO ₂ e Emissions (metric tons per year) – Unmitigated
Annual Construction-Related Emissions Amortized Over 30 Years	480.53
Area Source	0.11
Energy Source	8,887.85
Mobile Source (Passenger Car)	26,354.51
Mobile Source (Truck)	33,655.38
On-Site Equipment	562.98
Waste	535.69
Water Usage	4,018.59
Proposed Project Land Uses Total CO₂e Emissions (All Sources)	74,495.65

Source: Appendix G

Note: CO₂e = carbon dioxide equivalent

The Built/Entitled Land Uses are included as part of the proposed Project scenario. As such, the Built/Entitled Land Uses GHG emissions are summarized in Table 4.6-7.

Table 4.6-7. Built/Entitled Land Uses Operational Greenhouse Gas Emissions (without Mitigation)

Emission Source	CO ₂ e Emissions (metric tons per year) – Unmitigated
Area Source	0.07
Energy Source	1,615.40
Mobile Source (Passenger Car)	10,078.09
Mobile Source (Truck)	56,046.63
On-Site Equipment	511.80
Waste	1,189.99
Water Usage	2,449.72
Built/Entitled Land Uses Total CO₂e Emissions	71,891.70

Source: Appendix G

Note: CO₂e = carbon dioxide equivalent

The Proposed Project Land Uses plus the Built/Entitled Land Uses GHG emissions are presented in Table 4.6-8.

Table 4.6-8. Proposed Project + Built/Entitled Land Uses Greenhouse Gas Emissions

Emission Source	CO ₂ e Emissions (metric tons per year)
Proposed Project Land Use Emissions (without Mitigation)	74,495.65
Built/Entitled Land Use Emissions	71,891.70
Total CO₂e Emissions (Proposed Project + Built/Entitled)	146,387.35

Source: Appendix G

Note: CO₂e = carbon dioxide equivalent

Emissions generated from the land uses proposed in the 2003 Approved South Campus are presented in Table 4.6-9.

Table 4.6-9. 2003 Approved South Campus Greenhouse Gas Emissions

Emission Source	CO ₂ e Emissions (metric tons per year)
Area	0.21
Energy	15,693.28
Mobile (Passenger Cars)	43,818.89
Mobile (Trucks)	49,264.63
On-Site Equipment	1,433.04
Waste	3,801.37
Water Usage	9,830.27
2003 Approved South Campus Total CO₂e Emissions	123,841.70

Source: Appendix G
 CO₂e = carbon dioxide equivalent

The net change in emissions associated with the 2003 Approved South Campus to the currently proposed Project (Proposed Project + Built/Entitled Land Uses) are presented in Table 4.6-10. As shown, the Project (net change in emissions) associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would result in a net increase of 22,545.65 MT CO₂e per year in GHG emissions.

Table 4.6-10. Proposed Project Net Greenhouse Gas Emissions

Emission Source	CO ₂ e Emissions (metric tons per year)
Proposed Project + Built/Entitled Land Uses	146,387.35
2003 Approved South Campus	123,841.70
Proposed Project Net CO₂e Emissions	22,545.65

Source: Appendix G
 Note: CO₂e = carbon dioxide equivalent

To reduce the Project’s GHG emissions, the Project would implement **MM-GHG-1** through **MM-GHG-14**, which require the Project to install solar photovoltaic electricity generation; energy-efficient lighting fixtures; duct and window insulation; cool roofs; energy-efficient heating, ventilation, and air conditioning (HVAC); waterless and high-efficiency toilets and faucets; purple piping; water efficient landscaping and smart irrigation controllers; EV charging stations; preferential parking spaces; bicycle parking facilities; video conferencing facilities; showers, lockers, and changing space; on-site food vending; as well as design SmartWay truck compatible loading docks and provide electrical outlets at exterior of buildings.

In the absence of any adopted quantitative threshold, March JPA, as the lead agency, has determined that a project would not have a significant effect on the environment if it is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions identified in GHG-2. Therefore, as analyzed under GHG-2, the Project would comply with applicable reduction plans and result in a **less-than-significant** impact with mitigation incorporated.

GHG-2. Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Consistency with Assembly Bill 32, Senate Bill 32, Senate Bill 375, and the County of Riverside’s Climate Action Plan

As previously stated, pursuant to Section 15064.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the Project’s consistency with AB 32, SB 32, SB 375, and the County’s CAP are discussed below.

2008 Scoping Plan Consistency

The Project’s consistency with the 2008 Scoping Plan is not necessary, since the target year for the 2008 Scoping Plan was 2020 (and these targets have already been met¹⁰), and the Project’s buildout year is 2024. Notwithstanding, consistency with the 2008 Scoping Plan is provided for informational purposes.

CARB’s Scoping Plan identifies strategies to reduce California’s GHG emissions in support of AB 32, which requires the state to reduce its GHG emissions to 1990 levels by 2020. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by individual projects, such as energy efficiency (CARB 2008). Although some measures are not directly applicable, the proposed Project would not conflict with their implementation. Reduction measures are grouped into 18 action categories, as follows (CARB 2008):

1. **California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions.** Implement a broad-based California Cap-and-Trade Program to provide a firm limit on emissions. Link the California Cap-And-Trade Program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California.¹¹ Ensure California’s program meets all applicable AB 32 requirements for market-based mechanisms.
2. **California Light-Duty Vehicle GHG Standards.** Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel, and vehicle technology programs with long-term climate change goals.
3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts, including new technologies and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).
4. **Renewables Portfolio Standards.** Achieve 33% renewable energy mix statewide.
5. **LCFS.** Develop and adopt the LCFS.
6. **Regional Transportation-Related GHG Targets.** Develop regional GHG emissions reduction targets for passenger vehicles.
7. **Vehicle Efficiency Measures.** Implement light-duty-vehicle efficiency measures.

¹⁰ Based on the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000–2017 GHG emissions period, California emitted an average 424.1 MMT CO₂e. This is less than the 2020 emissions target of 431 MMT CO₂e.

¹¹ California Air Resources Board. California GHG Emissions – Forecast (2002–2020). October 2010.

8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California’s existing solar programs.
10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- and heavy-duty vehicle efficiencies. Aerodynamic efficiency measures for heavy-duty trucks pulling trailers 53 feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010.¹² Future, yet to be determined, improvements includes hybridization of medium- and heavy-duty trucks.
11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce GHG emissions and provide other pollution-reduction co-benefits. Reduce GHG emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. **High Speed Rail.** Support implementation of a high-speed-rail system.
13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.
14. **High Global Warming Potential Gases.** Adopt measures to reduce high global-warming-potential gases.
15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting, and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.
16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 MMT CO_{2e} per year.
17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.
18. **Agriculture.** In the near-term, encourage investment in manure digesters, and at the 5-year Scoping Plan update determine if the program should be made mandatory by 2020.

Table 4.6-11 summarizes the Project’s consistency with the state Scoping Plan. As summarized, the Project would not conflict with any of the provisions of the Scoping Plan, and in fact supports seven of the action categories through energy efficiency, water conservation, recycling, and landscaping.

Table 4.6-11. 2008 Scoping Plan Consistency Summary

Action	Supporting Measures*	Consistency
Cap-and-Trade Program	—	Consistent. These programs involve capping emissions from electricity generation and similar operations. The Project would not interfere with or obstruct Cap-and-Trade Program measures or initiatives.
Light-Duty Vehicle Standards	T-1	Consistent. Vehicles accessing the Project would be required to comply with these standards as implemented. Electric vehicle charging stations would be installed on site per 2019 Title 24 standards.

¹² California Air Resources Board. Scoping Plan Measures Implementation Timeline. October 2010.

Table 4.6-11. 2008 Scoping Plan Consistency Summary

Action	Supporting Measures*	Consistency
Energy Efficiency	E-1	Consistent. The Project would achieve building, water, and solid waste management efficiencies consistent with the incumbent CALGreen requirements.
	E-2	
	CR-1	
	CR-2	
Renewables Portfolio Standard (RPS)	E-3	Consistent. Establishes the minimum statewide renewable energy mix. The Project would not interfere with or obstruct RPS program measures or initiatives.
Low Carbon Fuel Standard	T-2	Consistent. Establishes reduced carbon intensity of transportation fuels. The Project would not interfere with or obstruct transportation fuel carbon intensity program measures or initiatives.
Regional Transportation-Related Greenhouse Gas (GHG) Targets	T-3	Consistent. Establishes regional GHG transportation-source GHG emissions targets. The Project would not interfere with or obstruct transportation-related GHG target measures or initiatives.
Vehicle Efficiency Measures	T-4	Consistent. Vehicles accessing the Project would be required to comply with these measures as implemented. The Project would not interfere with or obstruct vehicle efficiency measures or initiatives.
Goods Movement	T-5	Consistent. Goods movement associated with the Project would be required to comply with these measures as implemented. The Project would not interfere with or obstruct goods movement measures or initiatives.
	T-6	
Million Solar Roofs (MSR) Program	E-4	Consistent. The MSR program sets a goal for use of solar systems throughout the state. Project building designs would incorporate solar photovoltaic (PV) panels or would be designed to accept future installation of PV solar panels.
Medium- and Heavy-Duty Vehicles	T-7	Consistent. Medium- and heavy-duty vehicles accessing the Project would be required to comply with these measures as implemented. The Project would not interfere with or obstruct medium- and heavy-duty vehicle measures or initiatives.
	T-8	
Industrial Emissions	I-1	Consistent. These measures are applicable to large industrial facilities (greater than 500,000 MT CO _{2e} per year) and other intensive uses such as refineries. The Project would not interfere with or obstruct industrial emissions measures or initiatives.
	I-2	
	I-3	
	I-4	
	I-5	
High Speed Rail	T-9	Consistent. The Project would not interfere with or obstruct high-speed rail measures or initiatives.
Green Building Strategy	GB-1	Consistent. The Project would implement building, water, and solid waste management efficiencies consistent with incumbent CALGreen requirements.
High Global Warming Potential (GWP) Gases	H-1	Consistent. The Project would not be a substantial source of high GWP emissions. The Project would not interfere with or obstruct high GWP emissions measures or initiatives.
	H-2	
	H-3	
	H-4	

Table 4.6-11. 2008 Scoping Plan Consistency Summary

Action	Supporting Measures*	Consistency
	H-5	
	H-6	
	H-7	
Recycling and Waste	RW-1 RW-2 RW-3	Consistent. The Project would comply with mandated state and county recycling and waste management measures. During construction, demolition material from the one structure to be demolished—the existing abandoned water tank—would be recycled to the maximum extent feasible.
Sustainable Forests	F-1	Consistent. The Project would increase carbon sequestration by planting on-site trees per the Project's landscaping plan as required by the March Business Center Design Guidelines.
Water	W-1 W-2 W-3 W-4 W-5 W-6	Consistent. The Project would include use of low-flow fixtures and efficient landscaping per state and local requirements.
Agriculture	A-1	Not applicable. The Project does not propose an agricultural use.

* Supporting measures can be found in Appendix B of CARB 2014. Appendix G.

Senate Bill 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by EO B-30-15 and codified by SB 32 (CARB 2017). Table 4.6-12 summarizes the Project's consistency with the 2017 Scoping Plan. As summarized, the Project would not conflict with any of the provisions of the 2017 Scoping Plan, and in fact is consistent with and supports the following six categories.

Table 4.6-12. 2017 Scoping Plan Consistency Summary

Action*	Responsible Parties	Consistency
Implement Senate Bill 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	California Public Utilities Commission (CPUC), California Energy Commission (CEC), California Air Resources Board (CARB)	Consistent. The Project would use energy from Southern California Edison (SCE). SCE has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. The Project would be designed and constructed to implement the energy efficiency measures for new commercial developments, and would include several measures designed to reduce energy consumption. The Project

Table 4.6-12. 2017 Scoping Plan Consistency Summary

Action*	Responsible Parties	Consistency
		would not interfere with or obstruct policies or strategies to establish annual targets for statewide energy efficiency savings and demand reduction.
Reduce greenhouse gas (GHG) emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Consistent. The Project would be designed and constructed to implement energy efficiency measures acting to reduce electricity consumption. The Project would include energy efficient lighting and fixtures that meet the current Title 24 Standards. Further, the Project proposes contemporary industrial facilities that would incorporate energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, Office of Planning and Research (OPR), Local Agencies	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission or plug-in hybrid light-duty electric vehicle 2025 targets.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission or plug-in hybrid light-duty electric vehicle 2030 targets.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars (ACC) regulations.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing ACC regulations.
Medium- and Heavy-Duty GHG Phase 2.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO _x standard.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve transit-source emissions.
Last Mile Delivery: New regulation that would result in the use of low NO _x or		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct

Table 4.6-12. 2017 Scoping Plan Consistency Summary

Action*	Responsible Parties	Consistency
cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3-7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		or interfere with CARB efforts to improve last-mile delivery emissions.
Further reduce vehicle miles traveled (VMT) through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document “Potential VMT Reduction Strategies for Discussion.”		Consistent. This Project would not obstruct or interfere with implementation of Senate Bill (SB) 375, and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to increase stringency of the SB 375 Sustainable Communities Strategy (2035 targets).
By 2019, Adjust Performance Measures Used to Select and Design Transportation Facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor’s Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Consistent. The Project would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions or increase competitiveness of transit and active transportation modes.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle III zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Consistent. The Project would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, California Environmental Protection Agency (CalEPA), California	Consistent. This measure would apply to all trucks accessing the Project site. This may include existing trucks or new trucks that are part of the statewide goods

Table 4.6-12. 2017 Scoping Plan Consistency Summary

Action*	Responsible Parties	Consistency
	Natural Resources Agency (CNRA), CARB, Caltrans, CEC, GO-Biz	movement sector. The Project would not obstruct or interfere with agency efforts to improve freight system efficiency.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Consistent. The Project would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero-emission operation and maximize both zero- and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
Adopt a LCFS with a Carbon Intensity reduction of 18%.	CARB	Consistent. When adopted, this measure would apply to all fuel purchased and used by the Project in the state. The Project would not obstruct or interfere with agency efforts to adopt an LCFS with a carbon intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, California Department of Food and Agriculture (CDFA), State Water Resources Board (SWRCB), Local Air Districts	Consistent. The Project would be required to comply with this measure and reduce any Project-source Short-Lived Climate Pollutant Strategy (SLPS) emissions accordingly. The Project would not obstruct or interfere with agency efforts to reduce SLPS emissions.
50% reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Consistent. The Project would implement waste reduction and recycling measures consistent with state and County requirements. The Project would not obstruct or interfere with agency efforts to support organic waste landfill reduction goals in the SLCP or SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Consistent. The Project would be required to comply with any applicable Cap-and-Trade Program provisions. The Project would not obstruct or interfere with agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, Develop Integrated Natural and Working Lands Implementation Plan to Secure California's Land Base as a Net Carbon Sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Consistent. The Project site is designated for industrial uses. The Project does not propose land conversion. The Project would not obstruct or interfere with agency efforts to protect land from conversion through conservation easements and other incentives.

Table 4.6-12. 2017 Scoping Plan Consistency Summary

Action*	Responsible Parties	Consistency
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Consistent. The Project site is partially developed and does not comprise an area that would effectively provide for carbon sequestration. The Project would not obstruct or interfere with agency efforts to increase the long-term resilience of carbon storage in the land base or enhance sequestration capacity.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Consistent. Where appropriate, Project design will incorporate wood or wood products. The Project would not obstruct or interfere with agency efforts to encourage use of wood or agricultural products to increase the amount of carbon stored in the natural and built environments.
Establish scenario projections to serve as the foundation for the Implementation Plan		Consistent. The Project would not obstruct or interfere with agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Consistent. The Project would not obstruct or interfere with agency efforts to establish a carbon accounting framework for natural and working lands, as described in SB 859.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Consistent. The Project would not obstruct or interfere with agency efforts to implement the Forest Carbon Plan.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State and Local Agencies	Consistent. The Project would not obstruct or interfere with agency efforts to identify and expand funding and financing mechanisms to support GHG reductions across all sectors.

* Source: CARB 2017. Appendix G.

As shown in Table 4.6-12, the Project would not conflict with any of the 2017 Scoping Plan elements, since any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the state’s existing and proposed regulatory framework, as discussed under Section 4.6.2, Relevant Plans, Policies, and Ordinances, will allow the state to reduce its GHG emissions level to 40% below 1990 levels by 2030 (LBNL 2015b).

Consistency with the County of Riverside’s Climate Action Plan

The Project’s final plans and designs would conform to provisions of the County’s CAP through implementation of Screening Table Measures (County of Riverside 2019).

The Project site is located in the jurisdiction of the March JPA within the County of Riverside. Although the County of Riverside does not have direct authority over the Project, consistency with the County’s CAP provides an additional metric to determine if the Project’s impacts are significant. This information is presented for informational purposes to illustrate how the Project has been designed to reduce GHG emissions.

The Project would implement Screening Table Measures providing for a minimum 100 points per the County’s Screening Tables as required by the County’s CAP and implemented as a condition of approval. The Project would be consistent with the CAP’s requirement to achieve at least 100 points, and thus the Project is considered to have a less-than-significant individual and cumulatively considerable impact on GHG emissions. March JPA would verify incorporation of the identified Screening Table Measures within the Project building plans and site designs prior to the issuance of building permit(s) and/or site plans (as applicable). March JPA would verify implementation of the identified Screening Table Measures prior to the issuance of Certificate(s) of Occupancy.

An example of how the Project would achieve a minimum of 100 Screening Table Points is provided in Table 4.6-13, Climate Action Plan Consistency. Measures that achieve equivalent points or emissions reductions may be substituted.

Table 4.6-13. Climate Action Plan Consistency

Feature*	Description	Points
EE10.A.1 Insulation	Enhanced insulation (rigid wall insulation R-13, roof/attic R-38)	11
EE10.A.2 Windows	Greatly enhanced window insulation (0.28 or less U-factor, 0.22 or less SHGC)	7
EE10.A.3 Cool Roofs	Modest cool roof (CRRC rated 0.15 aged solar reflectance, 0.75 thermal emittance)	7
EE10.A.4 Air Infiltration	Blower door HERS-verified envelope leakage of equivalent	6
EE10.B.1 Heating/Cooling Distribution System	Modest duct insulation (R-6)	5
EE10.B.2 Space Heating/Cooling Equipment	Improved-efficiency heating, ventilation, and air conditioning (EER 14/78% AFUE or 8 HSPF)	4
EE10B.4 Water Heaters	High-efficiency water heater (0.72 Energy Factor)	10
EE10.B.5 Daylighting	All rooms daylighted	1
EE10.B.6 Artificial Lighting	High-efficiency lights (50% of in-unit fixtures are high efficiency)	7
CE1B.1 Photovoltaic	Solar photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments 40% of the power needs of the	12

Table 4.6-13. Climate Action Plan Consistency

Feature*	Description	Points
	Project, as required by MM-GHG-1, installation of a 12-megawatt solar photovoltaic system.	
W2.E.2 Toilets	Water efficient toilets/urinals (1.5 gallons per minute [gpm]) Waterless urinals (commercial buildings having both waterless urinals and high-efficiency toilets would have a combined point value of 6 points)	6
W2.E.3 Faucets	Water-efficient faucets (1.28 gpm)	2
T4.B.1 Electric Vehicle Recharging	Electric vehicle charging stations in garages and parking areas	160**
Total Points Earned by Commercial/Industrial Project		238

* **Source:** County of Riverside 2019. Appendix G.

** The Project is anticipated to provide 20 electric vehicle charging stations. Per the screening tables, each station is 8 points (County of Riverside 2019).

Projects that garner at least 100 points through application of the Screening Table Measures are determined to be consistent with the reduction quantities anticipated in the County’s CAP Update, and consequently would be consistent with the CAP. The Project would implement Screening Table Measures that would provide a minimum of 100 Screening Table Points, and would therefore be considered consistent with the County’s CAP. The Screening Table Measures applicable to the Project would be implemented through **MM-GHG-1** through **MM-GHG-4**, **MM-GHG-7**, and **MM-GHG-8**.

The County’s CAP currently evaluates and quantifies reductions out to 2030. The CAP states, “Through 2050, Riverside County would continue implementation of the Screening Tables. During this time, the reduction measures implemented through the Screening Tables would continue to reduce GHG missions from new development. Additionally, it is assumed that the State measures would keep being updated and reinforced to further reduce emissions. With these assumptions, Riverside County’s emissions would decrease to a level below the reduction target by 2050” (County of Riverside 2019). Thus, compliance with the County’s CAP would serve to meet and support the reduction targets established in SB 32 and the CARB 2017 Scoping Plan.

Consistency with Senate Bill 375 (SCAG Regional Transportation Plan/Sustainable Communities Strategy)

SCAG’s RTP/SCS is a long-range transportation plan that is developed and updated by SCAG every 4 years. The RTP provides a vision for transportation investments throughout the region. The SCS integrates land use and transportation strategies that help to achieve GHG emissions reduction targets from the state’s 2035 and 2040 GHG reduction goals (SCAG 2012).

The Project site lies entirely within Traffic Analysis Zone 43261100. The 2016–2040 RTP/SCS projects that within Traffic Analysis Zone 43261100, there will be a total of 3,576 jobs by 2040. Adding jobs consistent with the 2016–2040 RTP/SCS projections supports SCAG’s achievement of CARB emissions reductions targets.

The SCS also indicates that this is a jobs poor area, so providing more jobs will reduce GHG emissions and reduce vehicle miles traveled, since it will provide local jobs to achieve a more favorable jobs-housing balance (SCAG 2012).

The South Campus Specific Plan, which includes the Project and the already constructed uses, is expected to generate 2,640 permanent jobs. This is within the projected job total in Traffic Analysis Zone 43261100 of 3,576 in 2040. Since the jobs created by the Project are within the job growth projections in the 2016–2040 RTP/SCS, the Project will not impair the region’s ability to achieve the GHG reductions from Project-related mobile sources as required by SB 375 because the land use development pattern proposed by the Project results in jobs within the total number of jobs projected by 2016–2040 RTP/SCS, and is consistent with the underlying assumptions upon which 2016–2040 RTP/SCS was based.

Furthermore, SCAG’s Connect SoCal (2020–2045 RTP/SCS) was adopted on May 7, 2020. The major goals of SCAG’s Connect SoCal are outlined in Table 4.6-14, along with the Project’s consistency with them.

Table 4.6-14. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure*	Proposed Project Consistency
Encourage regional economic prosperity and global competitiveness.	Consistent. The Project provides more local jobs to achieve a more favorable jobs-housing balance and providing annual economic contribution to the Riverside County region.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	Not applicable. The Project would not inhibit SCAG from strengthening the regional transportation network for goods movement.
Enhance the preservation, security, and resilience of the regional transportation system.	Not applicable. The Project would not inhibit Southern California Association of Governments (SCAG) from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	Consistent. The Project would introduce goods movement land uses. The Transportation Element of the March Joint Powers Authority (JPA) General Plan includes a Truck Route Plan (as adopted by Resolution No. JPA 03-02), with truck restrictions prohibiting truck movements on westbound Van Buren Boulevard beyond Village West Drive. The Project would be consistent with the March JPA guidelines and would not inhibit SCAG from increasing person and goods movement and travel choices within the transportation system.
Reduce greenhouse gas emissions and improve air quality.	Consistent. The Project would create a much-needed job center, which would reduce the existing jobs/housing imbalance and reduce traffic congestion, pollution, and fossil fuel dependence.
Support healthy and equitable communities.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	Consistent. The Project would facilitate future development which allows for potential Plot Plans to include electrical vehicle parking. In addition, the Project would be consistent with the March JPA General Plan which promotes efficient truck travel with close proximity to freeways. In addition, the Project incorporates mitigation measure MM-TRA-1, which reduces vehicle miles traveled and promotes efficient travel. As such, the Project would not inhibit SCAG from leveraging technology for the transportation system.

Table 4.6-14. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure*	Proposed Project Consistency
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Not applicable. The Project would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	Consistent. The Project proposes changes to the March JPA General Plan, which includes the increase of 15.3 acres of Parks/Open Space land uses. Land uses within the Project site include 60.4 acres for a conservation area. These land use changes would not inhibit SCAG from promoting conservation of natural and agricultural lands and restoration of habitats.

* Source: SCAG 2020.

At the time the 2003 Focused EIR was certified, there was no legislation or regulatory guidance with respect to CEQA analysis of GHG emissions and climate change. Thus, the 2003 Approved South Campus’s impacts with respect to GHG emissions were not evaluated in the 2003 Focused EIR because there was no regulatory guidance regarding climate change impacts. The Project would be consistent with AB 32, SB 32, SB 375, and the County’s CAP with the implementation of **MM-GHG-1** through **MM-GHG-14**, which require the Project to install solar photovoltaic electricity generation; energy-efficient lighting fixtures; duct and window insulation; cool roofs; energy-efficient HVAC; waterless and high-efficiency toilets and faucets; purple piping; water efficient landscaping and smart irrigation controllers, EV charging stations, preferential parking spaces, bicycle parking facilities, video conferencing facilities; showers, lockers, and changing space; on-site food vending; as well as design SmartWay truck compatible loading docks and provide electrical outlets at exterior of buildings. Thus, the Project’s impacts in relation to applicable regulatory plans and policies to reduce GHG emissions would be **less than significant** with mitigation incorporated.

4.6.6 Mitigation Measures

CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts. Although the 2003 Focused EIR did not evaluate GHG emissions, the following mitigation measures from the 2003 Focused EIR would reduce impacts related to GHG emissions and will be incorporated into the MMRP for the Project:

- C-1** Preferential parking spaces shall be offered to car pools and van pools.
- C-2** Employers with 250 employees or more shall implement a compressed workweek schedule when feasible.
- C-3** Employers shall develop a trip reduction plan to increase vehicle occupancy.
- C-4** Employers shall provide on-site child care facilities when feasible.
- C-5** Design elements shall be designed to reduce vehicle queuing when entering and exiting parking structures.
- C-6** Projects shall provide for video conferencing facilities to the extent possible.

- C-7** Businesses shall minimize the use of fleet vehicles during smog alerts, and encourage the use of alternative fuel vehicles.
- C-8** Buildings shall be designed to reduce energy usage by utilizing solar or low emissions water heaters, double paned glass windows, using light colored roofing materials, orienting buildings north and increasing wall and attic installation above Title 24 requirements.
- C-9** CEQA Review of stationary source emissions other than natural gas and electricity shall be done on all projects with the possibility of emitting air pollutants. In addition, all projects involving stationary source emissions shall obtain permits to construct and operate from the SCAQMD.
- C-12** A construction relations officer should be appointed to act as a community liaison to oversee on-site construction activity and all emissions and congestion related matters.
- C-13** Restrict idling emission from trucks by using auxiliary power units and electrification at the industrial warehouse facilities.
- C-14** Landscape with appropriate drought-tolerant species to reduce water consumption.
- B-5** The March Business Center shall require implementation of parking ratios that limit the need for on-street parking. These ratios are identified in the Specific Plan.
- B-6** The project shall provide for bicycle facilities to accommodate non-motorized circulation on the site and connectivity to routes in the Cities of Riverside and Moreno Valley.
- B-10** The March JPA shall implement Transportation Demand Management (TDM) strategies to shift trips outside the standard commuting hours and/or to non- “drive alone” modes of travel. This is accomplished through various employer-initiated measures, such as flexible working house, encouragement of carpooling, and facilitating access for non-motorized (i.e., bicycling and walking) modes of travel. Section V of the Specific Plan outlines TDM requirements.
- B-11** The March JPA shall cooperate with the Riverside Transportation Agency (RTA) for the provision of bus service within the Specific Plan Area.
- H-4** The project applicant shall incorporate the following measures to help reduce the project’s potential solid waste impacts and to help in the County’s effort to comply with State law in diverting sold waste from landfill disposal:
- Green waste generated by the project should be kept separate from other waste types in order that it can be recycled through the practice of grass recycling (where lawn clippings from a mulching type mower are left on the lawn) or onsite composting or directed to local wood grinding and/or composting operations.
 - The use of mulch and/or compost in the development and maintenance of landscape areas is recommended.
 - Construction and demolition waste should be reduced and/or diverted from landfill disposal by the use of onsite grinders or by directing the materials to recycling facilities.

- H-5** The proposed project shall comply with the State Model Ordinance, implemented in 9/1/94 in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991, which requires that all commercial, industrial, and multi-family residential projects provide adequate area(s) for the collections and loading of recyclable materials. Prior to building permit issuance, the applicant shall submit a Recyclables Collection and Loading Area plot plan to the March JPA for review and approval.
- H-7** The proposed non-potable water system will meet “Purple” pipe standards for reclaimed water systems.
- K-5** All future development of the project site shall adhere to the Uniform Building Code and State building requirements in effect at the time specific development is proposed.

In addition, the following additional mitigation measures have been evaluated for feasibility and are incorporated herein to reduce impacts related to GHG emissions.

Operational Emissions

- MM-GHG-1** Prior to approval of building permits for business park and industrial uses, consistent with the County of Riverside’s Climate Action Plan criteria to install on business park and warehousing buildings or the collective business park and warehousing development such that solar photovoltaic (PV) panels provide 40% of the power needs of the Project, the March Joint Powers Authority (JPA) shall verify that the building plans include solar PV panels, either on site or off site, to provide 40% of the building’s power needs. The March JPA shall verify compliance before issuance of each certificate of occupancy. It is anticipated the Project will install approximately 12-megawatt of solar PV electricity generation. Note: A glare and glint study may be required by March Air Reserve Base for any new solar PV panels.
- MM-GHG-2** Prior to issuance of certificates of occupancy, the March Joint Powers Authority shall verify that the Project shall install Energy Star certified light bulb and light fixtures.
- MM-GHG-3** Prior to issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures shall install duct insulation rated R-6 to a minimum level of; modestly enhanced window insulation rated 0.28 or less U-factor and 0.22 or less SHGC; and Use of enhanced insulation with rigid wall insulation rated R-13 and roof/attic insulation rated R-28 consistent with the County of Riverside’s Climate Action Plan criteria.
- MM-GHG-4** Prior to issuance of building permits and consistent with the County of Riverside’s Climate Action Plan criteria, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures include the following design elements: Construction of modest cool roof, defined as Cool Roof Rating Council (CRRC) Rated 0.15 aged solar reflectance and 0.75 thermal emittance; Use of heating, ventilation, and air conditioning (HVAC) equipment with a season energy efficiency ratio (SEER) of 14 or higher; Installation of blower door HERS verified envelope leakage of equivalent; Installation of water heaters with an energy factor of 0.72 or higher; All rooms shall have some form of daylighting (e.g., skylights or windows); At least 50% of artificial lighting in-unit fixtures shall be high efficiency; Waterless urinals and high efficiency toilets shall be used throughout the Project; and water efficient faucets shall be used throughout the Project.

- MM-GHG-5** Prior to the issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate that all new structures provide electrical outlets at building exterior areas.
- MM-GHG-6** Prior to the issuance of building permits, the Project applicant shall prepare and submit landscape plans to the March Joint Powers Authority that demonstrate that the landscape non-potable water system shall meet “purple” pipe standards.
- MM-GHG-7** Prior to the issuance of building permits, the Project applicant shall prepare and submit landscape plans to the March Joint Powers Authority that demonstrate that the Project shall exceed the County of Riverside’s Climate Action Plan requirement for water efficient landscaping by having no turf, with the exception of the dog park, and only drought tolerant plants and introducing additional water efficient irrigation controls such as smart irrigation controllers.
- MM-GHG-8** Prior to the issuance of building permits and verified before certificate of occupancy, the Project applicant shall prepare and submit plan to the March Joint Powers Authority that demonstrate the provision of circuitry and capacity for installation of electric vehicle charging stations consistent with the County of Riverside’s Climate Action Plan. Per information provided by the Project Applicant, the Project shall develop 20 charging stations.
- MM-GHG-9** Prior to the issuance of certificates of occupancy, the March Joint Powers Authority shall verify signage installation for 5% of vehicle/employee parking spaces reserved for preferential spaces for carpools and van pools.
- MM-GHG-10** Tenants with more than 10,000 square feet of office space shall provide video conferencing facilities. Tenant spaces below 10,000 square feet may pursue video conferencing as feasible.
- MM-GHG-11** The Project shall provide short- and long-term bicycle parking facilities to meet peak season maximum demand (one bike rack space per 20 vehicle/employee parking spaces).
- MM-GHG-12** Prior to the issuance of building permits, the Project applicant shall prepare and submit building plans to the March Joint Powers Authority that demonstrate the provision of “end-of-trip” facilities including showers, lockers, and changing space (four clothes lockers and one shower provided for every 80-employee parking spaces, separate facilities for each gender for projects with 160 or more employee parking spaces).
- MM-GHG-13** Each tenant shall provide on-site food vending machines or refrigerator, microwave oven, and mail facilities (i.e., drop box) at the Project site. Each tenant with over 5,000 square feet of office space shall provide an on-site computer, internet connection, and other services for personal employee use. Projects shall also consider the provision of an ATM machine as feasible.
- MM-GHG-14** For any warehouse use, the loading docks shall be designed to accommodate SmartWay trucks. The March Joint Powers Authority shall require evidence of compliance prior to issuance of a certificate of occupancy for any warehouse use.

4.6.7 Level of Significance After Mitigation

After implementation of the quantifiable mitigation measures (i.e., **MM-GHG-4** and **MM-GHG-11**), the annual GHG emissions associated with the operation of the Proposed Project Land Uses are estimated to be 69,697.65 MTCO_{2e} per year as summarized in Table 4.6-15.

Table 4.6-15. Proposed Project Land Uses Operational Greenhouse Gas Emissions (with Mitigation)

Emission Source	CO _{2e} Emissions (metric tons per year) – Unmitigated
Annual Construction-Related Emissions Amortized Over 30 Years	480.53
Area Source	0.11
Energy Source	8,887.85
Mobile Source (Passenger Car)	26,354.51
Mobile Source (Truck)	33,655.38
On-Site Equipment	562.98
Waste	535.69
Water Usage	4,018.59
Reductions from Rooftop Solar PV Panels	-4,422.00
Reductions from Electric Vehicle Charging Stations	-376.00
Proposed Project Land Uses Total CO_{2e} Emissions (All Sources)	69,697.65

Source: Appendix G

Note: CO_{2e} = carbon dioxide equivalent

As discussed under Threshold GHG-1, the Project would implement **MM-GHG-1** through **MM-GHG-14** to reduce Project GHG emissions. Furthermore, the Project would be consistent with SB 32, County’s CAP, and SB 375 as discussed under Threshold GHG-2, the Project would implement **MM-GHG-3**, **MM-GHG-4**, **MM-GHG-7**, and **MM-GHG-8** to further reduce the Project’s impact. Thus, impacts would be **less than significant** with mitigation incorporated.

4.6.8 Cumulative Effects

GHG emissions inherently contribute to cumulative impacts, and, thus, any additional GHG emissions would result in a cumulative impact. Development of the Project site would be consistent with the County’s CAP and would not result in a conflict with the adopted CAP; would support the SCAG 2020 RTP/SCS and the SCAG 2016 RTP/SCS by providing jobs in a jobs-poor area and through incorporation of energy efficiency, water conservation, recycling, and landscaping; and would demonstrate consistency with the Scoping Plan. Given the Project’s consistency with statewide, regional, and local plans adopted for the purpose of reducing GHG emissions, the Project’s emissions and their effects on climate change would not be cumulatively considerable. Furthermore, the Project would be consistent with SB 32, County’s CAP, and SB 375. The project would implement **MM-GHG-1** through **MM-GHG-14** to further reduce the Project’s GHG emissions. Therefore, the Project would result in a **less-than-cumulatively considerable** GHG emissions impact.

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4.7 Hazards and Hazardous Materials

This section analyzes the potential hazards and hazardous materials impacts of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project) that could result in impacts to people residing or working in the Project area. The Initial Study prepared for the proposed Project (included in Appendix A) concluded that potential impacts related to the Project site being located on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 could be potentially significant and therefore discussed further in this Subsequent Environmental Impact Report (SEIR). The Initial Study also concluded that potential impacts related to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school; being located within an airport land use plan; impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan; and exposing people or structures to significant risk of loss, injury, or death involving wildland fires were found to be result in less than significant with mitigation, less than significant, or no impact.

In addition to other documents listed in Section 4.7.8, References Cited, the following resources were used in the preparation of this section of the SEIR:

- March Finding of Suitability to Transfer for Parcel I-3, April 2006
- EnviroStor, Department of Toxic Substances Control Online Database (reviewed June 29, 2020)
- Department of the Air Force Memorandum for Air Force Safety Center regarding Small Arms Munitions Debris Discovered on the Former March AFB, CA, May 27, 2016

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused Environmental Impact Report (EIR), those mitigation measures, included in Section 4.7.5, are described and applied to the Project and will be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.7.1 Existing Conditions

South Campus Specific Plan

The Project site is located within the southwestern portion of the March Joint Powers Authority (JPA) jurisdiction. More specifically, the Project site is located in the southern portion of the March Business Center Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the Project site. The entire South Campus Specific Plan area was evaluated for potential environmental hazards in 1994 as part of a Basewide Environmental Baseline Survey, and in 2006, the Air Force Real Property Agency issued a Finding of Suitability to Transfer, certifying that any and all required cleanup and remediation activities for land being disposed of by the March Air Force Base was completed (Air Force Real Property Agency 2006). To date, the entire South Campus Specific Plan area has been graded, and as discussed in Section 3, Project Description, several roadways, buildings, as well as a park with trails, have been constructed.

Village West Drive Extension

The Village West Drive Extension component of the Project is located to the east and south of South Campus and is located on land owned by the Veteran's Administration. The roadway alignment has remained unchanged for at least 25 years. An abandoned water tank, which is proposed to be removed, is located adjacent to the roadway approximately 0.3 miles north of Nandina Avenue. No hazardous materials sites have been identified within 0.25 to 1 mile of the proposed Village West Drive Extension area.

4.7.2 Relevant Plans, Policies, and Ordinances

Federal

Process Safety Management

In 1992, the Occupational Safety and Health Administration (OSHA) adopted a regulation known as Process Safety Management of Highly Hazardous Chemicals (PSM). This regulation addresses employee safety through the prevention of catastrophic accidents. One of the key components of the required PSM process is the performance of process hazard analyses which assesses potential accident scenarios and adopts safeguards to prevent accidents. The California OSHA adopted and enforces equivalent PSM regulations. In many instances, facilities subject to both the Risk Management Plan (RMP) (discussed below) and PSM requirements prepare a combined document (PSM/RMP) that addresses the requirements of these closely associated programs.

Risk Management Plan

The 1990 Clean Air Act Amendments require that facilities using regulated substances in amounts over specific threshold quantities prepare a risk management plan (RMP). California's stricter version of the federal program is called the California Accidental Release Prevention program and also requires the preparation of an RMP for those facilities that use regulated substances in quantities over the State thresholds. The RMP must include three main components: (1) hazard assessment; (2) release prevention planning; and (3) emergency response planning. The RMP requires facilities to identify and assess their chemical hazards and carry out certain activities designed to reduce the likelihood and severity of accidental chemical releases. The RMP would need to be submitted and

approved by the Riverside County Hazardous Materials Management Division. This RMP must be updated and resubmitted to the Riverside County Hazardous Materials Management Division when significant changes occur that affect the use or storage of regulated substances.

State

California Code of Regulations

Most state and federal regulations and requirements that apply to generators of hazardous waste are spelled out in the California Code of Regulations (CCR), Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, treatment, storage, and disposal facilities. As California is a fully authorized state pursuant to the Resource Conservation and Recovery Act of 1976 (RCRA), most RCRA regulations, such as those contained in 40 Code of Federal Regulations (CFR) 260, et seq., have been duplicated and integrated into Title 22. However, since the California Department of Toxic Substances Control regulates hazardous waste more stringently than U.S. Environmental Protection Agency, the integration of state and federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as RCRA. As with the California Health and Safety Code, Title 22 also regulates wider range of waste types and waste management activities than do RCRA regulations in 40 CFR 260. To aid the regulated community, California compiled the hazardous materials, waste, and toxics-related regulations contained in CCR Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27, into one consolidated CCR Title 26 “Toxics.” However, the California hazardous waste regulations are still commonly referred to as Title 22.

California Office of Emergency Services

To protect the public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters and public safety officers. Regulatory agencies are included in business plans to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of Division 20 of the California Health and Safety Code Article 1–Business and Area Plans (Sections 25500 to 25519) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3).

Local

2008 March Area Regional Emergency Resource Guide

The March Area Regional Emergency Resource Guide provides a list of resources and brief descriptions of emergency information networks in the area. The Guide contains information on area hospitals, animal disaster resources, law enforcement, fire protection, airports/air services, emergency services for the March Inland Port, and mass transportation information. The Guide also provides contacts for nearby health care clinics, utilities providers, pharmacies, and ambulance resources. Finally, the Guide details the Emergency Alert Systems, Western County Disaster Net, and the Early Warning Notification System. The purpose of the Guide is to list those items used in the first few hours of an emergency and provide uniform easy references to first responder agencies in Riverside County. The facilities within the Specific Plan can use this guide to contact agencies or resources in an emergency.

March Joint Powers Authority General Plan

The Land Use Element and Safety/Risk Management Element of the March JPA General Plan (March JPA 1999) include policies related to safety risks for people residing or working in the Project area that will be applied to the Project. The following goal from the March JPA General Plan Safety/Risk Management Element applies to the Project. Consistency with these policies is discussed in Section 4.9, Land Use and Planning, of this Draft SEIR.

Goal 5: Reduce the potential for hazardous material exposure or contamination in the Planning Area.

4.7.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on March JPA's 2019 CEQA Guidelines. According to March JPA's 2019 CEQA Guidelines, a significant impact related to hazards and hazardous materials would occur if the Project would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment.
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- h) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

As discussed in the Initial Study prepared for the proposed Project (Appendix A), with incorporation of previously adopted mitigation measures A-1, A-2, E-1, and E-2 from the 2003 Focused EIR, impacts would be less than significant and the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school; or be located within an airport land use plan that would result in a safety hazard or excessive noise for people residing or working in the project area. In addition, the Initial Study determined the proposed Project would result in a less-than-significant impact related to the exposure of people or structures to significant risk of loss, injury, or death involving wildland fires; as well as no impact would result from the proposed Project to impair implementation of or physically interfering with an

adopted emergency response plan or emergency evacuation plan. As such, for the purposes of this analysis, a significant hazard and hazardous materials impact would occur if the Project would:

HAZ-1: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment.

4.7.4 Impacts Analysis

HAZ-1. *Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

South Campus Specific Plan

The entire South Campus Specific Plan area was evaluated for potential environmental hazards in 1994 as part of a Basewide Environmental Baseline Survey, and in 2006, the Air Force Real Property Agency issued a Finding of Suitability to Transfer, certifying that any and all required cleanup and remediation activities for land being disposed of by the March Air Force Base was completed (Air Force Real Property Agency 2006). This evaluation and land transaction included the South Campus Specific Plan area. To date, the entire South Campus Specific Plan area has been graded, and as discussed in Section 3 of this SEIR, several roadways, buildings, as well as a park with trails, have been constructed.

Based on the completion of remediation activities on the site, and that the South Campus Specific Plan area is not located on a listed hazardous materials site compiled pursuant to Government Code Section 65962.5, no new or different impacts would occur than those previously identified in past environmental documents prepared for the March Business Center Specific Plan. Impact would be **less than significant**, and no additional mitigation is required.

Village West Drive Extension

The Village West Drive Extension area is not identified on a listed hazardous materials site compiled pursuant to Government Code Section 65962.5. A Department of Toxic Substances Control Envirostor database review was conducted within the Village West Drive Extension area. While the site is adjacent to the Riverside National Cemetery, which underwent remediation, that site is now listed as “certified” as of May 1986. No record of known hazardous materials sites, remediation or leaking underground storage tanks were identified within or near the Village West Drive Extension alignment. Impacts would be **less than significant**, and no additional mitigation is required.

4.7.5 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce hazards and hazardous materials impacts to less than significant and will be incorporated into the MMRP for the Project:

A-1 Development within the Clear Zone and Accident Potential Zones I and II will abide by building standards and codes, including height restrictions, restrictions on use, setbacks, population

densities, insulation and materials, as outlined in the approved 1998 Air Installation Compatible Use Zone (AICUZ).

- A-2** As established in the Specific Plan, the project will comply with the policies and requirements of the Riverside County Airport Land Use Plan. Development plans will be submitted to the FAA for the review in accordance with FAR Section 77.13.2.i. Additional ALUC review will be required for objects taller than 50 feet in the Height Caution Zone shown on Figure IV.A-4 (of the 2003 EIR). Other land use controls (relating to safety (both in the air and on the ground) and noise) have been developed in consultation with the ALUC, and have been incorporated into the Specific Plan.
- E-1** No project facilities located within one-quarter mile of the existing school shall store, handle or use toxic or highly toxic gases as defined in the most currently adopted County fire code at quantities that exceed exempt amount as defined in the most currently adopted fire code.
- E-2** Facilities that store, handle or use regulated substances as defined in the California Health and Safety Code 25532 (g) in excess of threshold quantities shall prepare risk management plans (RMP) for determination of risks to the community. If in the event the RMP shows that the facility stores, handles or uses regulated substances in excess of the thresholds described above, the activity will be prohibited.

As shown in the analysis above, all Project impacts associated with hazards and hazardous materials would be less than significant. No additional mitigation measures are required.

4.7.6 Level of Significance After Mitigation

Impacts from hazards and hazardous materials would be less than significant with implementation of mitigation measures A-1, A-2, E-1, and E-2 from the 2003 Focused EIR.

4.7.7 Cumulative Effects

The U.S. Air Force implemented a comprehensive environmental assessment and remediation program for the March Business Center Specific Plan in February 2001 as part of the Finding of Suitability for Transfer (FOST) when the March Air Force Base was redesignated as an Air Reserve Base. The measures defined in the program were required prior to transfer of ownership from the U.S. Air Force to the March JPA. As discussed in the Phase I Environmental Site Assessment and Phase I Environmental Site Assessment Addendum prepared by LOR Geotechnical Group, Inc. (included as Appendix H), the Project site exhibits no evidence of potential recognized environmental conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the Project site. Related projects, as shown in Table 4-1, would also be subject to federal, state, and local regulations regarding hazards and hazardous materials, and those within the jurisdiction of March JPA are subject to the same remediation program as the Project site. The potential for cumulative impacts to occur is limited because the impacts from hazardous materials use on a project site are site specific. Although each development site from the cumulative projects list (Table 4-1) has potentially unique hazardous materials considerations, it is expected that future development within the area will comply with federal, state, and local statutes and regulations applicable to hazardous materials. As such, cumulatively significant impacts associated with hazards and hazardous materials would not be anticipated.

The proposed Project and related projects, as shown in Table 4-1, include a mixture of uses such as commercial and industrial developments, which could store, use, generate or dispose of hazardous materials. Compliance with applicable federal, state, and regional regulations regarding hazardous materials would minimize potential contamination or hazardous materials-related incidents; thus, new development in the Project area is not expected to present significant risks to public health and safety. Further, mitigation measures specific to each proposed Project would be developed as part of the environmental review and permitting process. Through compliance with existing regulations, the Project would result in **less-than-cumulatively considerable impacts**.

4.7.8 References Cited

Air Force Real Property Agency. 2006. *Finding of Suitability to Transfer Former March Air Force Base, California, Parcel I-3*. April 2006.

March JPA (Joint Powers Authority). 1999. *March Joint Powers Authority General Plan*.

March JPA. 2003. *March Business Center Focused Environmental Impact Report*.

March JPA, 2016. *Phase I Environmental Site Assessment, South Campus Property*.

March JPA. 2019. *March JPA CEQA Guidelines*. Accessed June 29, 2020. https://www.marchjpa.com/documents/docs_forms/2019_CEQA_GUIDELINES.pdf.

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4.8 Hydrology and Water Quality

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing hydrology and water quality conditions of the South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to the implementation of the proposed Project. The following analysis is based, in part, on the following documents:

- Master Project Specific Water Quality Management Plan, Master Meridian Business Park Project, South Campus - Phase II, prepared by DRC Engineering Inc. in August 2019, included as Appendix I1 of this SEIR
- Preliminary Hydrology Study for Meridian Park South Campus Phase II, by DRC Engineering in August 2019, included as Appendix I2 of this SEIR
- Water Supply Assessment, South Campus Specific Plan Amendment Project, by Western Municipal Water District, April 15, 2020, included as Appendix M1 of this SEIR
- Geotechnical Exploration Update, Proposed Meridian South Campus Phase I, Tract No. 30857-7, County of Riverside, California, prepared by Leighton Consulting Inc. in February 2016, included as Appendix 3, Soils Information of Appendix F1 of this SEIR
- Geotechnical Exploration, Proposed Meridian Park South Campus – Phase II, County of Riverside, California, prepared by Leighton Consulting in September 2019, included as Appendix F2 of this SEIR
- Geotechnical Exploration, Proposed Village West Drive Extension, County of Riverside, California. Prepared by Leighton Consulting in February 2020, included as Appendix F3 of this SEIR
- County of Riverside General Plan Safety Element (County of Riverside 2019)

Other sources consulted are listed in Section 4.8.8, References Cited.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.8.1 Existing Conditions

Regional Watershed

The proposed Project site is located within the Santa Ana River Watershed, which drains a 2,650-square-mile area in Southern California. This watershed is home to over 6 million people and includes major population centers, such as parts of Orange, Riverside, and San Bernardino Counties, as well as a small part of Los Angeles County. The Santa Ana River flows over 100 miles and drains the largest coastal stream system in Southern California. The watershed eventually outfalls into the Pacific Ocean in the City of Huntington Beach. The total length of the Santa Ana River and its major tributaries is about 700 miles (Appendix I1; Santa Ana Watershed Project Authority 2014).

The Santa Ana River Watershed is subdivided into a number of subwatersheds throughout its boundary. The Project site is located within the San Jacinto River Subwatershed, which is a 35-mile-long, 510-square-mile watershed, located within the northeast part of the Santa Ana River Watershed. The downstream outlet of the subwatershed is Lake Elsinore, which is a 90,000 acre-feet natural lake located downstream of Canyon Lake. Major tributaries to this watershed include Potrero Creek, Perris Valley Channel, and Salt Creek Channel. The San Jacinto River flows through the cities of San Jacinto, Perris, Menifee, Canyon Lake, and Lake Elsinore as well as unincorporated parts of Riverside County (County of Riverside 2017).

South Campus Specific Plan Area

Topography

As previously discussed in Section 4.5 Geology and Soils, the topography of the South Campus Specific Plan area consists of low rolling hills, with undulating topography. The western part of the South Campus Specific Plan area consists of two low-lying hills, with gentle slope gradients radiating to the north, west, south, and east. The eastern part of the South Campus Specific Plan area consists of an overall gentle to moderate slope gradient to the east. Site elevations range from approximately 1,760 feet above mean sea level, in the western part of the site, to approximately 1,613 feet above mean sea level in the northeast area (Appendix F2). An east-trending incised drainage is located in the northern part of the South Campus Specific Plan Area and a northeast-trending drainage is located in the southeast part of the site. Locally, steep slopes are present adjacent to the northern creek. The topography has been altered by cut-and-fill grading for existing large warehouses and associated roadways, resulting in level building pads surrounded by cut and fill slopes.

Stormwater Drainage

As discussed above, the eastern part of the South Campus Specific Plan area consists of an overall gentle to moderate slope gradient to the east. Stormwater runoff occurs primarily as sheet flow to the east and northeast in this area. An east-trending incised drainage is located in the northern part of the South Campus Specific Plan Area and a northeast-trending drainage is located in the southeast part of the site. Runoff in the western portion of the South Campus Specific Plan area occurs primarily as sheetflow to the west and south. A north-south-trending drainage divide is located within the South Campus Specific Plan area (Figure 4.8-1, Master Drainage Plan Areas).

As depicted on Figure 3-1, Project Location, a drainage basin is located along Van Buren Boulevard. This basin was constructed in association with the widening of Van Buren Boulevard and is not part of a Master Drainage Plan (MDP), which has been completed by the Riverside County Flood Control and Water Conservation District (RCFCWCD) for a majority of Riverside County (RCFCWCD 2020). Rather, this pervious basin is a water quality best management practice (BMP) feature that was constructed to capture runoff from Van Buren Boulevard. The Riverside County Transportation Department approved the BMP facility as part of the Van Buren Boulevard Phase 3 roadway improvements (Dev No. MS4320, Design Review/Case No. IP170023).

MDPs address the current and future drainage needs of a given community, by investigating and evaluating drainage problems, as well as developing an economical drainage plan that provides flood protection for the most seriously impacted portions of communities. The boundary of MDP areas follow regional watershed limits (RCFCWCD 1982, 1991, 2020). According to these plans, with the exception of much of the southwest portion of the site, which is located within the Mead Valley MDP area (RCFCWCD 2015, 2020), most of the South Campus Specific Plan area is located within the Perris Valley MDP area (RCFCWCD 2014, 2020).

Perris Valley Master Drainage Plan Area

The portion of the South Campus Specific Plan area located within the Perris Valley MDP generally drains to the east-northeast. No MDP drainage features, such as storm drains or concrete-lined channels, are located within the South Campus Specific Plan area. The Perris Valley MDP appears to sheet flow or shallow concentrated flow to the east and northeast before draining into an existing open conservation channel south of Van Buren Boulevard. Stormwater water flows are channeled under Van Buren Boulevard to regional detention basin Lot E/49, located at Meridian Parkway and Opportunity Way (Figure 4.8-1). Two additional basins, the East Detention Basin and South Channel Detention Basin, are located downstream of the Lot E/49 Basin, immediately west of Interstate 215. The three basins are designed to accept pre- and post-development 100-year storm volumes, as well as accommodate the RCFCWCD requirements for the increase in runoff from the fully built-out South Campus Specific Plan area that is tributary to those basins (i.e., the Perris Valley MDP area) (K&A 2014). Downstream of the basins, runoff is routed to the Perris Valley Storm Drain Channel, which is located to the east of the South Campus Specific Plan area. Runoff continues to flow south through this channel until it converges with the San Jacinto River, Canyon Lake, Lake Elsinore, and the Santa Ana River (Appendix I2).

Mead Valley Master Drainage Plan Area

No MDP drainage features, such as storm drains or concrete-lined channels, are located within the South Campus Specific Plan area. Stormwater from this area of the South Campus Specific Plan occurs as sheet flow or shallow concentrated flow to the west and south. Drainage patterns indicate that runoff would be discharged to storm drain infrastructure that flow into Cajalco Creek, upstream of Lake Mathews.

Hydrologic Conditions of Concern

Applicants for New Development and Significant Redevelopment projects (i.e., in excess of one acre) must identify whether the project is subject to Hydrologic Conditions of Concern (HCOC) requirements, and when required, meet the HCOC requirements, in accordance with the Santa Ana Region Hydromodification Management Plan (Santa Ana RWQCB 2017). The objective of this plan is to manage increases in runoff volumes and decreases in time of concentration that may result from New Development and Significant Redevelopment projects. Applicable projects shall demonstrate compliance with the HCOC maximum extent practicable standards. Generally, the HCOC is not significant if the post-development hydrograph is no more than 10% greater than the pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and used, discharge from the site must be limited to a flow rate no more than 110% of the pre-development 2-year, 24-hour peak flow. The South Campus Specific Plan area is located in an HCOC-applicable area (RCFCWCD 2012).

Drainage in the Northwest Portion of the South Campus Specific Plan Area

A hydrology analysis was completed for the approximate 95-acre, northwest portion of the South Campus Specific Plan area, which is roughly located between Barton Street, Coyote Bush Avenue, Krameria Avenue, and Van Buren Boulevard (Figure 4.8-1; Appendix I2). As illustrated on Sheet 1, Existing Hydrology Map in Appendix I2, stormwater from the northwest portion of the South Campus Specific Plan area is currently conveyed off-site via six drainage areas, including Drainage Area A, Drainage Area B-1, Drainage Area B-2, Drainage Area C, and Drainage Area E. Drainage Area D is less than 0.1 acres and therefore was not evaluated in the hydrology report.

Surface Water Quality

Stormwater runoff is a significant contributor to local and regional pollution. Urban stormwater runoff is the largest source of unregulated pollution in the waterways of the United States. Federal, state, and regional regulations require the County of Riverside to control the discharge of pollutants to the storm drain system, including the discharge of pollutants from construction sites and areas of new development.

State and Federal Requirements

In accordance with state policy for water quality control, the Santa Ana Regional Water Quality Control Board (RWQCB) regulates water quality, among various other agencies, within the Santa Ana Region. Water quality objectives, plans, and policies for the surface waters within this region are established in the Santa Ana Region Basin Plan, which has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. Identified waterbodies located downstream of the South Campus Specific Plan area include the Perris Valley Storm Drain, San Jacinto River, Canyon Lake, Lake Elsinore, Cajalco Creek, Lake Mathews, and Mockingbird Reservoir. The beneficial uses of these waterways are listed in Table 4.8-1, Identified Receiving Waters (Appendix I1; SWRCB 2019).

Under the Clean Water Act Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. The U.S. Environmental Protection Agency (EPA) has approved a 303(d) list of water quality impairments for water bodies located downstream of the South Campus Specific Plan area, which includes the Perris Valley Storm Drain, the San Jacinto River, Canyon Lake, Lake Elsinore, Cajalco Creek, Lake Mathews, and Mockingbird Reservoir (Appendix I1; SWRCB 2019).

Once a water body has been listed as impaired on the 303(d) list, a total maximum daily load (TMDL) for the constituent of concern (pollutant) must be developed for that water body. A TMDL is an estimate of the daily load of pollutants that a water body may receive from point sources, non-point sources, and natural background conditions (including an appropriate margin of safety), without exceeding its water quality standards. Those facilities and activities that are discharging into the water body, collectively, must not exceed the TMDL. In general, dischargers within each watershed are collectively responsible for meeting the required reductions and other TMDL requirements by the assigned deadline. Of the listed bodies of water, the only impaired waters were Canyon Lake, which is listed on the 303(d) list for nutrients and pathogens; and Lake Elsinore, which is listed on the 303(d) list for nutrients, organic enrichment/low dissolved oxygen, polychlorinated biphenyls (PCBs), sediment toxicity, and unknown toxicity (Table 4.8-1) (Appendix I1; SWRCB 2019).

Table 4.8-1. Identified Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses
<i>Middle and Lower San Jacinto River Watershed</i>		
Perris Valley Storm Drain	N/A	None
San Jacinto River	N/A	Intermittent beneficial use: Agricultural water supply; groundwater recharge; contact/non-contact recreation; warm freshwater habitat; wildlife habitat; and threatened or endangered species
Canyon Lake	Nutrients, Pathogens	Municipal and domestic water supply; agricultural water supply; groundwater recharge; contact/non-

Table 4.8-1. Identified Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses
		contact recreation; warm freshwater habitat; wildlife habitat; and threatened or endangered species
Lake Elsinore	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs, Sediment Toxicity, Unknown Toxicity	Municipal and domestic water supply; agricultural water supply; groundwater recharge; contact/non-contact recreation; warm freshwater habitat; wildlife habitat; and threatened or endangered species
<i>Santa Ana River Watershed</i>		
Cajalco Creek	N/A	None
Lake Mathews	N/A	Municipal and domestic water supply, agricultural water supply, industry service supply, industry process supply, groundwater recharge, contact/non-contact recreation, warm freshwater habitat, wildlife habitat, rare threatened or endangered species
Mockingbird Reservoir	N/A	Municipal and domestic water supply, agricultural water supply, contact/non-contact recreation, warm freshwater habitat, wildlife habitat

Source: Appendix I1; SWRCB 2019

Notes: EPA = U.S. Environmental Protection Agency; N/A = not applicable

County and March JPA Requirements

The County of Riverside is a co-permittee under the National Pollutant Discharge Elimination System (NPDES) Permit for the RCFCWCD (i.e., County of Riverside municipal separate storm sewer system [MS4] permit). The NPDES permit sets limits on pollutants being discharged into waterways and requires all new development and significant redevelopment to incorporate low-impact development (LID) features, as laid out in the County of Riverside 2011 Design Handbook for Low Impact Development Best Management Practices (County of Riverside 2011). Priority projects in the County of Riverside are required to develop and implement a Water Quality Management Plan (WQMP) to reduce pollutants, maintain and reduce downstream erosion, as well as maintain stream habitat from all new development. The Santa Ana RWQCB has established the Water Quality Management Plan, A Guidance Document for the Santa Ana Region of Riverside County (Santa Ana RWQCB 2012), (i.e., the 2012 Riverside County WQMP Template and Guidance document), as a template for completing WQMPs.

The March JPA WQMP Document (March JPA 2008) meets the intent of the Riverside County MS4 Permit, which is implemented throughout Riverside County. However, as a small local government with a population of less than 100,000, March JPA is primarily charged with the redevelopment of the former March Air Force Base. March JPA is not a Co-Permittee of (and is not subject to) the Riverside County MS4 Permit. However, the WQMP Document is used by March JPA as a guidance document to help establish consistency with other agencies, including the EPA, U.S. Fish and Wildlife Services, Santa Ana RWQCB, and the County of Riverside. The March JPA WQMP Document includes (1) general information on regulations, (2) WQMP submittal requirements, (3) design guidelines for BMPs, (4) Stormwater Pollution Prevention Plan (SWPPP) submittal requirements and guidelines, and (5) March JPA submittal and approval process information.

Based on the March JPA WQMP Document (March JPA 2008), a project-specific WQMP must be completed for new development projects, such as the proposed Project. Prior to issuance of conceptual approvals, the applicant must submit to the March JPA for review and approval a project-specific Preliminary WQMP that includes the following:

1. Site design BMPs, such as reducing urban runoff by minimizing impervious areas/footprints, maximizing permeability, minimizing directly connected impervious areas, creating reduced or “zero discharge” areas, and conserving natural areas;
2. A detailed description of Applicable Source Control BMPs, as described in the March JPA WQMP Document; and
3. Treatment Control BMPs, as described in the March JPA WQMP Document, including information regarding design considerations.

For discretionary actions that include a precise plan of development, after the Preliminary WQMP is approved, the applicant shall (1) ensure that development projects comply with regulatory agency requirements, including federal, state, and regional regulations; and (2) submit a final WQMP including plans, including elevations, slopes, and other details of the proposed structural BMPs. For projects subject to HCOC requirements, such as the South Campus Specific Plan area, the WQMP would be completed in conjunction with the HCOC stormwater detention plan.

Water Supply

The Western Municipal Water District would provide potable and non-potable water service to the South Campus Specific Plan area. Western Municipal Water District’s total service area covers 527 square miles throughout western Riverside County, of which 104 square miles are included in its retail service area. According to Western Municipal Water District’s 2015 Urban Water Management Plan (UWMP), a majority of the Western Municipal Water District’s water supply is purchased from the Metropolitan Water District of Southern California, which accounted for approximately 71% of the District’s water supply in 2015. Western Municipal Water District also purchases local groundwater supplies from Meeks and Daley Water Company, Riverside Highland Water Company and when available, from the City of Riverside. Water is typically purchased from the City of Riverside on an emergency or off-season basis. Groundwater is a major source of water supply for Western Municipal Water District, comprising 13% of Western Municipal Water District’s purchased water, 85% of locally produced water, and representing 21% of Western Municipal Water District’s total supply in 2015. The remainder of Western Municipal Water District’s water supply is derived from desalination and recycled water programs, which accounted for approximately 8% of the District’s total water supply in 2015. Local groundwater supplies for the Western Municipal Water District are primarily pumped from the Riverside-Arlington Basin, the Temecula-Murrieta Basin, the San Bernardino Basin Area, and the Chino Basin (Western 2016).

The San Bernardino Basin Area is adjudicated by the Western Judgment,¹ which established a natural safe yield of the Basin to be a total of 232,100 acre-feet per year (AFY) for both surface water diversions and groundwater extractions. Of this amount, agencies with groundwater rights within the Western Municipal Water District are allocated 64,862 AFY. An annual report calculating the total extractions compared to the safe yield for the San Bernardino Basin Area is developed by the Western-San Bernardino Watermaster. This comparison keeps a record of any credits or replenishment obligations for water purveyors within the basin. According to the 2019 Annual Western-San Bernardino Watermaster Report, the Western Municipal Water District has accumulated a combined credit of 527,017 acre-feet of stored water supply (Western Watermaster 2019).

¹ *Western Municipal Water District of Riverside County v. East San Bernardino County Water District, et al.*, Riverside Superior Court No. 78426 (1969).

Similar to the San Bernardino Basin Area, the Chino Basin is also adjudicated.² This ruling established a physical solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. The judgment also appointed a Watermaster to account for and implement the management of the Chino Basin, as well as established an operating safe yield of the basin of 135,000 AFY (Chino Basin Watermaster 2019).

In accordance with the Sustainable Groundwater Management Act (SGMA), the California Department of Water Resources has classified the Riverside-Arlington Basin, the Temecula-Murrieta Basin, the San Bernardino Basin Area, and the Chino Basin in regards to prioritizing the completion of a Groundwater Sustainability Plan (GSP) (CDWR 2019). All but the San Bernardino Basin Area, which is composed of parts of the Bunker Hill Basin, the Yucaipa Basin, and the Rialto-Colton Basin, were considered to have a very low priority in regards to prioritizing the completion of GSP. Of the three basins, both the Bunker Hill Basin and the Rialto-Colton Basin had a very low priority, while the Yucaipa Basin was considered to have a high priority (CDWR 2019). Groundwater Sustainability Agencies (GSAs) and associated GSPs are not required for adjudicated basins. Therefore, the California Department of Water Resources classifies adjudicated basins as very low priority with respect to completing GSPs.

A formal Groundwater Management Plan was developed for the Arlington Basin. Temecula Valley Basin has a Salt and Nutrient Management Plan to help manage groundwater quality in the face of current and proposed recycled water use. A GSP has not been developed for the San Bernardino Basin Area, as this basin is adjudicated. However, the management of this basin is the primary focus of the Upper Santa Ana River Watershed Integrated Regional Water Management Plan (IRWMP) prepared by the San Bernardino Valley Municipal Water District and is included in the Annual Report of the Western-San Bernardino Watermaster. The Basin Technical Advisory Committee, organized under the Upper Santa Ana Watershed IRWMP, was formed to identify issues and projects that need to be continually addressed (Western 2016).

Historically, groundwater has been a reliable source of water for the Western Municipal Water District during normal and short-term drought conditions because this source is local and has a large storage capacity that will still be available when surface flows become limited. However, groundwater supply availability becomes threatened when overdraft occurs, and when recharge and inflow decrease. In order to mitigate these potential threats, the UWMP includes a Water Supply Shortage Contingency Plan within its 2015 UWMP. As both a wholesale and retail water agency, the Western Municipal Water District has developed plans to address water supply reductions to member agencies, as well as to individual retail customers. These plans aim to address water supply reduction to member agencies at times of interrupted or significantly reduced water supply, such as a drought or earthquake. The Water Shortage Supply Contingency Plan addresses water shortage actions for retail customers, while its Drought Allocation Plan addresses actions for imported water agencies. The Drought Action Plan was prepared by the Western Municipal Water District in conjunction with its retail agencies and provides the Western Municipal Water District and its wholesale customers with a means of allocating limited imported water supplies from the Metropolitan Water District of Southern California under shortage conditions. Within Western Municipal Water District's retail service jurisdiction, the Water Shortage Supply Contingency Plan describes five stages of water supply shortages and provides a set of strategies to ensure that water is beneficially used at the customer level. In addition, in order to reliably meet future water demands, the Western Municipal Water District is continuing to expand its water supplies when the opportunity arises and coordinates with nearby agencies to achieve water supply goals. These plans involve increasing the availability of groundwater storage, recharging existing aquifers, as well as expanding to nearby basins, such as the Chino Basin (Western 2016).

² *Chino Basin Municipal Water District v. City of Chino, et al.*, San Bernardino Superior Court No. 164327 (1978).

The San Jacinto Groundwater Basin underlies the northeast corner of the South Campus Specific Plan area. This Basin is not under the jurisdiction of the Western Municipal Water District but rather under the authority of the Eastern Municipal Water District (EMWD 2019). As such, this aquifer is not currently used to supply the water needs of existing infrastructure within the South Campus Specific Plan area. No recognized groundwater basin underlies the remainder of the South Campus Specific Plan area.

Groundwater

As previously discussed in Section 4.5, the majority of the South Campus Specific Plan area is underlain by topsoil/colluvium, younger alluvium, and some artificial fill, which is underlain by Val Verde Tonalite bedrock. Groundwater was encountered during previous geotechnical explorations in the northeast part of the South Campus Specific Plan area, at depths ranging from 18 to 25 feet, within the tonalite bedrock. The groundwater is likely associated with a joint/fracture system (Appendix F1).

A site-specific Preliminary Hydrology Study conducted by DRC Engineering (Appendix I2), determined that for calculation purposes, soils underlying the South Campus Specific Plan area predominately consisted of soil type C, which is defined as soils having slow infiltration rates when thoroughly wetted; consisting chiefly of silty-loam soils with a layer that impedes downward movement of water; or soils with moderately fine to fine texture. These soils have a slow rate of water transmission with respect to groundwater recharge. In addition, percolation testing completed for the site-specific Master Project Specific Water Quality Management Plan (Appendix I1), indicated that the site is not suitable for stormwater infiltration BMPs. Therefore, the site is not conducive to groundwater recharge.

Flood Hazards

Flooding susceptibility in Riverside County is primarily associated with several major stream drainages, including but not limited to the Santa Ana River, the San Jacinto River, and the Whitewater River, as well as smaller scale and flash flood events on many of the alluvial fans that flank hillsides throughout Riverside County. Large-scale developments have utilized golf courses and greenbelts as part of a network of channels that collect flood flows on the upstream side of a project, carry it safely through the area, and disperse it on the downstream side. However, given the low permeability of the underlying bedrock, heavy runoff from the surrounding hills and mountains during strong storms cannot be prevented (County of Riverside 2019).

The Federal Emergency Management Agency (FEMA) has determined that the South Campus Specific Plan area is located within Zone D, per an updated Flood Insurance Study, which became effective August 28, 2008. Zone D areas are defined as having possible, but undetermined flood hazards (FEMA 2020). No flood hazard analysis has been conducted for these areas and flood insurance rates reflect the uncertainty of the flood risk (March JPA 2010). However, on-site geotechnical evaluations of the South Campus Specific Plan area performed by Leighton Consulting concluded that the site is not within a flood plain and the potential for flooding is considered very low (Appendix F1; Appendix F2). Furthermore, the County of Riverside Safety Element Figure S-10, Dam Hazards Zones, indicates that the South Campus Specific Plan area is not located within a Dam Hazard Zone (County of Riverside 2019).

Village West Drive Extension

As previously discussed in Section 4.5, the Village West Drive Extension trends north/south, beginning at Lemay Drive and extending to Nandina Avenue, approximately 0.5 miles to the south. This roadway extension is unpaved and traverses west of an existing above-ground water tank. Similar to the South Campus Specific Plan area, the topography of the Village West Drive Extension consists of low rolling hills with undulating topography. The Village

West Drive Extension consists of an overall gentle to moderate slope gradient to the northeast and elevations range from approximately 1,675 feet above mean sea level in the northern portion of the site to approximately 1,725 feet above mean sea level in the southern portion (Figure 4.5-1, Existing Topography, in Section 4.5, Geology and Soils, of this SEIR).

Stormwater drainage along the Village West Drive Extension is divided between the Perris Valley MDP (RCFCWCD 2014), which drains the northern portion of the site, and the Mead Valley MDP (RCFCWCD 2015), which drains the southern portion of the Village West Drive Extension. Stormwater infrastructure plans have not been provided for the existing roadway; however, stormwater appears to sheet flow along the unpaved, existing roadway into either the neighboring landscape or storm drain culverts located near Lemay Drive. In addition, FEMA has determined that the Village West Drive Extension area is located within Zone D, per an updated Flood Insurance Study, which became effective August 28, 2008 (FEMA 2020). Furthermore, the County of Riverside Safety Element Figure S-10, Dam Hazard Zones, indicates that the Village West Drive Extension area is not located within a Dam Hazard Zone (County of Riverside 2019).

4.8.2 Relevant Plans, Policies, and Ordinances

Federal

Clean Water Act

Increasing public awareness and concern for controlling water pollution led to the enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA) (33 USC 1251 et seq.). The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA established basic guidelines for regulating discharges of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

Section 303 of the Clean Water Act (Beneficial Use and Water Quality Objectives)

The Santa Ana RWQCB is responsible for the protection of the beneficial uses of waters within the proposed project area in Riverside County. The RWQCB uses its planning, permitting, and enforcement authority to meet its responsibilities adopted in the Basin Plan to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan for the Santa Ana Region has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. The RWQCB has developed TMDLs for select reaches of water bodies.

Section 401 of the Clean Water Act (Water Quality Certification)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers Section 404 permit) obtain certification from the state, requiring that discharge to waters of the United States would comply with provisions of the CWA and with state water quality standards. For example, an applicant for a permit

under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers prior to discharging dredged or fill material into waters of the United States unless such a discharge is exempt from CWA Section 404. For the project area, the Santa Ana RWQCB must provide the water quality certification required under Section 401 of the CWA.

Section 402 of the Clean Water Act (NPDES)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The NPDES permit program, as authorized by Section 402 of the CWA, was established to control water pollution by regulating point sources that discharge pollutants into waters of the United States (33 USC 1342). In California, the EPA has authorized the State Water Resources Control Board (SWRCB) permitting authority to implement the NPDES program.

Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address stormwater discharges from construction sites that disturb land equal to or greater than 1 acre and less than 5 acres (small construction activity). The regulations also require that stormwater discharges from small MS4s be regulated by an NPDES General Permit for Storm Water Discharges Associated with Construction Activity, Order No. 99-08-DWQ (i.e., the General Construction Permit). March JPA is not a Co-Permittee of (and is not subject to) the Riverside County MS4 Permit. However, the March JPA WQMP Document (March JPA 2008) is used by March JPA as a guidance document to help establish consistency with other agencies and regulations. Based on this document, it is the responsibility of applicants within March JPA to obtain coverage under the General Construction Permit and develop a SWPPP, which describes BMPs the discharger would use to protect stormwater runoff. The BMPs must be designed to prevent, to the maximum extent practicable, an increase in the sediment yield and flow velocity from pre-construction/pre-development conditions, to assure that applicable water quality standards, including TMDL waste allocations, are met.

The SWPPP must contain a visual monitoring program, a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), that became effective July 1, 2010.

Section 404 of the Clean Water Act

Section 404 of the CWA established a permitting program to regulate the discharge of dredged or fill material into waters of the United States, which include wetlands adjacent to national waters (33 USC 1344). This permitting program is administered by the U.S. Army Corps of Engineers and enforced by the EPA.

National Flood Insurance Program

The National Flood Insurance Act of 1968 established the National Flood Insurance Program in order to provide flood insurance within communities that were willing to adopt floodplain management programs to mitigate future flood losses. The Act also required the identification of all floodplain areas within the United States and the establishment of flood-risk zones within those areas. FEMA is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing Flood Insurance Rate Maps that delineate the areas of known special flood hazards and

their risk applicable to the community. The program encourages the adoption and enforcement by local communities of floodplain management ordinances that reduce flood risks. In support of the program, FEMA identifies flood hazard areas throughout the United States on FEMA flood hazard boundary maps.

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 CFR 131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

Federal Aviation Administration Advisory Circular 150/5200-33B

In 2007, the Federal Aviation Administration issued Advisory Circular No. 150/5200-33B, providing guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. The Advisory Circular also discusses airport development projects, including airport construction, expansion, and renovation, affecting aircraft movement near hazardous wildlife attractants. Hazardous wildlife is defined as any species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard. Included within the Advisory Circular are minimum separation criteria for land-use practices that attract hazardous wildlife to the vicinity of airports. Separation distances are based on flight patterns, altitude at which most strikes happen, and National Transportation Safety Board recommendations. Land use practices discussed within the Advisory Circular associated with wildlife hazards directly applicable to the proposed Project include the placement and design of new stormwater management facilities, which must drain within 48 hours after a storm event.

State

Senate Bill 610 and Senate Bill 221: Water Supply Assessments and Water Supply Verifications

Senate Bill (SB) 610 and SB 221, amended into state law effective January 1, 2002, improve the linkage between certain land use decisions made by cities and counties and water supply availability. The statutes require detailed information regarding water availability and reliability with respect to certain developments to be included in the administrative record to serve as evidentiary basis for an approval action by the City or County on such projects. Under Water Code Section 10912(a), projects subject to the California Environmental Quality Act (CEQA) requiring a water supply assessment include residential development of more than 500 dwelling units; shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space; commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; hotel, motel or both, having more than 500 rooms; industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land or having more than 650,000 square feet of floor area; mixed-use projects that include one or more of the projects specified; or a project that would demand an amount of water equivalent to or greater than the amount required by a 500 dwelling unit project. A fundamental source document for compliance with SB 610 is the UWMP, which can be used by the water supplier to meet the standard for SB 610. SB 221 applies to the Subdivision Map Act, conditioning a subdivision map with more than 500 dwelling units on the applicant verifying that the public water supplier has sufficient water available to serve the proposed development.

California Water Code Sections 10610 et seq., Urban Water Management Planning Act

California urban water providers are required by state law to develop an UWMP to ensure sufficient water supplies are available to meet the long-term needs of its customers during normal, dry, or multiple-dry years. The Urban Water Management Planning Act requires urban water suppliers, which provide water for municipal purposes to more than 3,000 customers or supply more than 3,000 acre-feet of water annually, to develop an UWMP every 5 years, in the years ending in 0 and 5.

In the Act, the California Legislature declared that the waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of a statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The WMWD 2015 UWMP has been prepared in compliance with these requirements of the Act, as well as the additional reporting requirements of the Water Conservation Act of 2009. The WMWD 2015 UWMP is an update of its 2010 UWMP and incorporates substantial information from the WMWD 2008 Water Master Plan, 2011 Recycled Water Master Plan, and other local and regional planning documents. The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in regional water supply trends, conservation policies, and water use efficiency policies.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—Assembly Bill 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)—collectively known as SGMA, which requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form GSAs to manage basins sustainably and requires those GSAs for crucial (i.e., medium to high priority) groundwater basins in California. Adjudicated basins are exempt from developing a GSA or GSP.

California Porter-Cologne Water Quality Control Act

Since 1973, the California SWRCB and its nine RWQCBs have been delegated the responsibility for administering permitted discharge into the waters of California. The Project site falls within the jurisdiction of the Santa Ana RWCQB. The Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.; California Code of Regulations, Title 23, Division 3, Chapter 15) provides a comprehensive water-quality management system for the protection of California waters. Under the Act, “any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state” must file a report of the discharge with the appropriate RWQCB. Pursuant to the Act, the RWQCB may then prescribe “waste discharge requirements” that add conditions related to control of the discharge. Porter-Cologne defines “waste” broadly, and the term has been applied to a diverse array of materials, including non-point source pollution. When regulating discharges that are

included in the Federal Clean Water Act, the state essentially treats Waste Discharge Requirements and NPDES as a single permitting vehicle. In April 1991, the SWRCB and other state environmental agencies were incorporated into the California Environmental Protection Agency.

The RWQCB regulates urban runoff discharges under the NPDES permit regulations. NPDES permitting requirements cover runoff discharged from point (e.g., industrial outfall discharges) and nonpoint (e.g., stormwater runoff) sources. The RWQCB implements the NPDES program by issuing construction and industrial discharge permits.

Under the NPDES permit regulations, BMPs are required as part of a SWPPP. The EPA defines BMPs as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States.” BMPs include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage” (40 CFR 122.2).

California Green Building Standards Code

Formerly known as the California Green Building Standards Code, Title 24, Part 11, of the California Code of Regulations, CALGreen is designed to improve public health, safety, and general welfare by using design and construction methods that reduce the negative environmental impact of development and to encourage sustainable construction practices. CALGreen provides mandatory direction to developers of all new construction and renovations of residential and non-residential structures with regard to all aspects of design and construction, including, but not limited to, site drainage design, stormwater management, and water use efficiency. Required measures are accompanied by a set of voluntary standards designed to encourage developers and cities to aim for a higher standard of development.

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High-Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state (e.g., isolated wetlands and groundwater), not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained, and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

California Toxics Rule

The EPA has established water quality criteria for certain toxic substances via the California Toxics Rule. The California Toxics Rule established acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water, such as inland surface waters and enclosed bays and estuaries, that are designated by each RWQCB as having beneficial uses protective of aquatic life or human health.

California Water Code

The California Water Code includes 22 kinds of districts or local agencies with specific statutory provisions to manage surface water. Many of these agencies have statutory authority to exercise some forms of groundwater management. For example, a Water Replenishment District (Water Code Section 60000 et seq.) is authorized to establish groundwater replenishment programs and collect fees for that service, while a Water Conservation District (Water Code Section 75500 et seq.) can levy groundwater extraction fees. Through special acts of the Legislature,

13 local agencies have been granted greater authority to manage groundwater. Most of these agencies, formed since 1980, have the authority to limit export and control some in-basin extraction upon evidence of overdraft or the threat of an overdraft condition. These agencies can also generally levy fees for groundwater management activities and for water supply replenishment.

Assembly Bill 3030 – Groundwater Management Act

In 1992, Assembly Bill 3030 was passed, which increased the number of local agencies authorized to develop a groundwater management plan and set forth a common framework for management by local agencies throughout California. These agencies could possess the same authority as a water replenishment district to “fix and collect fees and assessments for groundwater management” (Water Code Section 10754), provided they receive a majority of votes in favor of the proposal in a local election (Water Code Section 10754.3).

Local

General Waste Discharge Requirements for De Minimus Discharges

On June 19, 2015, the Santa Ana RWQCB adopted the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality (Order No. R8-2015-0004, NPDES No. CAG998001). This permit regulates the discharge of groundwater and non-storm water construction dewatering waste to surface waters (including estuarine and ocean waters) that pose an insignificant threat to water quality in the Santa Ana Region. Under this permit, discharges must comply with discharge specifications, receiving water and groundwater limitations, and monitoring and reporting requirements detailed in the permit.

March JPA General Plan

Resource Management Element

The Resource Management Element of the March JPA General Plan includes goals and policies related to water resources. The following goals and policies from the March JPA General Plan apply to the Project (March JPA 1999). Consistency with these goals and policies is discussed in Section 4.9, Land Use and Planning, of this SEIR.

Water Resources

- Goal 1:** Conserve and protect surface water, groundwater, and imported water resources.
- Policy 1.1:** Where possible, retain local drainage courses, channels, and creeks in their natural condition.
- Policy 1.2:** Protect groundwater and surface water resources from depletion and sources of pollution.
- Policy 1.3:** Cooperate with federal, state, and County governments and other agencies on the maintenance and improvement of the quality and quantity of local and regional groundwater resources.
- Policy 1.4:** Require development to conserve water resources, including the use of water-efficient plumbing fixtures and irrigation systems.

- Policy 1.5:** Conserve imported water by requiring water conservation techniques, water-conserving and recycling processes, drought-resistant landscaping, and reclaimed water for irrigation, when available and appropriate.
- Policy 1.6:** Promote the use of drought tolerant landscaping in development, and encourage the use of reclaimed water for irrigation in parks, golf courses, and industrial uses, as well as for other urban uses, whenever feasible and where legally permitted.
- Policy 1.7:** Assist responsible public agencies in eliminating the discharge of toxic materials and untreated sewage into the March JPA drainage and groundwater system.
- Policy 1.8:** Assure that development projects comply with regulatory agency requirements, including federal, state, and regional regulations.

Minimize Flood Hazards

Goal 2: Control flooding to reduce major losses of life and property.

- Policy 2.1:** Require development within identified flood hazard areas to comply with Floodplain Management Regulations and criteria for the Federal Flood Insurance Program.
- Policy 2.2:** Ensure all proposed divisions of land divisions contain adequate building sites located outside of any natural drainage course.
- Policy 2.3:** Ensure that development does not divert storm water runoff onto adjacent properties, or cause alterations of natural drainage courses that cannot be adequately handled by flood control improvements installed coincident with the development.
- Policy 2.4:** Cooperate with the Riverside County Flood Control and Water Conservation District and the Federal Emergency Management Agency (FEMA) to ensure that land uses and development proposed within major floodplain areas is consistent with planned improvements and the timing of their installation.
- Policy 2.5:** To the greatest extent possible, require development to use master flood control facilities and limit use of interim drainage facilities or open channels.
- Policy 2.6:** Open channels shall be encouraged, as appropriate, to maintain or enhance riparian habitat areas.

Land Use Element

The Land Use Element of the March JPA General Plan includes goals and policies related to utilities and service systems. The following goals and policies from the March JPA General Plan apply to the Project (March JPA 1999). Consistency with these goals and policies is discussed in Section 4.9, Land Use and Planning, of this SEIR.

Goal 10: Avoid undue burdening of infrastructure, public facilities, and services requiring new development to contribute to the improvement and development of the March JPA Planning Area.

Policy 10.1: Require new construction to pay its “fair share” of the cost of providing adequate public services, infrastructure, and facilities for the development.

Policy 10.2: Require new construction to provide adequate infrastructure to serve the development (i.e., curbs and gutters, sidewalks, street lights, water service, sewer service or septic systems, etc.) prior to initiation of use.

Policy 10.3: Locate commercial and industrial development in areas where street rights-of-way and capacity are available, as well as sufficient infrastructure and public services.

Policy 10.4: Facilitate the provision of public services (i.e., sewer, water, streets, and public safety) to be provided in an efficient and cost-effective manner.

Goal 12: Ensure, plan, and provide adequate infrastructure for all facility reuse and new development, including but not limited to, integrated infrastructure planning, financing, and implementation.

Policy 12.1: Coordinate the provision of all public utilities and services to ensure a consistent, complete and efficient system of service to development.

Policy 12.2: Require new construction to pay its “fair share” for the regional infrastructure system by providing appropriate dedications, improvements, and/or fee assessment districts or other financing mechanisms.

Policy 12.3: Require new development projects to provide for the extension of infrastructure to serve the development, including over-sizing facilities for future needs.

Policy 12.4: Preserve options and facilities to accommodate new and advanced technologies, inclusive of communication systems.

Goal 13: Secure adequate water supply system capable of meeting normal and emergency demands for existing and future land uses.

Policy 13.1: Only approve development which can demonstrate an adequate and secure water supply for the proposed use.

Policy 13.2: Enhance local groundwater supplies through development designs which promote an on-site recharge and minimize permeable ground coverage with landscaped areas, open space or recreation areas.

Policy 13.3: Design and operate March JPA facilities in compliance with established water conservation practices and programs.

Goal 14: Establish, extend, maintain, and finance a safe and efficient wastewater collection, treatment, and disposal system which maximizes treatment and water recharges, minimizes water use, and prevents groundwater contamination.

Policy 14.1: Require all development to adequately collect, treat, and dispose of wastewater in accordance with the Santa Ana Regional Water Quality Control Board requirements.

Policy 14.2: Require connection to the sewer system for any development occurring on land formerly part of March AFB.

Policy 14.3: Encourage reuse of reclaimed and treated non-potable water for irrigation and maintenance of recreation areas, landscaping, and open space preservation.

Goal 15: In compliance with state law, ensure solid waste collection, siting and construction of transfer and/or disposal facilities, operation of waste reduction and recycling programs, and household hazardous waste disposal programs and education are consistent with the County Solid Waste Management Plan.

Policy 15.1: Ensure all hazardous materials are stored, treated, and disposed in accordance with state and federal law.

Policy 15.2: Support programs to promote greater awareness and involvement in waste reduction and recycling.

Goal 16: Adequate supplies of natural gas and electricity from utility purveyors and the availability of communication services shall be provided within the March JPA Planning Area.

Policy 16.1: Where feasible, require new development to underground on-site telecommunication connections.

Policy 16.2: Encourage and support the under grounding of existing overhead utilities.

Policy 16.3: Accommodate advancing technologies with communication systems, inclusive of fiber-optics and high speed transmission lines.

Policy 16.4: Prepare a capital improvement program (CIP) which provides for the maintenance and upgrading of existing infrastructure to adequate levels of service and the installation of new facilities, as needed.

Policy 16.5: Encourage the preparation and adoption of CIPs for other agencies and districts responsible for the provision of infrastructure systems in the March JPA Planning Area.

Goal 17: Adequate flood control facilities shall be provided prior to, or concurrent with, development in order to protect the lives and property within the March JPA Planning Area.

Policy 17.1: Provide for the adequate drainage of storm runoff to protect the lives and property within the Planning Area.

Policy 17.2: Monitor and maintain drainage and flood control facilities to ensure adequate capacity to support the land use plan.

Policy 17.3: Require new development to construct new or upgrade existing drainage facilities to accommodate the additional storm runoff caused by the development.

Policy 17.4: Require all storm drain and flood control facilities to be approved and operational prior to the issuance of certificates of occupancy for the associated development.

Policy 17.5: Designate and preserve land for necessary flood control facilities, in accordance with a certified hydrology study and master plan for March JPA Planning Area.

Policy 17.6: Ensure development within the 100-year flood plain, as designated by the Federal Emergency Management Agency (FEMA), shall be consistent with the requirements established by FEMA.

Policy 17.7: Seek to preserve drainage courses in their natural condition, while providing adequate safety and protection of property.

4.8.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to hydrology and water quality are based on the March JPA 2019 CEQA Guidelines. According to the March JPA 2019 CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

- a. Result in substantial erosion or siltation on or off site;
- b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;
- c. Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- d. Impede or redirect flood flows.

HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.4 Impacts Analysis

HYD-1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

South Campus Specific Plan Area

The proposed South Campus Specific Plan area is largely undeveloped with the exception of three industrial buildings (one of which is currently being constructed), as well as five roadways intersecting the area. The proposed Project involves amending the previously approved South Campus Specific Plan to incorporate a shift in land-use in order to reduce potential environmental impacts.

Within these changes would be five additional components of the South Campus Specific Plan buildout, including (1) a commercial development at the southeast intersection of Orange Terrace Parkway and Van Buren Boulevard, (2) an industrial warehouse west of Coyote Bush Road and north of Krameria Avenue, (3) a dog park and paseo on the eastern side of Barton Street, (4) construction of Caroline Way, and (5) extension of and improvements to Village West Drive southeast of the South Campus Specific Plan (which is addressed separately below).

Construction

Construction-related activities would potentially result in sediment releases due to exposure of previously stabilized soils to rainfall/runoff and wind. Such activities include the removal of vegetation, demolition of on-site infrastructure, and grading of the site. Environmental factors that affect erosion include topographic, soil, and rainfall characteristics. Erosion and sedimentation affect water quality and interferes with photosynthesis; oxygen exchange; and the respiration, growth, and reproduction of aquatic species. Additionally, other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported into downstream drainages, including the waterbodies listed in Table 4.8-1, Identified Receiving Waters, which could contribute to the degradation of water quality. Furthermore, during grading and temporary stockpiling of soil, there is the potential for soil migration off-site via wind (see Section 4.2, Air Quality, of this SEIR for further discussion of construction generated air quality impacts).

Non-sediment-related pollutants that are also of concern during construction include construction materials (e.g., paint, stucco); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants.

Construction impacts from South Campus Specific Plan area development would be minimized through compliance with local, state, and federal regulations pertaining to water quality standards. This includes adherence to the Construction General Permit that requires future projects of 1 acre or more to prepare and implement a SWPPP prior to grading and construction activities. The SWPPP is required to identify BMPs that protect stormwater runoff and ensure the avoidance of substantial degradation of water quality during Project construction. All demolition and construction activities associated with the South Campus Specific Plan, including installation and realignment of utilities, would be subject to existing regulatory requirements. The March JPA would file a Notice of Intent with the SWRCB to comply with the requirements of the Construction General Permit. This process would include the preparation of a SWPPP and incorporation of BMPs to control construction-related erosion and sedimentation in

dry weather and stormwater runoff. Typical BMPs that could be incorporated into the SWPPP to protect water quality include the following:

- Diverting off-site runoff away from the construction site.
- Vegetating landscaped/vegetated swale areas as soon as feasible following grading activities.
- Placing perimeter straw wattles to prevent off-site transport of sediment.
- Using drop inlet protection (filters and sand bags or straw wattles), with sandbag check dams within paved areas.
- Regular watering of exposed soils to control dust during demolition and construction.
- Implementing specifications for demolition/construction waste handling and disposal.
- Using contained equipment wash-out and vehicle maintenance areas.
- Maintaining erosion and sedimentation control measures throughout the construction period.
- Stabilizing construction entrances to avoid trucks from imprinting soil and debris onto the South Campus Specific Plan area and adjoining roadways.
- Training, including for subcontractors, on general site housekeeping.

Incorporation of required BMPs for materials and waste storage and handling, and equipment and vehicle maintenance and fueling would reduce the potential discharge of polluted runoff from construction sites, consistent with the CALGreen requirements. Compliance with existing regulations would prevent violation of water quality standards and minimize the potential for contributing sources of polluted runoff. Therefore, compliance with existing regulations would ensure that the South Campus Specific Plan area would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface quality from construction activities.

Operations

As previously discussed, existing land uses within the proposed South Campus Specific Plan area include three industrial buildings (one of which is currently being constructed), as well as five roadways intersecting and surrounding the Specific Plan. Implementation of the proposed South Campus Specific Plan would result in an increase in impervious surfaces associated with increased industrial, mixed use, and commercial development, but a decrease in impervious surfaces associated with decreased office and business park development. In addition, the proposed Specific Plan would result in an increase in pervious park/open space (Table 3-2, 2003, Current, and Proposed South Campus Land Uses, in Chapter 3, Project Description, of this SEIR). In the absence of specific projects details, the net loss or gain in impervious surfaces as a result of implementation of the South Campus Specific Plan is indeterminate. However, it can be assumed that urban land uses, including impervious surfaces such as roads, parking lots, and buildings, would be a source of pollution from incidental spills of vehicle oils and other chemicals that can be conveyed by storm and landscape irrigation flows. The impervious surfaces would prevent polluted surface waters from absorbing into the ground surface.

During storm events, pollutants from paved areas lacking in proper stormwater controls and BMPs could enter the municipal storm drain system, before eventually being discharged to the San Jacinto River, Lake Elsinore, and ultimately the Santa Ana River. The majority of pollutants entering the storm drain system in this manner would be dust, litter, and possibly residual petroleum products (e.g., motor oil, gasoline, diesel fuel). Certain metals, along with nutrients and pesticides from landscape areas, can also be present in stormwater runoff. Between periods of rainfall, surface pollutants tend to accumulate, and runoff from the first significant storm of the year (“first flush”) would likely have the largest concentration of pollutants.

Project Low Impact Development Features

Design, construction, and operation of projects in Riverside County must be completed in accordance with the NPDES MS4 permit and the County of Riverside 2011 Design Handbook for Low Impact Development Best Management Practices (County of Riverside 2011), with the goal of reducing the number of pollutants in stormwater and urban runoff. However, March JPA is not a Co-Permittee of (and is not subject to) the Riverside County MS4 Permit. The March JPA WQMP Document (March JPA 2008) is used by March JPA as a guidance document to help establish consistency with the County of Riverside MS4 permit, as well as other agencies, including the EPA, U.S. Fish and Wildlife Services, Santa Ana RWQCB, and the County of Riverside. Pursuant to the March JPA WQMP Document, projects must incorporate infiltration or harvest and use BMPs unless it can be shown that those BMPs are infeasible. A WQMP has only been prepared for the northwest portion of the South Campus Specific Plan area. The site-specific *Master Project Specific Water Quality Management Plan* (Appendix I1) for the northwest portion of the South Campus Specific Plan area (i.e., Phase II area) determined that the poor soils underlying the South Campus Specific Plan area would not allow for infiltration BMPs. In addition, as reclaimed water would be used for the non-potable water demands for the South Campus Specific Plan area, harvest and use BMPs were additionally determined to not be feasible. As a result, LID bioretention BMPs would be required.

Based on the *Master Project Specific Water Quality Management Plan* (Appendix I1) and the *Preliminary Hydrology Study for Meridian Park South Campus Phase II* (Appendix I2), a portion of the runoff (i.e., the water quality Design Capture Volume) from proposed roadways constructed during the Phase II design phase of South Campus (i.e., Caroline Way, Gless Ranch Road, portions of Krameria Avenue) would be routed to belowground detention tanks located within the landscape easements adjacent to the right-of-way (Figure 4.8-2, Proposed Water Quality Features, North Portion of Phase II; and Figure 4.8-3, Proposed Water Quality Features, South Portion of Phase II). Reversed curb outlets located at the curb flow line would allow storm runoff to enter into the proposed earthen swale within the landscape easement that contains 12-inch atrium grates connected to each detention tank. The detention tanks are sized to hold the water quality Design Capture Volume, which for the Santa Ana Watershed is the runoff flow rate resulting from a design rainfall intensity of 0.2 inches per hour (RCFCWCD 2011); the 2-year, 24-hour storm volume; and the 100-year storm volume. An estimated conservative volume of 6,000 cubic feet per acre was used to meet this criteria.

All detention tanks would include 2-inch-diameter drain lines, leading to a 6-inch-diameter to 12-inch-diameter storm drain line, followed by proposed modular wetland biotreatment units. The modular wetland units are sized to treat the water quality Design Capture Volume and draw down the tanks within 48 hours (Appendix I1). The modular wetland systems have medium to high removal efficiency for the pollutants of concern and have been accepted by the March JPA for biofiltration on other projects in the Meridian Park development. Stormwater flows greater than the water quality Design Capture Volume would bypass the detention/treatment system at the reverse parkway drains, via a bypass system, and would continue down the roadway gutter to larger flow catch basins. All runoff would continue to flow to the same respective outlets compared to the existing conditions. For mass grading purposes, desilting basins would be added to each mass graded lot to limit excess flows off site. The desilting basins are sized to capture 1 inch of runoff spread over the area of each lot (Appendix I2). In the future, each parcel would require a separate WQMP to be developed and would follow the criteria set forth in the 2012 Riverside County WQMP Template and Guidance document. As individual parcels of Phase II are developed, addendum WQMPs would be submitted. All addendum WQMPs would need to meet the requirements and approved approach of the final approved Master WQMP. Parcels would follow the LID hierarchy (infiltration, harvest and reuse, bioretention, and biotreatment) when selecting the final LID for the development.

Implementation of BMPs included in the WQMP would address water quality concerns during Specific Plan operations, such as the inadvertent release of pollutants (e.g., hydraulic fluids and petroleum); improper management of hazardous materials; trash and debris; and improper management of portable restroom facilities (e.g., regular service). In accordance with the CALGreen requirements, source controls to improve water quality would be provided for outdoor material storage areas, outdoor trash storage/waste handling areas, outdoor loading/unloading dock areas, and building materials areas. Source controls would also include storm drain messages and signage and beneficial landscape irrigation practices.

Conclusion

The 2003 Focused Environmental Impact Report (EIR) concluded that water quality impacts would be reduced to less than significant levels with incorporation of water quality-related mitigation measures F-1 through F-3 (see Section 4.8.5, Mitigation Measures, for these measures). Water quality requirements have become more stringent since completion of the 2003 Focused EIR. March JPA is not a Co-Permittee of (and is not subject to) the Riverside County MS4 Permit. However, the WQMP Document is used by March JPA as a guidance document to help establish consistency with other agencies. Compliance with the March JPA WQMP Document (March JPA 2008) meets the intent of the County of Riverside MS4 Permit, which is implemented throughout Riverside County. Compliance with the WQMP Document, as well as implementation of a site-specific SWPPP, LID features, and WQMPs, would ensure that degradation of water quality (surface and ground) would remain minimal and that the proposed South Campus Specific Plan would meet all waste discharge requirements. Similar to the conclusions within the 2003 Focused EIR for the 2003 Approved South Campus, impacts are considered **less than significant with mitigation**.

Village West Drive Extension

Construction

As discussed for the South Campus Specific Plan area, construction-related activities for the Village West Drive Extension could result in erosion of exposed soils and downstream sedimentation of water bodies. In addition, non-sediment-related pollutants that are of concern during construction include construction materials (e.g., paint, stucco); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants. Pollutants such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported into downstream drainages, including the waterbodies listed in Table 4.8-1, Identified Receiving Waters, which could contribute to the degradation of water quality. However, because the area of construction would be in excess of 1 acre, a Construction General Permit would be required prior to grading. The Construction General Permit would require preparation of a SWPPP and incorporation of BMPs to control construction-related erosion and sedimentation in dry weather and stormwater runoff to the maximum extent practicable. In addition, incorporation of required BMPs for materials and waste storage and handling, and equipment and vehicle maintenance and fueling would reduce the potential discharge of polluted runoff from construction sites, consistent with the CALGreen requirements. Compliance with existing regulations would prevent violation of water quality standards and minimize the potential for contributing sources of polluted runoff. Therefore, compliance with existing regulations would ensure that the Village West Drive Extension would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface quality from construction activities. As a result, construction related impacts would be considered **less than significant**.

Operation

Currently, the Village West Drive Extension is an unpaved road. Implementation of the Village West Drive Extension would involve the removal of all unpaved portions of the roadway, the removal/relocation of the above-ground steel water tank and several power poles, the rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts (Appendix F3). Once constructed, the proposed roadway would divert stormwater to flow along the paved roadway and into either the existing or new gutters and storm drain culverts, rather than into the neighboring properties, resulting in beneficial impacts. However, the roadway would be used by more vehicles than under existing conditions, resulting in increases in surface water pollutants, such as oil and grease.. As a result, operational impacts would be **less than significant with mitigation**.

HYD-2. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

South Campus Specific Plan Area

Groundwater Recharge

The South Campus Specific Plan area, prior to construction, is largely undeveloped in the northern and middle parts of the site. Soils within the South Campus Specific Plan area predominately consist of shallow topsoil, colluvium, younger alluvium, and artificial fill underlain by granitic bedrock. While Specific Plan development would increase the number of impervious surfaces on-site, the South Campus Specific Plan area site would be designed with 141.2 acres of pervious open space/parks, or 22% of the development, providing potential groundwater recharge. The 2003 Focused EIR concluded that the project would increase impermeable surfaces, by an unspecified amount, and decrease groundwater recharge, but that recharge would continue in open space, detention basins, and natural streambeds.

A 2016 geotechnical investigation completed for proposed Meridian South Campus Phase 1 encountered shallow, localized fracture groundwater in the northeast part of the South Campus Specific Plan area (Appendix F1). Soils within the area are classified as soil type C, which is defined as soils having slow infiltration rates when thoroughly wetted; consisting of silty-loam soils with a layer that impedes the downward movement of water; or soils with moderately fine to fine texture. These soils in turn are underlain by relatively impermeable granitic (i.e., tonalite) bedrock (Appendix F1). In addition, percolation testing completed for the site-specific Master Project Specific Water Quality Management Plan (Appendix I1), indicated that the site is not suitable for stormwater infiltration BMPs. As a result, soils and geologic units underlying the South Campus Specific Plan area are not conducive to substantial groundwater recharge (Appendix I1). Further, the Project site is not currently used for recharge and is not designated for such use in the future.

The 2003 Focused EIR determined that impacts would be less than significant with implementation of mitigation measures F-1 through F-3 (see Section 4.8.5, Mitigation Measures, for these measures). Similar to the 2003 Approved South Campus, the South Campus Specific Plan would result in a decreased ability to allow groundwater recharge. However, for the reasons stated above, the proposed Specific Plan would not substantially interfere with groundwater recharge. Impacts would be **less than significant**, and no additional mitigation beyond what was included in the 2003 Focused EIR is required.

Groundwater Supply

Water Supply Overview

As required by the California Urban Water Management Planning Act, the Western Municipal Water District has prepared a 2015 UWMP for its service area, including the South Campus Specific Plan area. The Project water demands were not specifically accounted for in the UWMP; however, the overall projected demands for the land use were accounted for by population growth. In addition, in accordance with SB 610, a Water Supply Assessment (WSA) was completed in April 2020 specifically for the proposed Project (Appendix M1); the Project site is bound by Van Buren Boulevard to the north, Village West Drive to the east, Barton Street to the west, and Nandina Avenue to the south, in unincorporated Riverside County. As previously discussed, a majority of Western Municipal Water District's water supply is purchased from the Metropolitan Water District of Southern California, which accounted for approximately 71% of the District's water supply in 2015. In 2015, the Western Municipal Water District received approximately 71% from purchased water, 21% from groundwater, and approximately 8% from desalinated and recycled water. To reduce its dependency on imported water, the Western Municipal Water District has aggressively sought to develop and/or expand local sources of water supply for use under both non-emergency and emergency conditions. In 2019, the Western Municipal Water District imported 6,618 acre-feet of groundwater from the Bunker Hill Basin. The Western Municipal Water District's groundwater supply in this region is received from four primary groundwater basins, including the Riverside-Arlington Basin, the Temecula-Murrieta Basin, the San Bernardino Basin Area, and the Chino Basin.

As previously discussed, in accordance with SGMA, the California Department of Water Resources has classified the Riverside-Arlington Basin, the Temecula-Murrieta Basin, the San Bernardino Basin Area, and the Chino Basin in regards to prioritizing the completion of a GSP. All but the San Bernardino Basin Area, which is composed of parts of the Bunker Hill Basin, the Yucaipa Basin, and the Rialto-Colton Basin, were considered to have a very low priority in regards to prioritizing the completion of GSP. Of the three basins, both the Bunker Hill Basin and the Rialto-Colton Basin had a very low priority, while the Yucaipa Basin was considered to have a high priority. GSAs and associated GSPs are not required for adjudicated basins. Therefore, the California Department of Water Resources classifies adjudicated basins as very low priority with respect to completing GSPs. A GSP has not been developed for the San Bernardino Basin; however, the management of this basin is the primary focus of the Upper Santa Ana River Watershed IRWMP.

Project Water Demand

According to the Project-specific WSA, water demand for the proposed Project was based on information submitted by March JPA (lead agency) and the Project applicant. Based on this information, Western estimates that the Project's potable and non-potable water demand is approximately 88 AFY. This includes an indoor potable water demand of approximately 9 AFY and an outdoor non-potable landscaping water demand of approximately 79 AFY. Indoor water demand was calculated using the total estimated number of new employees (i.e., 1,100 employees who would occupy developments not yet completed within the South Campus Specific Plan area), multiplied by 10 gallons per day, which is appropriate for the specified industrial/commercial land use type. To determine the projected annual indoor demand, the daily demand was multiplied by 256 working days (excluding weekends) to reach the total projected indoor water demand associated with the land use changes in the South Campus Specific Plan Amendment. Total projected annual indoor water demand is 8.64 AFY.

The Project landscape demand was determined using the California Water Efficient Landscape Worksheet, which uses landscape area (1,962,200 square feet), irrigation method, and local evapotranspiration to determine efficient water use. The estimated non-potable landscape water demand according to the California Water Efficient Landscape Worksheet is 79.16 AFY.

Water Supply Analysis

The 2015 Western Municipal Water District UWMP has planned for growth within the District's service area over the next 20 years. The Western Municipal Water District has made an allowance for future demand estimates based on historical growth rates in the service area. Based on these projections, it would appear that the Western Municipal Water District has adequately made allowance for retail water supply-demand increases for both domestic and commercial water supply, including groundwater, over the next 20 years. According to Table 4-5: Projected Potable and Raw Water Demands in Western Municipal Water District's Retail Service Areas, of the Western Municipal Water District 2015 UWMP, Western projects an increase in water demand of 9,790 AFY between 2020 (29,214 AFY) and 2040 (39,004 AFY) (Western 2016). Assuming recycled water is used for landscape irrigation, the net water demand from the proposed Specific Plan Amendment would represent approximately 0.9% of this projected growth. If recycled water is not available for landscape irrigation, the proposed Project would represent approximately 0.9% of this projected growth. In both scenarios, the Specific Plan Amendment estimated water demand would not be considered substantial (Appendix M1).

The Project-specific WSA (Appendix M1) provides a detailed assessment of whether the total projected water supplies available to the Western Municipal Water District during normal, single-dry, and multiple dry years, over the next 20-year period are sufficient to meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses. As a conservative measure, this WSA specifically analyzes how Western Municipal Water District would address potential shortfalls in the availability and reliability of imported water supplies in demonstrating that sufficient water supplies are available to the Western Municipal Water District to serve the proposed Project. Any potential shortfalls in the availability of imported water supplies would place more reliance on groundwater supplies.

Based on the WSA analysis, the projected water demand of 87.8 AFY represents about 0.47% of Western Municipal Water District's Retail total water demand of Calendar Year 2019. Based on the information and analysis contained in this WSA, the Western Municipal Water District concludes that the total projected water supplies available to the Western Municipal Water District during normal, single-dry, and multiple-dry years throughout the next 20-year period are sufficient to meet the projected water demands of the proposed Project, in addition to Western Municipal Water District's existing and planned future uses, in accordance with the standards set forth by SB 610. (See Section 4.14, Utilities and Service Systems, of this SEIR for additional detail regarding water supplies.)

The Western Municipal Water District 2015 UWMP also includes a Water Supply Shortage Contingency Plan, which addresses the stages of response to a water shortage, such as a drought, that occurs over a period of time, as well as catastrophic supply interruptions that occur suddenly. The primary objective of the water shortage contingency plan is to ensure that Western Municipal Water District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Furthermore, the Western Municipal Water District has planned projects aimed at meeting increase future water demands within its service area. These plans include increasing the groundwater recharge capabilities of the Arlington sub-basin, increasing the use of groundwater banking programs, increasing the use of desalinated water, and conjunctive use programs designed to increase regional water reliability (Western 2016). When coupled with regional groundwater management plans and the regulatory bindings of the basins, these projects would ensure that the proposed Project, as well as future regional projects, would not substantially decrease groundwater supplies or impede sustainable management of the relevant groundwater basins.

The 2003 Focused EIR did not evaluate impacts to groundwater supplies. As such, new analysis was completed as part of this SEIR. For the reasons stated above, groundwater supply impacts associated with the South Campus Specific Plan would be **less than significant**, and no new mitigation is required.

Village West Drive Extension

Groundwater Recharge

The Village West Drive Extension area is unpaved and pervious. Once developed, the proposed roadway would incrementally increase the amount of impervious surfaces relative to areas of potential groundwater recharge. Based on the relatively small area of the proposed roadway with respect to regional groundwater recharge, the proposed roadway extension would not substantially interfere with groundwater recharge. Impacts would be **less than significant**, and no mitigation is needed.

Groundwater Supply

Construction of the Village West Drive Extension would involve the removal of the existing roadway, removal/relocation of the above-ground steel water tank and several power poles, the rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts. Water would be required for dust control and soil compaction during grading; however, the amount of water required for this 0.82-mile road extension would be inconsequential with respect to water supplies provided by the Western Municipal Water District. Once constructed, no water would be required during operations as no landscaping is proposed. As a result, the Village West Drive Extension would have a **less than significant** impact on the groundwater supply.

HYD-3. *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- a. *Result in substantial erosion or siltation on- or off-site?***

South Campus Specific Plan Area

As previously discussed, a hydrology analysis has only been completed for the northwest portion of the South Campus Specific Plan area (Figure 4.8-1; Appendix I2). Based on preliminary hydrologic modeling of this portion of the site, existing on-site stormwater infrastructure is inadequate in conveying post-development 100-year stormwater flows. Upgrades would be necessary to control stormwater runoff during high-intensity storm events. For the hydrology analysis, it was assumed that post-development conditions would include 90% impervious surfaces within the Phase II portion of the Specific Plan area. Runoff from these Phase II lots would be diverted onto adjacent proposed roadways. A portion of the runoff from these roadways (i.e., the water quality Design Capture Volume) would in turn be routed to detention tanks located within the landscape easements adjacent to the right-of-way (Figure 4.8-2 and Figure 4.8-3). The detention tanks are sized to hold the water quality Design Capture Volume, which for the Santa Ana Watershed is the runoff flow rate resulting from a design rainfall intensity of 0.2 inches per hour (RCFCWCD 2011); the 2-year, 24-hour storm volume, and the 100-year storm volumes. An estimated conservative volume of 6,000 cubic feet/acre was used to meet this criteria.

All detention tanks would include 2-inch-diameter drain lines, leading to a 6-inch-diameter to 12-inch-diameter storm drain line, and then to proposed modular wetland biotreatment units. The wetland

biotreatment units would treat the water quality Design Capture Volume and the 2-year, 24-hour storm volume. The 2-year, 24-hour storm volume would be detained and discharged at existing rates to the existing drainage system. In cases where excess volume from the Project site cannot be infiltrated or captured and reused on site, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow (Appendix I1; Appendix I2). Because the South Campus Specific Plan area is located within an HCOC-applicable area, some of the individual project sites (depending on which subwatershed the project is located in) would be required to also detain the 100-year, 24-hour storm runoff to existing discharge rates (i.e., no net increase in discharge rate). Overflow beyond the 100-year, 24-hour discharge rates would drain around proposed structures and discharge to the public right-of-way. In addition, off-site regional detention basins located downstream of the portion of the South Campus Specific Plan area located in the Perris Valley MDP are designed to accommodate a 100-year storm runoff volume. As illustrated in Figure 4.8-1, the eastern portion of the South Campus Specific Plan area is located within the Perris Valley MDP area. As a result, stormwater in this portion of the Specific Plan area would flow to the northeast, whereas the remainder of the area is located in the Mead Valley MDP, where stormwater flows to the west and south (Figures 4.8-1, 4.8-2, and 4.8-3). The eastern portion of the South Campus Specific Plan area would flow to the northeast, toward off-site regional Lot E/49 Basin. Two additional basins, the East Detention Basin and South Channel Detention Basin, are located downstream of the Lot E/49 Basin, immediately west of Interstate 215. The three basins are designed to accommodate RCFCWCD requirements for the increase in runoff from the fully built-out South Campus Specific Plan area that is tributary to those basins (i.e., located within the Perris Valley MDP area) (K&A 2014).

Downstream of the South Channel Detention Basin, stormwater control features are planned to convey stormwater to Heacock Channel in multiple sections. However, these improvements are not a condition of the Meridian Development. In the absence of these improvements, development of the portion of the South Campus Specific Plan area located within the Perris Valley MDP, including the eastern portion of the Phase II site, would potentially result in increased runoff rates and associated off-site erosive scour and sedimentation of downstream water bodies. Although future development on each lot within the Phase II site would require mitigation to address any HCOC requirements (Appendix I2), with the exception of Phase II, hydrology analyses have not been completed for the remainder of the South Campus Specific Plan area.

Conclusion

The 2003 Focused EIR for the 2003 Approved South Campus concluded that stormwater runoff would increase as a result of increased impervious surfaces, but that impacts would be reduced to less than significant levels with incorporation of mitigation measures F-1 through F-3 (i.e., construction of downstream regional detention basins). Stormwater runoff requirements have become more stringent since completion of the 2003 Focused EIR. As with the 2003 Approved South Campus, Project impacts would be **less than significant with mitigation**.

Village West Drive Extension

Currently, the Village West Drive Extension corridor includes a narrow unpaved road and runoff flows onto adjacent unpaved areas. Implementation of the Village West Drive Extension would involve rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts (Appendix F3). A SWPPP will be implemented for construction-phase control of erosion and construction-

related pollutants. Once constructed, the proposed roadway would divert stormwater runoff from the adjacent undeveloped area to the west beneath the roadway through several storm drain culverts. Stormwater runoff within the roadway would flow along the paved roadway and into either the existing or new gutters and storm drain culverts, rather than into the neighboring properties, resulting in **beneficial impacts**, with respect to potential erosion of adjacent soils during high intensity rain events.

- b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?*

South Campus Specific Plan Area

As previously discussed, a hydrology analysis has only been completed for the northwest portion of the South Campus Specific Plan area (Figure 4.8-1, Appendix I2). Based on preliminary hydrologic modeling of this portion of the site, existing on-site stormwater infrastructure is inadequate in conveying post-development 100-year stormwater flows. Therefore, runoff would be routed to detention tanks located within the landscape easements adjacent to the right-of-way. The detention tanks are sized to hold the water quality Design Capture Volume (i.e., 2-year, 24-hour storm volume) and the 100-year storm volumes. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow (Appendix I1; Appendix I2). Off-site regional detention basins downstream of the portion of the South Campus Specific Plan area located in the Perris Valley MDP area (Figure 4.8-1) are designed to accommodate a 100-year storm runoff volume. The three basins are designed to accommodate the RCFCWCD requirements for the increase in runoff from the fully built-out South Campus Specific Plan Area that is tributary to those basins (i.e., the Perris Valley MDP area). The 2003 Focused EIR concluded that stormwater runoff would increase as a result of increased impervious surfaces, but that impacts would be reduced to less than significant levels with incorporation of mitigation measures F-1 through F-3 (i.e., construction of downstream regional detention basins). Stormwater runoff requirements have become more stringent since completion of the 2003 Focused EIR. As with the 2003 Approved South Campus, impacts would be **less than significant with mitigation**.

Village West Drive Extension

As previously discussed, the Village West Drive Extension corridor includes an unpaved road and runoff flows onto adjacent unpaved areas. Implementation of the Village West Drive Extension would involve rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts (Appendix F3). Once constructed, the proposed roadway would divert stormwater runoff from the adjacent undeveloped area to the west beneath the roadway through several storm drain culverts. Stormwater runoff within the roadway would divert stormwater to flow along the paved roadway and into new gutters and storm drain culverts, rather than into the neighboring properties, resulting in **beneficial impacts** with respect to potential flooding during high intensity rain events.

- c. *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

South Campus Specific Plan Area

As previously discussed, the 2003 Focused EIR concluded that stormwater runoff would increase as a result of increased impervious surfaces, but that impacts would be reduced to less than significant levels with incorporation of mitigation measures F-1 through F-3 (i.e., construction of downstream regional detention basins). Similarly, development of the South Campus Specific Plan area has the potential to increase surface runoff flow rate or discharge on-site or off site. As with the 2003 Approved South Campus, impacts would be **less than significant with mitigation**.

Village West Drive Extension

As previously discussed, the Village West Drive Extension corridor includes a narrow unpaved road and runoff flows onto adjacent unpaved areas. Implementation of the Village West Drive Extension would involve rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts (Appendix F3). Once constructed, the proposed roadway would result in an increase in impervious surfaces and associated increased runoff. Once constructed, the proposed roadway would divert stormwater runoff from the adjacent undeveloped area to the west beneath the roadway through several storm drain culverts. Stormwater runoff within the roadway would be diverted along the paved roadway and into either the existing or new gutters and storm drain culverts. Project-related increases in stormwater runoff could exceed the capacity of existing or planned stormwater drainage systems. In addition, the roadway would be used by more vehicles than under existing conditions, resulting in increases in surface water pollutants, such as oil and grease. As a result, impacts would be **less than significant with mitigation**.

- d. *Impede or redirect flood flows?*

South Campus Specific Plan Area

FEMA has determined that the proposed South Campus Specific Plan area is located within Zone D, an area with possible, but undetermined flood hazards. However, site-specific geotechnical evaluations of the South Campus Specific Plan Area (Appendix F1; Appendix F2) determined that the South Campus Specific Plan area is not located in a floodplain and that the risk of flooding on-site would be very low. The 2003 Focused EIR found that flooding impacts associated with the 2003 Approved South Campus would be less than significant with implementation of mitigation measures F-1 through F-3 (see Section 4.8.5, Mitigation Measures). As with the 2003 Approved South Campus and as supported by the discussion herein, the proposed Project would not impede or redirect flood flows. Impacts would be **less than significant**, and no additional mitigation is required.

Village West Drive Extension

Similar to the South Campus Specific Plan area, the proposed road extension is not located in a floodplain and the risk of flooding on-site would be very low. As a result, proposed Village West Drive extension would not impede or redirect flood flows. Impacts would be **less than significant**, and no mitigation is required.

HYD-4. In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?

South Campus Specific Plan Area

As previously discussed, the risk of flooding on-site would be very low. The South Campus Specific Plan area is not located in proximity to the Pacific Ocean and is not located in proximity to a standing body of water. The nearest standing body of water is the Perris Reservoir, located approximately 5.4 miles to the southeast of the Specific Plan area. As such, the proposed Specific Plan would not be subject to inundation by tsunami or seiche. In addition, according to the County of Riverside Safety Element Figure S-10, Dam Failure Inundation Zones, the South Campus Specific Plan area is not located within a Dam Hazard Zone. The 2003 Focused EIR found that flooding impacts associated with the 2003 Approved South Campus would be less than significant with implementation of mitigation measures F-1 through F-3 (see Section 4.8.5, Mitigation Measures). As with the 2003 Approved South Campus and as supported by the discussion above, flooding impacts related to the Specific Plan would be **less than significant**, and no mitigation is required.

Village West Drive Extension

Similar to the South Campus Specific Plan area, the proposed road extension is not located in a floodplain and the risk of flooding on-site would be very low. As a result, proposed Village West Drive Extension would not result in a risk of release of pollutants due to flooding. Impacts would be **less than significant**, and no mitigation is required.

HYD-5. Would the Project conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan?

South Campus Specific Plan Area

As previously discussed, compliance with the March JPA WQMP Document, as well as implementation of a site-specific SWPPP, LID features, and WQMPs would ensure that degradation of water quality (surface water and groundwater) would remain minimal and that the proposed South Campus Specific Plan would meet all waste discharge requirements. Similar to the 2003 Approved South Campus, impacts are considered **less than significant with mitigation**, as Project-specific WQMPs have not yet been completed for the undeveloped South Campus Specific Plan area (i.e., outside of what has been constructed on site to date).

With respect to groundwater management, SGMA empowers local agencies to form GSAs to manage basins sustainably, and requires those GSAs to adopt GSPs for crucial groundwater basins in California. Currently, the Project site partially overlies the San Jacinto Groundwater Basin, which is currently managed by EMWD's West San Jacinto Groundwater Management Plan, prepared pursuant to AB 3030. EMWD has assembled a GSA and will be preparing a GSP by 2022, pursuant to SGMA, for ongoing sustainable management of said basin for the next 20 years. However, the San Jacinto Groundwater Basin is not currently used to supply the water needs of existing infrastructure within the South Campus Specific Plan area. No recognized groundwater basin underlies the remainder of the South Campus Specific Plan area.

The groundwater basins that would provide a portion of the Project's potable water supply are mostly adjudicated and therefore currently managed under Court-appointed oversight (Watermasters). Those portions of the basins

that are outside of the adjudications are expected to be addressed in forthcoming GSPs. wasFurther, the South Campus Specific Plan is not a known recharge site nor designated for such use in the future.

The 2003 Focused EIR did not evaluate impacts to groundwater supply and groundwater management plans. However, because the Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, impacts would be **less than significant**, and no new mitigation is required.

Village West Drive Extension

Minimal amounts of groundwater (if any) would be used during construction of the Village West Drive Extension, and as a result, would have inconsequential impacts on groundwater supply. Therefore, the proposed roadway would not obstruct the implementation of a sustainable groundwater management plan. Impacts would be **less than significant**, and no mitigation is required.

Demolition and construction of the Village West Drive Extension would be confined to the proposed roadway boundaries, and would include demolition of the existing road and an abandoned aboveground water tank located within the roadway right-of-way. A SWPPP would be required to minimize construction impacts to water quality. Once developed, surface water would be directed to gutters and storm drain culverts, which would improve drainage of the site compared to existing conditions. However, as previously discussed, the roadway would be used by more vehicles than under existing conditions, resulting in increases in surface water pollutants, such as oil and grease. As a result, impacts would be potentially significant. However, with implementation of mitigation requiring the preparation of Project-specific WQMPs as required under mitigation measure **MM-HYD-1**, potentially significant impacts would be reduced to **less than significant**.

4.8.5 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce hydrology and water quality impacts and will be incorporated into the Mitigation Monitoring and Reporting Program for the Project:

- F-1** Detention basins and improvements to the storm drain system shall be constructed to reduce peak flows to less than those associated with existing conditions in accordance with the approved Drainage Plan.
- F-2** The storm drain system shall include sediment basins near inlets to the system to intercept sediment in accessible areas where maintenance is practical.
- F-3** Activities requiring authorization under an NPDES permit shall not be conducted prior to authorization by the Santa Ana Regional Water Quality Control Board. Best management practices identified in the Storm Water Pollution Prevention Plan shall be implemented.

In addition to Mitigation Measures F-1 through F-3, the following mitigation measures are required to further reduce potentially significant hydrology and water quality impacts within the South Campus Specific Plan area.

- MM-HYD-1** **Water Quality Management Plan.** Consistent with DRC Engineering's *Master Project Specific Water Quality Management Plan, Master Meridian Business Park Project, South Campus - Phase II* (Appendix I1) for the northwestern part of the Project site, prior to issuance of a grading permit for any individual project development, a Water Quality Management Plan (WQMP) shall be developed,

to the satisfaction of the March Joint Powers Authority (JPA), for individual projects proposed as part of the South Campus Specific Plan that are currently not covered under an existing WQMP. Regions currently not covered under a WQMP include the southwest, central, and eastern portions of the South Campus Specific Plan (Figure 4.8-1). In accordance with March JPA's guidance, future implementing projects will need to meet the requirements of the Santa Ana Municipal Separate Storm Sewer System (MS4) Permit, as well as the County of Riverside Water Quality Management Plan Guidance Document (County of Riverside 2012), such that the WQMP shall demonstrate that post-construction low-impact development (LID) best management practices (BMPs) are incorporated into the specific proposed project design and that these features would effectively reduce and/or eliminate water pollution caused by runoff flowing from developed sites into nearby receiving waters. LID Retention BMPs (infiltration only or harvest and use) shall be used unless it can be demonstrated that those BMPs are infeasible. Projects shall follow the LID hierarchy of infiltration, harvest and reuse, and biotreatment when selecting the final LID for the development. In addition, source control BMPs shall be implemented whenever possible.

MM-HYD-2 Hydrology/Drainage Study. Consistent with DRC Engineering, Inc.'s, *Preliminary Hydrology Study, for: the Meridian Park South Campus Phase II* (Appendix I2), for the northwestern portion of the Project site, prior to issuance of a grading permit for any individual project development, a Hydrology/Drainage Report shall be developed, to the satisfaction of the March Joint Powers Authority, for individual projects proposed within the South Campus Specific Plan area currently not covered under an existing Hydrology/Drainage Report. Regions currently not covered under a Hydrology/Drainage Report include the southwest, central and eastern segments of the South Campus Specific Plan (Figure 4.8-1). In accordance with the Riverside County Hydrology Manual, the Hydrology/Drainage Report shall demonstrate that stormwater runoff flow volume or flow rate, associated with specific projects, would be less than or equal to existing conditions to prevent on- and off-site runoff and flooding. The Hydrology/Drainage Report shall comply with the Riverside County Flood Control and Water Conservation District Hydrology Manual (RCFCWCD 1978) for storm drain planning and design calculations.

4.8.6 Level of Significance After Mitigation

Incorporation of mitigation measures F-1 through F-3 from the 2003 Focused EIR, as well as post-construction LID BMPs, as outlined in mitigation measure **MM-HYD-1**, would ensure effective control of incidental releases to the environment of pollutants of concern associated with Project land uses, such as sediment, oil and grease, nutrients, heavy metals, and certain pesticides, including legacy pesticides, such that water quality impacts from the South Campus Specific Plan area to receiving waters would be **less than significant** after mitigation. In addition, the completion of project-specific hydrology/drainage reports, as outlined in mitigation measure **MM-HYD-2**, would prevent flooding and prevent adverse impacts to downstream drainage facilities by incorporating stormwater detention infrastructure, such as detention tanks and basins, such that hydrology impacts would be **less than significant after mitigation** within the South Campus Specific Plan area. All hydrology and water quality impacts associated with the Village West Drive Extension would be less than significant and no mitigation would be required.

4.8.7 Cumulative Effects

Water Quality

The geographic context for the analysis of cumulative impacts associated with water quality is the encompassing Santa Ana River and Middle and Lower San Jacinto River Watersheds. Cumulative development in the watersheds will increase impervious areas and add new sources of pollutants in stormwater runoff. Construction activities associated with development could temporarily increase the number of exposed surfaces that could contribute to sediments in stormwater runoff. Additionally, materials associated with construction activities could be deposited on surfaces and carried to receiving waters in stormwater runoff. Continued development and redevelopment within the Santa Ana River and Middle and Lower San Jacinto River Watersheds could also increase the number of impervious surfaces that could increase stormwater runoff rates and amounts, as well as result in changes in land use that may increase the amount of pollutants in stormwater runoff. The 2003 Focused EIR did not address cumulative water quality impacts. All cumulative development in the watersheds would be subject to the existing regulatory requirements to protect water quality and minimize increases in stormwater runoff. For example, the Construction General Permit requires the development and implementation of a SWPPP for all construction sites larger than 1 acre to mitigate potential impacts to water quality from polluted stormwater runoff.

Every 2 years, the Santa Ana RWQCB must re-evaluate water quality within its geographic region and identify those water bodies not meeting water quality standards. For those impaired water bodies, a TMDL must be prepared and implemented to reduce pollutant loads to levels that would not contribute to a violation of water quality standards. All development within the Santa Ana River and Middle and Lower San Jacinto River Watersheds are subject to the water quality standards outlined in the Basin Plan and must comply with any established TMDLs. The continuing review process would ensure that cumulative development within the watershed would not substantially degrade water quality.

The March JPA and co-permittee cities and counties within the Santa Ana River Watershed are subject to the requirements of their respective MS4 Permits. Currently, the MS4 permits require that the project designer and/or contractor of all new development and redevelopment projects that fall under specific “priority” project categories must develop a WQMP, which include LID design requirements related to water quality. The LID features would address long-term effects on water quality within the San Jacinto and Santa Ana River Watershed and ensure BMPs and LID designs minimize potential water quality concerns to the maximum extent practicable. Therefore, impacts associated with water quality standards and polluted runoff in the watersheds would be minimized and the proposed Project’s contribution to cumulative impacts would not be cumulatively considerable.

Groundwater Supply and Groundwater Recharge

Development of nearby related projects, as listed in Table 4-1 and illustrated on Figure 4-1, would increase land use intensities in the area, resulting in increased water usage. The 2003 Focused EIR did not address groundwater supply impacts, but did conclude that cumulative development in the region would increase the amount of impervious surfaces, thereby decreasing surface water percolation into soils. The proposed Project and some of the related projects are served by the Western Municipal Water District. As such, development of the proposed Project and the related projects would increase the amount of water used in Western Municipal Water District’s service area. Western Municipal Water District’s UWMP has planned for the provision of regional water, during normal, dry, and multiple dry years. The plan uses regional population, land use plans, and projections of future growth as the basis for planning water system improvements (including water treatment plants) and demonstrating compliance with state water conservation goals and policies. As such, to the extent that related projects are generally consistent with regional growth patterns and projections, the projects would not be expected to result in increased water usage causing the need for new entitlements, resources, and/or treatment facilities that are not already being planned to accommodate regional growth forecasts.

As previously discussed, the Western Municipal Water District has planned water supply projects aimed at meeting increased future water demands within its service area. These plans include increasing the groundwater recharge capabilities of the Arlington sub-basin, increasing the use of groundwater banking programs, increasing the use of desalinated water, and conjunctive use programs designed to increase regional water reliability (Western 2016). When coupled with regional groundwater management plans and the regulatory bindings of the basins, these projects would ensure that the proposed Project, as well as future regional projects, would not substantially decrease groundwater supplies or impede sustainable ground management of the relevant groundwater basins.

Certain qualifying projects would be subject to WSA requirements, which assess the sufficiency of supply for existing and future demands, to serve as evidentiary basis for an approval action by the March JPA on such projects. Further, compliance with the California Green Building Standards Code would be required for new developments. This would ensure that many of the related projects, as well as the proposed project, do not result in wasteful or inefficient use of limited water resources, and may in fact result in an overall decrease in water use per person. Due to water planning efforts and water conservation standards, impacts to groundwater supplies would be minimized, and the contributions of the proposed Project to cumulative impacts would not be cumulatively considerable.

Stormwater Drainage

The geographic context for the analysis of cumulative impacts related to storm drainage is the Santa Ana River and Middle and Lower San Jacinto River Watersheds. Cumulative development within the watershed will increase the number of impervious surfaces that could cause or contribute to storm drain and receiving water capacity exceedances, alter existing earthen channel profiles (i.e., create erosive downcutting and bank failure), and/or require the construction of new or expanded flood control infrastructure.

The 2003 Focused EIR concluded that stormwater runoff would increase as a result of increased impervious surfaces, but that cumulative impacts would be less than significant with incorporation of area drainage plans and storm drain system improvements, including the March JPA Drainage Plan. Stormwater runoff requirements have increased since completion of the 2003 Focused EIR. New development within the watersheds would be subject to the environmental review process and compliance with local stormwater regulations, such as the Construction General Permit, the Section 404 permit process of the CWA, local municipal code requirements, and local Water Quality Management Plan requirements.

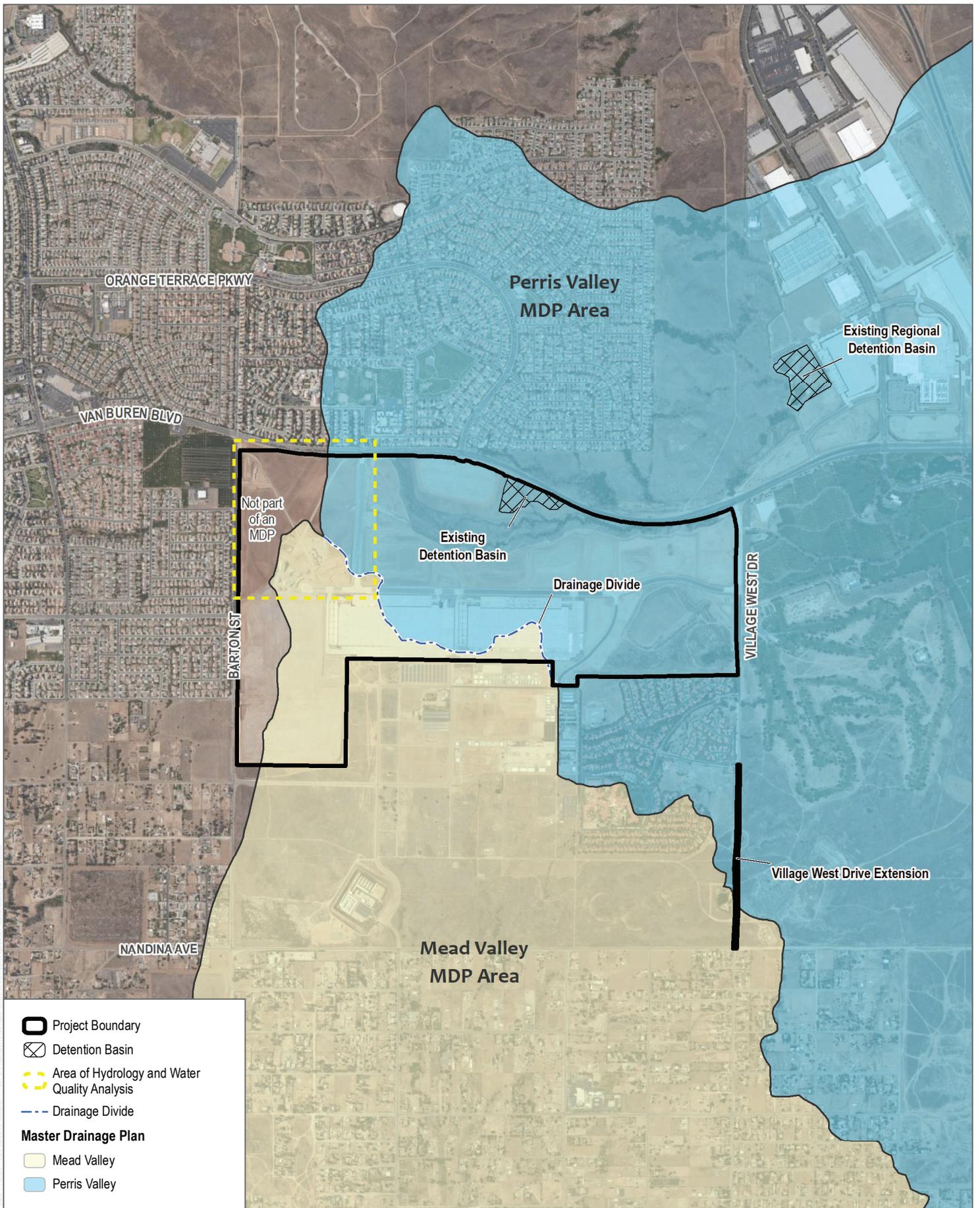
The proposed Project would incorporate LID features during project design to reduce impervious surfaces and reduce stormwater runoff. Similar to the proposed Project, other projects in the Santa Ana River and Middle and Lower San Jacinto River Watersheds would incorporate hydromodification features such that drainage rates would be no more than existing conditions. Therefore, impacts associated with changes in runoff in the watersheds would be minimized, and the contributions of the proposed Project to cumulative impacts would not be cumulatively considerable.

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SOURCE: Bing Maps 2020; RCFCWCD 2020

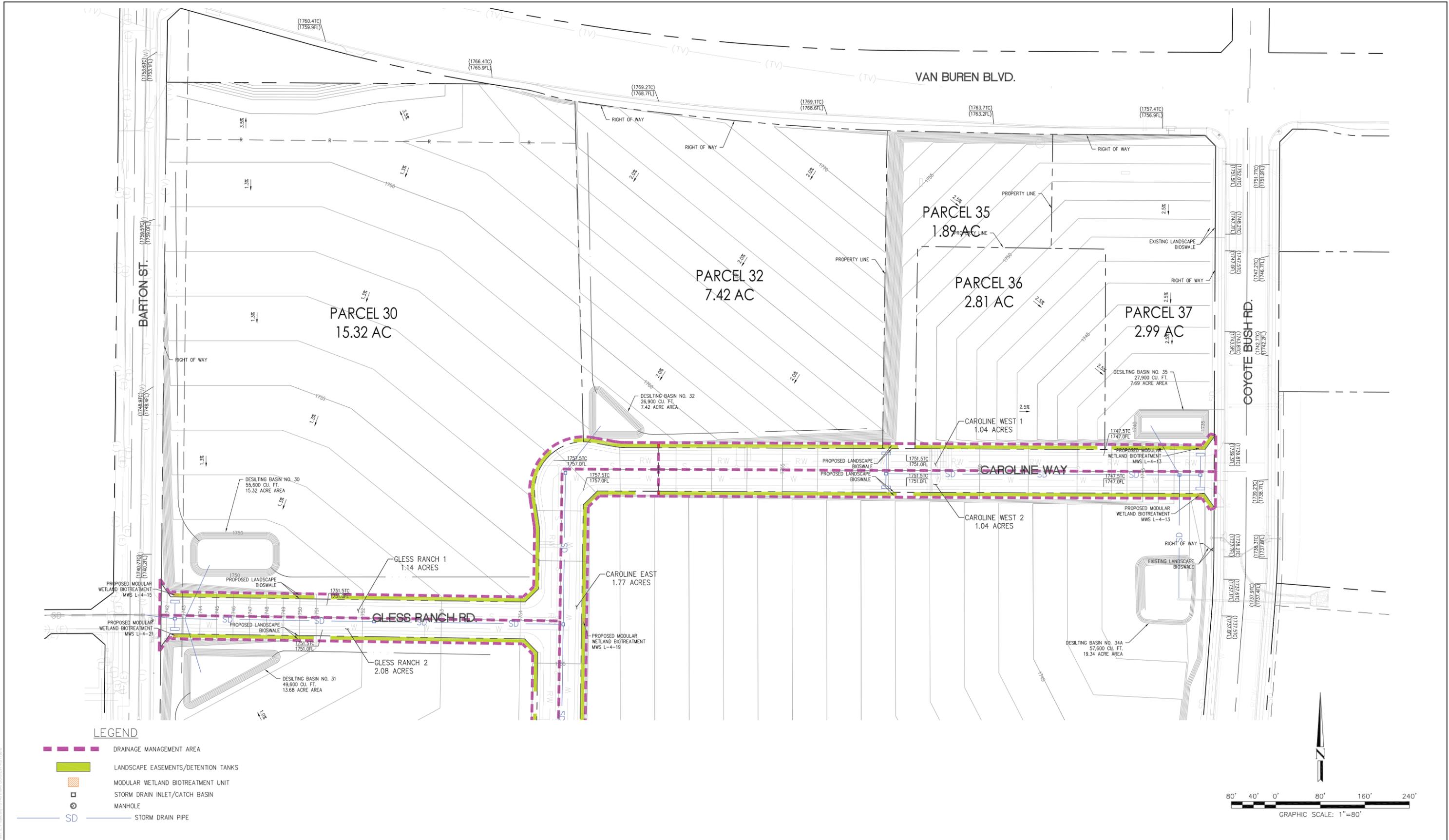
FIGURE 4.8-1

Master Drainage Plan Areas

South Campus Specific Plan and Village West Drive Extension



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SOURCE: DRC Engineering 2019 (Appendix I-1)

FIGURE 4.8-2

Proposed Water Quality Features, North Portion of Phase II

South Campus Specific Plan and Village West Drive Extension

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4.9 Land Use and Planning

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing land use and planning conditions of the South Campus Specific Plan area and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project.

In addition to other documents, the following references were used in the preparation of this section of the Draft SEIR:

- General Plan of the March Joint Powers Authority (JPA) (March JPA 1999a)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (March JPA 1999b)
- March Business Center Focused Environmental Impact Report (February 2003)

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.9.1 Existing Conditions

For purposes of this discussion, the Project is divided into two components: the South Campus Specific Plan area and the Village West Drive Extension.

South Campus Specific Plan

The South Campus Specific Plan area is located within the southwestern portion of March JPA’s jurisdiction. More specifically, the South Campus Specific Plan area is located in the southern portion of the March Business Center Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the South Campus Specific Plan area.

General Plan and Zoning

The existing South Campus Specific Plan land uses include Office, Commercial, Mixed Use, Business Park, Industrial, and Park/Open Space land use designations, as shown in Figure 3-4B, Currently Approved South Campus Configuration, in Chapter 3 of this SEIR. March JPA zoning designations are consistent with the existing land use designations.

Current On-Site Land Uses

The current 553.3-acre South Campus Specific Plan area consists of approximately 278.5 acres of development. Approximately 2.5 million square feet of industrial land uses and associated parking have been developed on approximately 217.1 acres, north of 11th Street. Approximately 14,267 square feet of commercial development

has been constructed on approximately 3.5 acres at the southwest corner of the intersection of Orange Terrace Parkway and Van Buren Boulevard. A newly-constructed 61.4-acre park and trail system is developed in the southeast portion of the Project site and an 8-acre detention basin has been constructed in the northern portion of the South Campus Specific Plan area. The remaining 284.8 acres of the Project site are vacant, and have been mass graded based on the approved Meridian South Campus Specific Plan. Several utility lines, including water, sewer, a substation, and high-pressure natural gas pipelines, are located on the Project site to serve existing development. Figure 3-2, Existing Conditions, in Chapter 3 of this SEIR shows the status of current development within the South Campus.

Surrounding Land Uses

Large subdivisions of single-family residences are located to the north and west of the Project site, within the City of Riverside. Westmont Village, a Continuing Care Retirement Community, is a residential development located south of the Project site in the southern portion of the West March Planning Area. Westmont Village retirement community is permitted to provide long-term care for up to 2,042 residents. In addition, the Riverside Community College and various structures associated with the Ben Clark Public Safety Training Center are located south of the Project site, including a 6-acre photovoltaic solar site. The General Old Golf Course and Riverside National Cemetery are located east of the Project site. The golf course is an 18-hole course open to the public, located on 314 acres owned by March JPA. The cemetery is owned by the U.S. Veterans Administration and located on 921 acres.

Village West Drive Extension

The Village West Drive Extension component of the Project is located to the east and south of South Campus. Village West Drive, south of Van Buren Boulevard to Krameria Avenue is classified as a Modified Secondary Highway. Village West Drive, south of Krameria Avenue to Nandina Drive is classified as an Industrial Collector Street by the March JPA General Plan. Village West Drive is built out to the ultimate cross-section width, according to existing March JPA General Plan roadway classifications, from Van Buren Boulevard to Lemay Drive. The Village West Drive Extension component of the Project is located from Lemay Drive, extending to Nandina Avenue, approximately 0.8 miles to the south. This roadway extension is partially paved with undeveloped properties on either side of the roadway. In addition, an abandoned water tank, which is proposed to be removed, is located adjacent to the roadway approximately 0.3 miles north of Nandina Avenue.

4.9.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Aviation Administration

The Federal Aviation Administration (FAA) mandates that any structure that is located within proximity to an airport or other criteria per Code of Federal Regulations Title 14, Part 77.9, requires filing with the FAA. The Project site is located within proximity to the March Air Reserve Base (ARB), which may impact the assurance of navigation signal reception. As such, future implementation of the Project would require project applicants to file Form FAA 7460-1, Notice of Proposed Construction or Alteration, with the FAA.

FAA Advisory Circular 150/5200-33B

In 2007, FAA issued an Advisory Circular No. 150/5200-33B providing guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. The Advisory Circular also discusses airport development projects, including airport construction, expansion, and renovation, affecting aircraft movement near hazardous wildlife attractants. Hazardous wildlife is defined as any species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard. Included within the Advisory Circular are minimum separation criteria for land-use practices that attract hazardous wildlife to the vicinity of airports. Separation distances are based on flight patterns, altitude at which most strikes happen, and National Transportation Safety Board recommendations. Land use practices discussed within the Advisory Circular associated with wildlife hazards directly applicable to the proposed Project include the placement and design of new stormwater management facilities, which must drain within 48 hours after a storm event.

State

Senate Bill 375

Senate Bill 375 was signed in September 2008 (Chapter 728, Statutes of 2008), and coordinates regional transportation planning efforts, regional greenhouse gas (GHG) reduction targets, and land use and housing allocation to contain urban sprawl and reduce GHG emissions across the state. Senate Bill 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or alternative planning strategy that will prescribe land use allocation. The California Air Resources Board, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light duty trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies improve the ability to achieve the targets. The California Air Resources Board is also responsible for reviewing each MPO's SCS or alternative planning strategy for consistency with its assigned targets. This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or alternative planning strategy), although their housing elements must meet Regional Housing Needs Assessment targets (which will in part be influenced by the regional transportation plan). Ultimately, Senate Bill 375 is intended to prevent urban sprawl and encourage the co-location of housing and jobs to reduce commute times, limit traffic congestion, reduce transportation-related GHG emissions, and promote orderly growth. The proposed Project is located within the Southern California Association of Governments (SCAG) region and is part of Western Riverside Council of Governments. Although it has not yet done so, the Western Riverside Council of Governments has authority to develop its own SCS and alternative planning strategy. For the SCAG region, the next Regional Transportation Plan (RTP)/SCS is scheduled to be adopted in 2020 (SCAG 2020).

Regional

Southern California Association of Governments

Senate Bill 375 requires MPOs to prepare an SCS in their RTP. The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012, and the 2016–2040 RTP/SCS (2016 RTP/SCS) was adopted in April 2016 (SCAG 2016). Both the 2012 and 2016 RTP/SCSs establish a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2012 RTP/SCS links the goals of sustaining mobility with the goals

of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. The 2012 and 2016 RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with it but provide incentives for consistency for governments and developers.

On May 7, 2020, SCAG's Regional Council adopted Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only (SCAG 2020). In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

Western Regional Council of Governments

The Western Riverside Council of Governments represents 18 cities, the Riverside County Board of Supervisors, the Eastern and Western Municipal Water Districts, and the Morongo Band of Mission Indians, and sets policy for the organization. The Western Riverside Council of Governments focuses on a number of regional matters including transportation, environment, energy, economy, and health (WRCOG 2020).

Local

March Air Reserve Base/Inland Port Airport Air Installations Compatible Use Zones

The 2018 March ARB/Inland Port Air Installation Compatible Use Zone Study provided an extensive analysis of the effects of aircraft noise, accident potential, and compatible land use and development upon present and future neighbors of the March ARB/Inland Port. The Air Installation Compatible Use Zone program is a means to protect public safety and health, while also protecting the Air Force's national defense mission, which includes training pilots. The Project site is located outside identified March ARB/Inland Port Air Installation Compatible Use Zone noise contour areas as shown in Figure 4.9-1. The 2018 noise contour levels have since been revised to not overlap with the Project site.

Riverside County Airport Land Use Commission

The Riverside County Airport Land Use Commission (ALUC) has been assigned lead responsibility for airport land use compatibility planning around each of the public-use and military airports in Riverside County. The Project site is located within the March ARB/Inland Port airport influence area within unincorporated Riverside County and therefore is subject to review and approval by the Riverside County ALUC.

The March ARB/Inland Port Airport Land Use Compatibility Plan (ALUCP) was prepared for and adopted by the Riverside County ALUC on November 13, 2014. The purpose of the March ARB/Inland Port ALUCP is to promote compatibility between the March ARB/Inland Port airport and the land uses that surround the joint-use airport, to the extent such areas are not already devoted to incompatible uses. The March ARB/Inland Port ALUCP regulates future development of new residential dwellings, commercial structures, and other noise- or risk-sensitive uses within the Airport Influence Area based on factors enumerated in the ALUCP, including but not limited to noise, overflight, safety, and airspace protection. According to the ALUCP, and shown in Figure 4.9-2, the Project site is located in Zones C2 and D (Mead & Hunt 2014). Zone C2 is described as a Flight Corridor Zone encompasses areas of moderate noise impact and moderate to low risk level for safety and airspace protection. Zone D is described as

a Flight Corridor Buffer with moderate to low noise impact and low risk level for safety and airspace protection. The following restrictions apply for each zone (Mead & Hunt 2014):

Zone C2:

- **Residential Density:** Less than or equal to 6.0 dwelling units per acre (du/ac)
- **Other Uses:** An average of 200 people per acre or 500 people for one acre.
- **Required Open Land:** No requirement for open land.
- **Prohibited Uses:** Highly noise-sensitive outdoor nonresidential uses; hazards to flights
- **Other Development Conditions:** Children’s schools discouraged; airspace review requirement for objects greater than 70 feet tall; electromagnetic radiation notification; and deed notice and disclosure.

Zone D:

- **Residential Density:** No limit
- **Other Uses:** No restriction
- **Required Open Land:** No requirement for open land
- **Prohibited Uses:** Hazards to flight
- **Other Development Conditions:** Major spectator-oriented sports stadium, amphitheaters, concert halls discouraged; electromagnetic radiation notification; deed notice and disclosure

March JPA General Plan

The March JPA General Plan is a long-range comprehensive plan designed to outline and delineate use and development of an area known formerly as March Air Force Base (AFB), prior to the base realignment in April 1996 to the March ARB. The March AFB was first established as a military installation in 1918, and has operated almost continually since that time. In July 1993, March AFB was selected to be realigned, and subsequently converted from an active duty base to a Reserve Base, effective April 1, 1996. With the announcement of base realignment at March AFB, the adjacent jurisdictions immediately formed a Joint Powers Authority, known as March JPA. March JPA is a public entity, created for the purpose of addressing the use, reuse, and joint use of realigned the March AFB. The four individual public entities that cooperatively formed the JPA are the cities of Perris, Moreno Valley, and Riverside, and the County of Riverside. The JPA was created by separate resolutions of the four jurisdictions in September 1993. The March JPA defines reuse and development opportunities of the area, while preserving the environmental quality. The March JPA General Plan is designed to implement the March AFB Master Reuse Plan, which includes the disposal and redevelopment of approximately 4,400 acres of the 6,500-acre former March ARB. The March JPA General Plan establishes goals and policies to reach long-term objectives, and establishes long-term policies for day-to-day decisions, based upon those objectives (March JPA 1999a). The March JPA certified the General Plan in 1999 and has published the Draft Vision 2030: March JPA General Plan. Because the 2030 March JPA General Plan is in draft form, the proposed Project shall be evaluated for consistency with the 1999 March JPA General Plan. The goals and policies relevant to the Project are contained within the March JPA General Plan Land Use Element, Transportation Element, Noise/Air Quality Element, Resource Management Element, and Safety/Risk Management Element, as described below.

Land Use Element

The Land Use Element of the March JPA General Plan is based upon the March AFB Master Reuse Plan preferred land use pattern. This element delineates the general location and distribution of land uses, extent of existing and proposed land uses for the March JPA Planning Area, and development criteria for development intensity. The goals and policies contained within the Land Use Element address the capitalization of the opportunities within the Planning Area, and the reuse and revitalization of existing facilities. The goals and policies contained in the Land Use Element focus on maintaining a balance between commerce, industry, and aviation uses, while promoting high quality development and minimizing land use conflicts. As previously mentioned, the Project includes a General Plan amendment that would include minor shifts in the mix of existing land uses but no new land uses are proposed to be added to the General Plan.

Transportation Element

The Transportation Element of the March JPA General Plan determines the way in which land use is ultimately distributed throughout the Planning Area and the subsequent resulting physical environment. The location, classification, capacity, and mode type play an important role in shaping air quality, noise impacts, natural habitat, development types, and general appearance of the Planning Area. The Transportation Element includes a Truck Route Plan (as adopted by Resolution No. JPA 03-02), shown as Figure 4.9-3, with truck restrictions prohibiting truck movements on westbound Van Buren Boulevard beyond Village West Drive. Vehicles would access the Project site via Van Buren Boulevard, a designated truck route, and by turning onto Village West Drive in order to enter into the South Campus Specific Plan area. All Project trucks would be oriented to and from Interstate 215 via Van Buren Boulevard. The extent of necessary facilities, adequacy of service levels, and transportation demand management measures, along with general location and infrastructure facilities, are described within this element of the General Plan. As previously mentioned, the Project includes a General Plan amendment to reflect roadway alignment changes within the South Campus based on the new layout of land uses, as well as to accommodate the Village West Drive extension.

Noise/Air Quality Element

The Noise/Air Quality Element of the March JPA General Plan addresses noise and air quality due to the nexus of generators and significance to the General Plan and region. The Noise/Air Quality Element examines the existing and future noise environment and noise generators of the Planning Area. The Noise/Air Quality Element contains a discussion of local and regional air quality, stationary and mobile emission sources, and programs to reduce pollutant emissions generated.

Resource Management Element

The Resource Management Element of the March JPA General Plan provides for the conservation, development, and use of natural, historical, and cultural resources. The Resource Management Element also details plans and measures for the preservation of open space designed to promote the management of natural resources, outdoor recreation and public health and safety.

Safety/Risk Management Element

The Safety/Risk Management Element of the March JPA General Plan identifies and establishes standards and plans for the protection of the Planning Area from a variety of hazards including earthquakes, flooding, fire, geological, and airport compatibility conditions.

March JPA Development Code

The primary implementation mechanism for the Land Use Element is the March JPA Development Code, which provides for parcel-specific zone designations for all land within its jurisdiction and subdivision regulations. Title 9 of the March JPA's Code contains the Development Code for the March JPA, and includes regulations for site planning and development.

Meridian Business Center Specific Plan

The Meridian Business Center Specific Plan was adopted in February 2003 by the March JPA and covers approximately 1,290 acres divided between North Campus and South Campus. The Meridian Business Center Specific Plan establishes the Specific Plan development standards, zoning districts, landscape requirements, building setbacks and the development review process for future development proposals. The existing land uses within South Campus reflect the following addenda to the certified 2003 Focused EIR:

- Meridian South Campus Specific Plan Amendment, SP-1, A6 – Parcel Delivery Terminal Project Addendum (September 2017)
- Meridian South Campus Specific Plan Amendment SP-1, A7 – Land Swap Addendum (September 2018)

March Business Center Design Guidelines

The March Business Center Design Guidelines promote the quality of development planned for March Business Center with defined criteria for implementing coordinated design, organizational unity, and overall visual identity for the area. The March Business Center Design Guidelines provide parameters for integrated site planning, architecture, landscaping and exterior lighting, as well as procedures and requirements for design submittal and review. The intent of these guidelines is to establish a consistent design concept for March Business Center and all projects within (March JPA 2017).

4.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning are based on the March JPA 2019 California Environmental Quality Act (CEQA) Guidelines. According to the March JPA CEQA Guidelines, a significant impact related to land use and planning would occur if the project would:

- a) Physically divide an established community.
- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The Initial Study concluded that potential impacts related to the Project physically dividing an established community were found to be less than significant (Appendix A). Therefore, this impact is not discussed in the SEIR. As such, the Project could have a significant impact on land use and planning if the Project would:

LU-1: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

4.9.4 Impacts Analysis

LU-1. *Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

South Campus Specific Plan

The proposed development within South Campus would be located within the March Business Center Specific Plan area, which was evaluated in the context of land use consistency in the 2003 Focused EIR. The proposed Project would not create or introduce land use designations not previously identified in the March JPA General Plan or the South Campus of the March Business Center Specific Plan, with the exception of introducing the Public Facilities land use designation to align the land use designation with the use for the existing electrical substation. However, total acreages for each land use designation would change, as shown on Table 4.9-1. The proposed land use designations for the proposed Project are illustrated in Figure 3-4C, Proposed South Campus Configuration, in Chapter 3 of this SEIR.

Table 4.9-1. 2003, Current and Proposed South Campus Land Uses

Use	2003 Approved South Campus (acres)	Current South Campus (acres)	Proposed South Campus (acres)	Change from Current Approval (acres)
Office	43.9	32.0	4.6	-27.4
Commercial	12.5	6.4	23.5	+17.1
Mixed Use	48.5	23.3	27.8	+4.5
Business Park	263.2	232.1	170.8	-61.3
Industrial	146.8	134.5	200.3	+65.8
Park/Open Space	111.6	125.0	140.3	+15.3
Public Facilities	0	0	0.9	+0.9
Total Net Acres	626.5	553.3	568.2	+14.9*

Note:

* Change in total net acres due to inclusion of 10 acres of Parcel 31, reconfiguration of internal road system and rounding differences

All future development within the South Campus associated with the proposed Project would be required to comply with the March Business Center Design Guidelines, included as a Standard Condition of Approval for the proposed Project.

SCAG 2016 RTP/SCS

The proposed Project is of Statewide, Regional, or Areawide Significance, as defined in Section 15206(b)(1) of the CEQA Guidelines because a General Plan amendment is proposed and an EIR is being prepared. SCAG's Intergovernmental Review section performs consistency review of regionally significant local plans and projects to assess consistency with applicable SCAG regional policies. These policies include goals contained in the Regional Transportation Plan (RTP), and Growth Visioning Principles for projects contained within mapped Opportunity Areas. Table 4.9-2 summarizes the Project's consistency with these regional

goals and principles. As shown in this table, the proposed Project is consistent with applicable policies of the RTP and applicable Growth Visioning principles.

Furthermore, SCAG’s Connect SoCal (2020–2045 RTP/SCS) was adopted on May 7, 2020. The major goals of SCAG’s Connect SoCal are outlined in Table 4.9-3, along with the Project’s consistency with them.

Table 4.9-2. Project Consistency with 2016 RTP/SCS Goals

Goal	Consistency Analysis
1. Align the plan investments and policies with improving regional economic development and competitiveness.	Consistent: This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive local and regional planning efforts. It should be noted that the proposed Project would encourage economic development similar to current permitted land uses because only minor shifts in acreage for each land use is proposed. The Project site would be developed primarily with employment-generating land uses such as Industrial, Business Park, Commercial, and Mixed Use.
2. Maximize mobility and accessibility for all people and goods in the region.	Consistent: The proposed Project would include a shift in total acreages for land uses previously identified in the March JPA General Plan or the 2003 Approved South Campus. The Project site would still be dominated by employment-generating land uses such as industrial, business park, mixed use, and commercial. As identified in the 2003 Focused EIR, these land uses would improve the job/housing imbalance in Western Riverside County, thus reducing the concentration of work trips in the peak hour/peak direction of travel and the distance and duration of commuting in this sub-region. Shorter trips provide a regional benefit for both traffic congestion and vehicle emissions.
3. Ensure travel safety and reliability for all people and goods in the region.	Consistent: Roadway improvements associated with the proposed Project would be designed consistent with Riverside County Road Standards and Specifications. Both on-site and off-site improvements would be constructed (or payment of fair share contribution) to ensure impacted roadways and intersections operate at acceptable levels (see Appendix K).
4. Preserve and ensure a sustainable regional transportation system.	Consistent: Incorporation of mitigation measure MM-TRA-1 (reduces vehicle miles traveled) and mitigation measures B-1 through B-12 from the 2003 Focused EIR identified in Section 4.12, Transportation, would ensure the regional transportation system would continue to operate at acceptable levels.
5. Maximize the productivity of our transportation system.	Consistent: This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive transportation planning efforts. The Project would be constructed consistent with the March JPA roadway classifications and Riverside County Road Standards and Specifications. In addition, all mitigation measures identified in Section 4.12, Transportation, including mitigation measures B-1 through B-12 from the 2003 Focused EIR and mitigation measure MM-TRA-1 (reduces vehicle miles traveled) would be implemented to ensure productivity of the transportation system is maximized.
6. Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	Consistent: An analysis of the Project’s environmental impacts is provided throughout this SEIR, and mitigation measures are specified where warranted. Air quality is addressed in Section 4.2, Air Quality, and mitigation measures MM-AQ-1 through MM-AQ-18, as well as mitigation measures C-1 through C-14 from the 2003 Focused EIR are incorporated into the Project to reduce air quality impacts to the

Table 4.9-2. Project Consistency with 2016 RTP/SCS Goals

Goal	Consistency Analysis
	maximum feasible extent. In addition, sidewalks would be constructed as part of internal roadway improvements and both sidewalks and bike lanes would be constructed as part of external roadway improvements to Van Buren Boulevard, Barton Street and Village West Drive. These improvements would encourage active transportation within South Campus and connect to existing active transportation infrastructure near the Project site.
7. Actively encourage and create incentives for energy efficiency, where possible.	Consistent. As discussed in Section 4.4, Energy, and Section 4.6, Greenhouse Gas Emissions, the development within the Project site would foreseeably incorporate various measures related to building design, landscaping, and energy systems to promote the efficient use of energy. Impacts would be less than significant; however, to further enhance energy efficiency, implementation of mitigation measures MM-GHG-1 through MM-GHG-14 have been incorporated into the Project.
8. Encourage land use and growth patterns that facilitate transit and active transportation.	Consistent. This policy provides guidance to the March JPA to establish a local land use plan that facilitates the use of transit and non-motorized forms of transportation. In 2015, a 15-acre multi-modal Metrolink passenger rail transit facility with integrated Regional Transportation Authority bus service was constructed on Meridian Parkway, approximately 1.9 miles north of the Project site. Sidewalks and bike lanes would be constructed as part of external roadway improvements to Van Buren Boulevard, Barton Street, and Village West Drive that would provide connection to existing improvements to the east, within the March Business Center. In addition, where appropriate, the March Business Center Specific Plan requires the installation of bus improvements, such as bus turnouts and bus stops as a condition of development for land uses that have a large number of employees.
9. Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Consistent. This policy provides guidance to local agencies to monitor the transportation network and to coordinate with other agencies as appropriate. The Project would not conflict with the existing planned transportation network or agency coordination in the Project vicinity.

Source: SCAG 2016

Table 4.9-3. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Proposed Project Consistency
Encourage regional economic prosperity and global competitiveness.	Consistent. The Project provide more local jobs to achieve a more favorable jobs-housing balance and providing annual economic contribution to the Riverside County region.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	Not Applicable. The Project would not inhibit SCAG from strengthening the regional transportation network for goods movement.

Table 4.9-3. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Proposed Project Consistency
Enhance the preservation, security, and resilience of the regional transportation system.	Not Applicable. The Project would not inhibit SCAG from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	Consistent. The Project would introduce goods movement land uses. The Transportation Element of the March JPA includes a Truck Route Plan (as adopted by Resolution No. JPA 03-02), with truck restrictions prohibiting truck movements on westbound Van Buren Boulevard beyond Village West Drive. The Project would be consistent with the March JPA guidelines and would not inhibit SCAG from increasing person and goods movement and travel choices within the transportation system.
Reduce greenhouse gas emissions and improve air quality.	Consistent. The Project would create a much-needed job center, which would reduce the existing jobs/housing imbalance and reduce traffic congestion, pollution, and fossil fuel dependence.
Support healthy and equitable communities.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	Consistent. The Project would facilitate future development which allows for potential Plot Plans to include electrical vehicle parking. In addition, the Project would be consistent with the March JPA General Plan which promotes efficient truck travel with close proximity to freeways. In addition, the Project incorporates mitigation measure MM-TRA-1, which reduces vehicle miles traveled and promotes efficient travel. As such, the Project would not inhibit SCAG from leveraging technology for the transportation system.
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Not Applicable. The Project would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	Consistent. The Project proposes changes to the March JPA General Plan, which includes the increase of 15.3 acres of Parks/Open Space land uses. Land uses within the Project site include 60.4 acres for a conservation area. These land use changes would not inhibit SCAG from promoting conservation of natural and agricultural lands and restoration of habitats.

Source: SCAG 2020.

As shown in Table 4.9-2 and Table 4.9-3, with implementation of mitigation, the Project would be in compliance with the goals of the SCAG 2016 RTP/SCS and SCAG's Connect SoCal RTP/SCS. Therefore, impacts related to consistency with the SCAG 2016 RTP/Connect SoCal RTP/SCS would be **less than significant with mitigation incorporated**.

March JPA General Plan

As one component of the proposed Project, the March JPA General Plan land uses would be amended to incorporate changes in land use type and location being proposed within the South Campus Specific Plan. The current General Plan land use for the Project site is March Business Center Specific Plan SP-1. Existing Specific Plan land use designations within South Campus include: Industrial, Business Park, Commercial, Mixed Use, Park/Recreation/Open Space, and Office. No existing land use designations would be deleted, and one new land use designation, Public Facilities, would be introduced within the South Campus. Acreages within each the pre-existing land use designations would change as a result of the proposed Project, and 0.9 acres of Public Facilities would be added to the South Campus. With amendment of the General Plan, which is proposed as part of the Project, no significant land use compatibility impacts would occur. A General Plan consistency analysis is provided in Table 4.9-4.

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
Land Use Element	
<p>Goal 1: Land Use Plan provides for a balanced mix of land uses that contribute to the regional setting, and capitalize on the assets of the Planning Area, while insuring compatibility throughout the Planning Area and with regional plans.</p>	<p>Consistent: Development of the Project would occur in a logical pattern of growth, compatible with adjacent land uses and regional plans. Consistent with the vision of the March JPA General Plan and existing land use designations, the Project would promote development of employment-generating land uses in a portion of the County that is largely residential. This would improve the balance of population and employment in the Project vicinity, providing an opportunity for residents to work locally, rather than commute to surrounding areas throughout the region.</p>
<p>Goal 2: Locate land uses to minimize land use conflict or creating competing land uses, and achieve maximum land use compatibility while improving or maintaining the desired integrity of the Planning Area and subregion.</p>	<p>Consistent. The March JPA General Plan identified the need to develop commercial, industrial, and business park land uses within the March Business Center Specific Plan area to recapture economic loss attributed to March Air Force Base realignment and improve the jobs/housing balance within the Western Riverside County subregion. Currently, approximately 2.5 million square feet of industrial development is constructed within the Project site and approximately 14,267 square feet of commercial development is approved at the southeast corner of Orange Terrace Parkway and Van Buren Boulevard. The remaining vacant properties would be developed with a mixture of compatible land uses, as shown in Figure 3-3, Proposed Project. Incompatible or competing land uses would not be permitted within the Project site.</p>
<p>Goal 3: Manage growth and development to avoid adverse environmental and fiscal effects.</p>	<p>Consistent. The Project would be developed in accordance with the March JPA Development Code, consistent with the anticipated buildout of the existing March JPA General Plan, which would be amended to include a General Plan Amendment for shifts in land uses within the Project site. In addition, this Specific Plan Amendment identifies a number of financing strategies, including tax increment financing, to pay for needed public facilities, as described in Section VII of the South Campus Specific Plan, Implementation of the Specific Plan.</p>
<p>Goal 4: Develop an identity and foster quality development within the Planning Area.</p>	<p>Consistent. The March Business Center Design Guidelines establish architectural, signage, parking, and landscaping standards that would achieve the goals of both Project identity and quality development.</p>

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
Goal 5: Maximize and enhance the tax base and generation of jobs through new, reuse and joint use opportunities.	Consistent. The proposed land uses within the South Campus would permit various employment-generating land uses such as Industrial and Commercial designations that would provide an enhancement to the tax base and recapture economic loss attributed to March Air Force Base realignment.
Goal 6: Support the continued Military Mission of March Air Reserve Base, and preservation of the airfield from incompatible land use encroachment.	Consistent. Development within the South Campus would be designed consistent with the March Business Center Design Guidelines to ensure consistency with the Riverside County Airport Land Use Compatibility Plan (ALUCP). Additionally, the Project has gone before the ALUC and received a consistency determination in June 2020.
Goal 8: Preserve the natural beauty, minimize degradation of the March JPA Planning Area, and provide enhancement of environmental resources and scenic vistas.	Consistent: Approximately 60 acres within the South Campus has been set aside as a conservation easement, in accordance with previous development agreements, to offset potential species habitat losses due to development. In addition, this Project would provide landscape improvements consistent with the March Business Center Design Guidelines. Landscaping would be installed adjacent to major arterial roadways and along internal streets adjacent to large industrial lots.
Goal 9: Preserve the integrity of the historic and cultural resources of the Planning Area and provide for their enhancement.	Consistent: Development within the South Campus would not result in significant impacts to known historic or archaeological resources, as detailed in the Initial Study prepared for the Project (Appendix A).
Goal 10: Avoid undue burdening of infrastructure, public facilities, and services by requiring new development to contribute to the improvement and development of the March JPA Planning Area.	Consistent: The Project is located in an area where infrastructure, public facilities, and services were previously planned and approved, and in most cases, already exist. Development of the proposed Project would contribute to the improvement and development of the March Business Center Specific Plan by completing all necessary on-site and off-site infrastructure and by providing the required Development Impact Fees, which would contribute to required facilities and services.
Goal 11: Plan for the location of convenient and adequate public services to serve the existing and future development of March JPA Planning Area.	Consistent: All public facility connections are located adjacent to the South Campus area, and adequate capacity has been deemed available by the responsive agencies.
Goal 12: Ensure, plan, and provide adequate infrastructure for all facility reuse and new development, including but not limited to, integrated infrastructure planning, financing and implementation.	Consistent: Utility infrastructure required to support development within the South Campus is identified in the Specific Plan. Utility infrastructure will be installed and expanded within the Project site consistent with required facilities identified in the Specific Plan to provide adequate infrastructure for proposed land uses. In addition, the Specific Plan identifies a number of financing strategies, including tax increment financing, to pay for needed public facilities, as described in Section VII of the South Campus Specific Plan, Implementation of the Specific Plan.
Goal 13: Secure adequate water supply system capable of meeting normal and emergency demands for existing and future land uses.	Consistent. As discussed in Section 4.14, Utilities and Service Systems, Western Municipal Water District (WMWD) is anticipated to have sufficient water supply for permitted land uses in its service area, including the Project site. Furthermore, as described in Appendix M1, Water Supply Assessment, prepared by WMWD, the WMWD has

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
	additional options to increase supply to meet future unforeseen demands in its service area.
Goal 14: Establish, extend, maintain and finance a safe and efficient wastewater collection, treatment and disposal system, which maximizes treatment and water recharges, minimizes water use, and prevents groundwater contamination.	Consistent. As described in Section 4.14, adequate sewer infrastructure exists to accommodate the South Campus WMWD has available treatment capacity at its WWRF to accommodate wastewater from the Project site.
Goal 15: In compliance with state law, ensure solid waste collection, siting and construction of transfer and/or disposal facilities, operation of waste reduction and recycling programs, and household hazardous waste disposal programs and education are consistent with the County Solid Waste Management Plan.	Consistent. The proposed Project would comply with the Countywide Integrated Waste Management Plan, in accordance with Assembly Bill 939.
Goal 16: Adequate supplies of natural gas and electricity from utility purveyors and the availability of communications services shall be provided within the March JPA Planning Area.	Consistent. Electrical and natural gas infrastructure would be installed incrementally as new development is constructed within the South Campus. March JPA's Utility Authority provides electrical power to the western portion of the Project site and Southern California Edison serves the eastern portion of the Project site. Southern California Edison has confirmed that there is sufficient power to provide electrical service to the entire Southern Campus in the event the JPA Utility Authority cannot produce sufficient power. SoCal Gas has sufficient supplies to serve the Project site.
Goal 17: Adequate flood control facilities shall be provided prior to, and concurrent with, development in order to protect the lives and property within the March JPA Planning Area.	Consistent. The proposed Project would result in the build-out of stormwater infrastructure included in the Specific Plan to supplement existing drainage infrastructure, including an existing drainage basin approximately 8 acres in size adjacent to Van Buren Boulevard. The Project would be required to comply with all rules, regulations, and other requirements of the March JPA for use of stormwater facilities and flood control. As such, future development within the South Campus would require preparation of a site-specific Hydrology/Drainage Study (as detailed in MM-HYD-2) to ensure changes to existing drainage patterns would not exceed the capacity of existing stormwater infrastructure. The preparation of a site-specific study would be required prior to the issuance of a grading permit for any individual project development currently not covered under a Hydrology/Drainage Report (Appendix I2), which include the southwest, central and eastern segments of the South Campus Specific Plan.
Transportation	
Goal 1: Establish and provide for a comprehensive transportation system that captures the assets and opportunities of the planning area,	Consistent. The proposed Project would include transportation improvements consistent within the Circulation Plan included in the Specific Plan. Proposed improvements within the South Campus and proposed off-site improvements would provide successful multi-modal

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
existing transportation facilities, and planned transportation facilities for the future growth and development of the planning area and sub-region.	transportation access between North and South campus and ensure proposed development within South Campus would not impact operations or safety on roadways in the Project vicinity.
Goal 2: Build and maintain a transportation system which capitalizes on the multifaceted elements of transportation planning and systems, designed to meet the needs of the planning area, while minimizing negative effects on air quality, the environment and adjacent land uses and jurisdictions.	Consistent. This Project would accommodate local transit service, bicycle lanes, and pedestrian facilities. As outlined in Section 4.12, Transportation, and within MM-TRA-1, a Transportation Demand Management plan will be implemented by each employer with more than 250 full-time employees to minimize peak hour traffic impacts. Additionally, mitigation measures B-1 through B-12 from the 2003 Focused EIR would be implemented to further build and maintain a transportation system which capitalizes on the multifaceted elements of transportation planning and system.
Goal 3: Develop a transportation system that is safe, convenient, efficient and provides adequate capacity to meet local and regional demands.	Consistent. Implementation of the proposed Project would include on-site and off-site roadway improvements that require revisions to the transportation and infrastructure figures within the Specific Plan. The proposed revisions overall improve pedestrian, bicycle, and vehicular circulation throughout the South Campus as well as provide a through connection along Village West Drive between Van Buren Boulevard to the north and Nandina Avenue to the south. These improvements would enhance and further improve the transportation system in a safe, convenient, and efficient manner.
Goal 4: Provide a balanced transportation system that ensures the safe and efficient movement of people and goods throughout the planning area, while minimizing the use of land for transportation facilities.	Consistent: Project internal streets are sized to accommodate projected future traffic in an efficient manner. Roadway improvements for external roadways would be consistent with the Specific Plan's Circulation Plan and March JPA's General Plan Transportation Element.
Goal 5: Plan and encourage land use patterns and designs, which enhance opportunities for non-vehicular circulation and improve trip reduction strategies.	Consistent. Sidewalks would be constructed on all internal roadways and where they are not currently present on external roadways along the Project frontage. In addition, bike routes would be included on internal streets, Van Buren Avenue, Barton Street, and the Village West Drive extension, consistent with Figure V-6 of the March Business Center Specific Plan SP-1, Transportation Systems Plan.
Goal 6: Establish vehicular access control policies in order to maintain and insure the effectiveness and capacity of arterial roadways.	Consistent. Project internal roadways would be designed in accordance with the Riverside County Road Improvement Standards and Specifications. In addition, all recommendation improvement measures, mitigation measure MM-TRA-1, and mitigation measures B-1 through B-12 from the 2003 Focused EIR, as identified in Section 4.12, would be implemented to ensure effectiveness and capacity of arterial roadways.
Goal 7: Facilitate and develop transportation demand management and transportation systems management programs, and use of alternate transportation modes.	Consistent. As discussed in Section 4.12 and within MM-TRA-1, Transportation Demand Management strategies would be implemented to shift trips outside the standard commuting hours and/or to non-“drive alone” modes of travel. This is accomplished through various employer-initiated measures, such as flexible working hours, encouragement of carpooling, and facilitating access for non-motorized (i.e., bicycling or walking) modes of travel.

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
Goal 8: Adequate, affordable, equitably distributed and energy efficient public and mass transit services which promote the mobility to, from, and within the planning area shall be provided.	Consistent. The Project would be designed to accommodate both local transit service and inter-city passenger rail service. The local transit system of bus stops and bus shelters would be approved by the Riverside Transit Agency. Riverside Transit Agency Route 27 currently provides service to the vicinity of the Project site, and the Project provides for a new bus turnout along Van Buren Boulevard to facilitate a future stop along this route. The Metrolink passenger rail transit facility is located approximately 1.9 miles north of the Project site, within the North Campus.
Goal 9: Develop measures which will reduce the number of vehicle-miles traveled during peak travel periods.	Consistent. This Specific Plan promotes development of employment-generating land uses, similar to existing permitted land uses. Development of various industrial, business park, commercial and mixed use land uses would provide new job opportunities to residents in the region, improving the jobs/housing balance. The proposed Project would reduce commutes to large urban centers such as Los Angeles or Orange County and reduce vehicle miles traveled associated with longer commutes.
Goal 10: Regulate the travel of trucks on March JPA Planning Area streets.	Consistent. The Project is designed to accommodate truck traffic. The Transportation Element of the March JPA General Plan includes a Truck Route Plan (as adopted by Resolution No. JPA 03-02), with truck restrictions prohibiting truck movements on westbound Van Buren Boulevard beyond Village West Drive. Vehicles would access the Project site via Van Buren Boulevard, a designated truck route, and by turning onto Village West Drive in order to enter into the South Campus Specific Plan area. Furthermore, the Project would construct vertical single post-type truck barriers on Village West Drive and Coyote Bush Road, as well as overhead signs to prevent trucks from making a left turn onto Van Buren Boulevard. In addition, trucks would be required to travel on designated routes outlined in the Specific Plan Transportation Systems Plan.
Goal 11: Adequate off-street parking for all land uses shall be provided which requires adequate on-site parking to prevent spill over on the adjacent street system.	Consistent. This Specific Plan includes off-street parking regulations, including parking ratios per land use, to ensure adequate off-street parking is available and de-emphasize the need for on-street parking.
Goal 12: Plan for and seek to establish and areawide system of bicycling trails, with linkages within the planning area and with adjacent jurisdictions, and in compliance with sub-regional plans.	Consistent. The Project would include bicycle linkages as defined in the Specific Plan Transportation Systems Plan. The network would consist of Multi-Use Bicycle paths and Bike Lanes. In addition, sidewalks would be installed on all internal roadways and on external roadways along the Project frontage where sidewalk gaps are present.
Goal 13: Promote, preserve and protect the joint use of the aviation field by the Air Force Reserves and civilian aviation.	Consistent. The proposed Project, while located within relatively close proximity to the air field, is located within Compatibility Zones C2 and D. The uses proposed as part of the proposed Project area are all consistent with allowed uses in Compatibility Zones C2 and D, and would therefore not have any negative effects on the operation of the joint use of the aviation field.
Goal 14: Goods movement through the San Jacinto Rail Branchline shall be capitalized.	Consistent. The transit station operates from the North Campus. The proposed Project promotes development of industrial and business

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
	park land uses that may benefit from proximity to the BNSF railway line to distribute their goods.
Goal 15: In accordance with state and federal law, promote and provide mobility for the disabled.	Consistent: Development plans and public improvement plans shall take into account the accessibility requirements of the Americans with Disabilities Act.
Noise	
Goal 1: Ensure that land uses are protected from excessive and unwanted noise.	Consistent. Project development shall be consistent with the land use limitations established in the Riverside County ALUCP, be consistent with the goals and policies within the Noise/Air Quality Element of the March JPA. Thus, impacts would be less than significant, as described in Section 4.10, Noise.
Goal 2: Minimize incompatible noise level exposures throughout the Planning Area, and where possible, mitigate the effect of noise incompatibilities to provide a safe and healthy environment.	Consistent. Project development shall be consistent with the land use limitations established in the ALUCP. In addition, existing noise attenuation (masonry walls) along the perimeter of existing residential development to the north and west is sufficient to avoid significant noise impacts to nearby sensitive receptors as discussed in Section 4.10, Noise, of this SEIR. Furthermore, no additional mitigation measures beyond those included in the 2003 Focused EIR are required, as no significant noise impacts would result from Project implementation. The Project would result in less-than-significant noise impacts as currently proposed.
Goal 3: Work toward the reduction of noise impacts from vehicular traffic, and aviation and rail operations.	Consistent. Based on the findings of Section 4.10, Noise, the Project would not result in substantial noise impacts associated with construction activities or long-term operation of the Project.
Air Quality	
Goal 2: Reduce emissions associated with vehicle miles traveled by enhancing the jobs/housing balance of the subregion of Western Riverside County.	Consistent. The Project would accommodate local transit service, bicycle lanes, and pedestrian facilities. A Transportation Demand Management plan would be implemented to limit peak hour traffic impacts via mitigation measure B-10 of the 2003 Focused EIR. In addition, as described in Section 4.12, Transportation, the incorporation of mitigation measure MM-TRA-1 would reduce vehicle miles traveled. Furthermore, the Project would include bicycle linkages and consist of multi-use bicycle paths and bike lanes. Sidewalks would also be installed on all internal roadways and on external roadways along the Project frontage where sidewalk gaps are present.
Goal 3: Reduce air pollution through proper land use, transportation, and energy use planning.	Consistent. This Specific Plan provides employment opportunities to improve the jobs/housing balance in western Riverside County. Residents could work locally, rather than commute to large urban centers such as Los Angeles or Orange County. Reduced commutes would result in reductions in total vehicle miles traveled, thus reducing air emissions.
Goal 4: Pursue reduced emissions for stationary and mobile sources through the use and implementation of new and advancing technologies.	Consistent: Where feasible and appropriate, development within the Meridian South Campus shall accommodate the use of advancing technologies, such as alternate fueled vehicles and other innovations that would provide air quality benefits. Implementation of mitigation measures MM-GHG-1 through MM-GHG-14 would reduce operational GHG emissions through Project design and energy efficient technologies.

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
Goal 5: Maximize the effectiveness of air quality control programs through coordination with other governmental entities.	Consistent: As applicable, all development within the Meridian South Campus would comply with all policies outlined in Air Quality Goal 5 of the March JPA General Plan.
Goal 6: Reduce emissions associated with vehicle/engine use.	Consistent: The South Campus Specific Plan would result in improved job/housing balance in western Riverside County, consistent with the 2003 Focused EIR. Increasing jobs in the area would provide an opportunity for residents to work locally, rather than commute to large urban centers such as Los Angeles or Orange County. Improved jobs/housing balance would help reduce vehicle miles traveled, and ultimately reduce emissions associated with vehicles use. In addition, implementation of mitigation measure MM-AQ-1 during construction activities would ensure construction equipment complies with Environmental Protection Agency and The California Air Resources Board Tier 4 emissions standards. During operations, mitigation measures MM-AQ-5 through MM-AQ-18, as well as mitigation measures C-1 through C-14 from the 2003 Focused EIR, would be required to reduce emissions associated with vehicle/engine use to the maximum extent feasible.
Goal 7: Reduce emissions associated with energy consumption.	Consistent: Development within the South Campus would comply with the policies outlined in Air Quality Goal 7 of the March JPA General Plan to minimize emissions associated with energy consumption. In addition, implementation of mitigation measures MM-AQ-5 through MM-AQ-18, as well as mitigation measures C-1 through C-14 from the 2003 Focused EIR, would reduce operational emissions through Project design and energy efficient technologies.
Goal 8: Reduce air pollution emissions and impacts through siting and building design.	Consistent: Development within the South Campus would comply with the policies outlined in Air Quality Goal 8 of the March JPA General Plan to minimize emissions associated with siting and building design. Implementation of mitigation measures MM-AQ-5 through MM-AQ-18, as well as mitigation measures C-1 through C-14 from the 2003 Focused EIR, would reduce operational emissions through Project design and energy efficient technologies.
Goal 9: Reduce fugitive dust and particulate matter emissions.	Consistent: Development within the South Campus would comply with the policies outlined in Air Quality Goal 9 of the March JPA General Plan to minimize fugitive dust and particulate matter emissions.
Housing	
The March JPA General Plan does not provide housing within the March JPA Planning Area because housing is incompatible with airfield uses and the proposed Project is consistent with the objectives established for the March Business Center to reestablish jobs lost resulting from March Air Force Base realignment in the housing rich environment of western Riverside County. The proposed Project maintains consistency with the General Plan’s absence of a residential land use designation within the Planning Area.	
Resource Management Element	
Goal 1: Conserve and Protect surface water, groundwater, and imported water sources.	Consistent. Impacts to surface water, groundwater, and imported water sources are anticipated to be reduced compared to existing permitted land uses, because the proposed Project would result in a reduction in the overall developable acreage. Development within South Campus would be required to comply with the Construction General Permit, including implementation of a Storm Water Pollution Prevention Plan, to avoid

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
	impacts of stormwater discharges during construction. A Water Quality Management Plan would be implemented during operational activities. Adequate water supplies for the Project have been verified by WMWD per Section 4.14, Utilities and Service Systems as well as the Water Supply Assessment included in Appendix M1.
Goal 2: Control flooding to reduce major losses of life and property.	Consistent. Development within the South Campus would result in increased impervious surfaces within the Project site. Existing on-site stormwater infrastructure may be inadequate in conveying post-development stormwater flows. Future development within the South Campus would require preparation of a site-specific Hydrology/Drainage Study (MM-HYD-2) to ensure changes to existing drainage patterns would not exceed the capacity of existing storm water infrastructure. The preparation of a site-specific study would be required prior to the issuance of a grading permit for any individual project development currently not covered under a Hydrology/Drainage Report (Appendix I2), which includes the southwest, central, and eastern segments of the South Campus Specific Plan.
Goal 3: Conserve and protect significant land forms, important watershed areas, mineral resources and soil conditions.	Consistent. The analysis in the Initial Study (Appendix A) concluded that the proposed Project would have low potential to impact subsurface paleontological resources or unique geologic features. In addition, no impacts are anticipated to Mineral Resources. Mitigation measures MM-GEO-1 and MM-HYD-2 identified in Section 4.5, Geology and Soils, and Section 4.8, Hydrology and Water Quality, would ensure that development within the Project site is designed and constructed based on local soil conditions and to ensure impacts to watershed areas are minimized.
Goal 4: Conserve energy resources through use of available energy technology and conservation practices.	Consistent. As appropriate, this Specific Plan shall comply with applicable regulations relating to energy conservation. Implementation of mitigation measures MM-GHG-1 through MM-GHG-14 would result in energy efficient development under the proposed Project.
Goal 5: Conserve and protect significant stands of mature trees, native vegetation, and habitat within the planning area.	Consistent. Approximately 60 acres within the Project site has already been set aside as a conservation easement, in accordance with previous development agreements, to offset potential species habitat losses due to development. In addition, implementation of mitigation measures MM-BIO-1 through MM-BIO-3, as well as mitigation measures D-1 through D-6 from the 2003 Focused EIR, identified in Section 4.3, Biological Resources, would ensure that least Bell's vireo, burrowing owl, and nesting bird habitat within the Project site would not be significantly impacted during construction activities.
Goal 6: Provide and effective and efficient waste management system for solid and hazardous wastes that is financially and environmentally responsible.	Consistent. This Specific Plan shall comply with appropriate and applicable regulations and standards with respect to the management of solid and hazardous wastes, as discussed in Section 4.7, Hazards and Hazardous Materials.
Goal 7: Promote cultural awareness through preservation of the planning area's historic, archaeological and paleontological resources.	Consistent. As discussed in the Initial Study prepared for the Project (Appendix A), development within the South Campus would not result in significant impacts to known historic, archaeological, or paleontological resources. Additionally, mitigation measure L-1 from the 2003 Focused EIR further reduces impacts to historic, archaeological, or paleontological resources.

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
<p>Goal 8: Develop and maintain recreational facilities as economically feasible, and to meet the needs of the community for recreational activities, relaxation and social interaction.</p>	<p>Consistent. A newly-constructed park and loop trail system is located within a 61.38-acre parcel southwest of the intersection of Krameria Avenue and Village West Drive. In addition, a 6.2-acre dog park and paseo is proposed within the western portion of the Project site, adjacent to Barton Street, to provide additional recreational facilities, consistent with community requests. The dog park and paseo is proposed on land that is currently designated Business Park.</p>
<p>Goal 9: Create a network of open space areas and linkages throughout the Planning Area that serves to preserve natural resources, protect health and safety, contributes to the character of the community, provide active and passive recreational use, as well as visual and physical relief from urban development.</p>	<p>Consistent. Approximately 60 acres within the South Campus has been set aside as a conservation easement, in accordance with previous development agreements, to offset potential species habitat losses due to development. In addition, a 61.38-acre park and loop trail is present within the southeastern portion of South Campus and a 6.2-acre dog park and paseo is proposed in the western portion of South Campus. Sidewalks will be constructed on all on-site roadways to provide access to recreational amenities.</p>
<p>Goal 10: Establish standards for scenic corridors, trails and vistas that contribute to the quality of the planning area.</p>	<p>Consistent. This Project would provide landscape improvements consistent with the March Business Center Design Guidelines. Landscaping would be installed adjacent to major arterial roadways and along internal streets adjacent to large industrial lots. Sidewalks and bike lanes would be constructed as part of external roadway improvements to Van Buren Boulevard, Barton Street, and Village West Drive that would provide connection to existing improvements to the east, within the March Business Center.</p>
Safety/Risk Management Element	
<p>Goal 1: Minimize injury and loss of life, property damage, and other impacts caused by seismic shaking, fault rupture, ground failure, and landslides.</p>	<p>Consistent. All development within the South Campus would be designed and constructed in accordance within applicable standards of the California Building Code and consistent with recommendations contained in the Geotechnical Exploration Update (MM-GEO-1) to ensure that grading and construction would be adequate for on-site soil conditions.</p>
<p>Goal 2: Minimize grading and otherwise changing the natural topography, while protecting the public safety and property from geologic hazards.</p>	<p>Consistent. Grading activities associated with the Project may require cuts up to 15 feet and fill slopes up to 31 feet to create finish grades, which could result in slope failure. Implementation of mitigation measure MM-GEO-1 would ensure that proper grading recommendations are employed and public safety/geologic hazards are minimized during construction activities.</p>
<p>Goal 3: Minimize injury, loss of life, property damage, and economic and social disruption caused by flood hazards.</p>	<p>Consistent. The South Campus is not located within a designated 100-year floodplain. Nonetheless, development within the South Campus would require preparation of a site-specific Hydrology/Drainage Study (MM-HYD-2) to ensure changes to existing drainage patterns would not exceed the capacity of existing stormwater infrastructure.</p>
<p>Goal 4: Reduce threats to public safety and protect property from wildland and urban fire hazards.</p>	<p>Consistent. The South Campus Specific Plan is within a Federal Responsibility Area identified by the California Department of Forestry and Fire Protection. The Project site and vicinity is designated as a Non Very High Fire Hazard Severity Zone. In addition, the proposed shift in land use designations would result in less people and structures within the Project site compared to existing permitted land uses.</p>

Table 4.9-4. South Campus Land Use Changes Consistency with March JPA General Plan Goals

Goal/Policy	Consistency Analysis
Goal 5: Reduce the potential for hazardous material exposure or contamination in the Planning Area.	Consistent. To the extent that it is appropriate, the Project Specific Plan shall comply with regulations and guidelines relating to hazardous material exposure/contamination, including the March JPA Development Code, Riverside County ordinances, California Occupational Safety and Health Administration, as detailed in Section 4.7.
Goal 6: Ensure to the fullest extent practical that, in the event of a major disaster critical structures and facilities remain safe and functional.	Consistent. To the extent that it is appropriate, the Project Specific Plan shall comply with regulations and guidelines relating to the functionality of critical structures in the event of a major disaster. In addition, the proposed Project is consistent with the March Area Emergency Resource Guide.
Goal 7: Reduce the possible risk of upset, injury and loss of life, property damage, and other impacts associated with an aviation facility.	Consistent. Development within the South Campus would be consistent with the Riverside County ALUCP. The Project underwent ALUC review in June 2020 and been determined to be compatible with permitted land use intensities within Compatibility Zone C2. In addition, proposed development within South Campus taller than 70 feet in height would require additional ALUC Review (2003 Focused EIR, mitigation measure A-2).
Goal 8: Plan for emergency response and recovery from natural and urban disasters.	Consistent. The proposed Project would not physically interfere with emergency routes, consistent with the March Area Emergency Resource Guide. In addition, the Project shall comply with appropriate and applicable regulations and guidelines relating to emergency response and recovery from natural and urban disasters.

Source: March JPA 1999

The 2003 Focused EIR evaluated whether the 2003 Approved South Campus would result in significant land use impacts, and through the analysis determined that with implementation of mitigation measures A-1 through A-4 (see Section 4.9.5, Mitigation Measures, for a listing of these measures), impacts would be less than significant. As shown in Table 4.9-4, upon implementation of identified mitigation, the proposed changes to land use types and the proposed development would continue be in compliance with the goals of the March JPA General Plan. Therefore, impacts related to consistency with the March JPA General Plan would continue to be **less than significant with mitigation incorporated**.

March JPA Development Code

The proposed Project would include a shift in land use acreages within the South Campus. Existing zoning designations within South Campus include Industrial, Business Park, Commercial, Mixed Use, Park/Recreation/Open Space, and Office. No existing zoning designations would be deleted, and one new zoning designation, Public Facilities, would be introduced within South Campus in order to assign this land use designation to a parcel on which an existing electrical substation is located. Acreages within each of the pre-existing zoning designations would change as a result of the proposed Project, and 0.9 acres of Public Facilities would be added to the parcel containing the existing substation within the South Campus.

The proposed Project would not create or introduce land use designations not previously identified and evaluated in the 1999 March JPA General Plan or the 2003 Meridian Business Center Specific Plan and accompanying 2003 Focused EIR. All development within the Project site would be designed in compliance with the requirements of the March JPA Development Code. The Focused EIR evaluated whether the 2003

Approved South Campus would result in significant land use impacts, and through the analysis determined that with implementation of mitigation measures A-1 through A-4 (see Section 4.9.5, Mitigation Measures, for a listing of these measures), impacts would be less than significant. As with the 2003 Approved South Campus, the proposed Project would be consistent with the March JPA Development Code, and impacts would be **less than significant**.

Riverside County Airport Land Use Compatibility Plan

The proposed Project is located in the C2 Flight Corridor Zone as well as D Flight Corridor Buffer for the March Air Reserve Base as shown on Figure 4.9-2. The C2 Zone is subject to moderate noise impacts, while the D Zone is subject to moderate to low noise impacts. Zone C2 allows single-acre land use intensities up to 500 people, and an average land use intensity of 20 people per acre. Zone D has no restrictions for land use intensities. Development of outdoor noise-sensitive land uses and flight hazards are prohibited within Zones C2 and D, and development of children's schools is discouraged. Airspace review is required for objects greater than 70 feet tall. The proposed Project has undergone ALUC review, and on June 11, 2020, was deemed to be consistent with the 2014 March Air Reserve Base/Inland Port ALUCP. Therefore, the proposed Project would not conflict with the Riverside County ALUCP, and impacts would be **less than significant**.

Village West Drive Extension

Improved portions of Village West Drive, terminating at Lemay Drive to the south, are built out to the ultimate cross-section width, according to March JPA General Plan. The proposed Project would include the extension of Village West Drive from Lemay Drive at the north to Nandina Avenue to the south. Removal of an existing abandoned water tank within the roadway alignment is also required. The proposed extension would improve approximately 4,330 linear feet of the roadway to its ultimate cross-section as a Minor Arterial. The extension would require an easement from the U.S. Department of Veterans Affairs, as well as an amendment to the Transportation Element of the March JPA General Plan. Therefore, implementation of the proposed Village West Drive Extension would be consistent with the roadway classification established by the March JPA General Plan, and impacts would be **less than significant**.

4.9.5 Mitigation Measures

CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts.

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce land use and planning impacts to less than significant and will be incorporated into the Mitigation Monitoring and Reporting Program for the Project:

- A-1** Development within the Clear Zone and Accident Potential Zones I and II will abide by building standards and codes, including height restrictions, restrictions on use, setbacks, population densities, insulation and materials, as outlined in the approved 1998 Air Installation Compatible Use Zone (AICUZ).
- A-2** As established in the Specific Plan, the project will comply with the policies and requirements of the Riverside County Airport Land Use Plan. Development plans will be submitted to the FAA for the review in accordance with FAR Section 77.13.2.i. Additional ALUC review will be required for objects taller than 50 feet in the Height Caution Zone shown on Figure IV.A-4 (of the 2003 EIR). Other land

use controls (relating to safety (both in the air and on the ground) and noise) have been developed in consultation with the ALUC, and have been incorporated into the Specific Plan.

A-4 Project detention basins shall have the following features to limit bird activity:

1. The basin shall drain within a six-hour period to reduce the potential for plant growth.
2. Regular maintenance activities shall include the removal of vegetation with the exception of lot 49.
3. Detention basins shall be monitored regularly to determine if they attract waterfowl or other birds.
4. A plan to discourage bird activity shall be implemented if the basins are found to be an attraction to birds.

Additionally, please refer to the new mitigation measures included in Sections 4.2, 4.3, 4.5, 4.6, 4.8, 4.10, and 4.12 of the SEIR for description of each mitigation measure identified in Table 4.9-2, Table 4.9-3, and Table 4.9-4. Specifically, the following mitigation measures apply:

- MM-AQ-1 through MM-AQ-18
- MM-BIO-1 through MM-BIO-4
- MM-GEO-1
- MM-GHG-1 through MM-GHG-14
- MM-HYD-1 and MM-HYD-2
- MM-NOI-1
- MM-TRA-1 through MM-TRA-3

4.9.6 Level of Significance After Mitigation

Impacts to land use and planning can be mitigated to **less than significant** levels by incorporating mitigation measures as described in Section 4.9.5, Mitigation Measures. Therefore, no adverse impacts would remain after mitigation; impacts to land use and planning would be less than significant.

4.9.7 Cumulative Effects

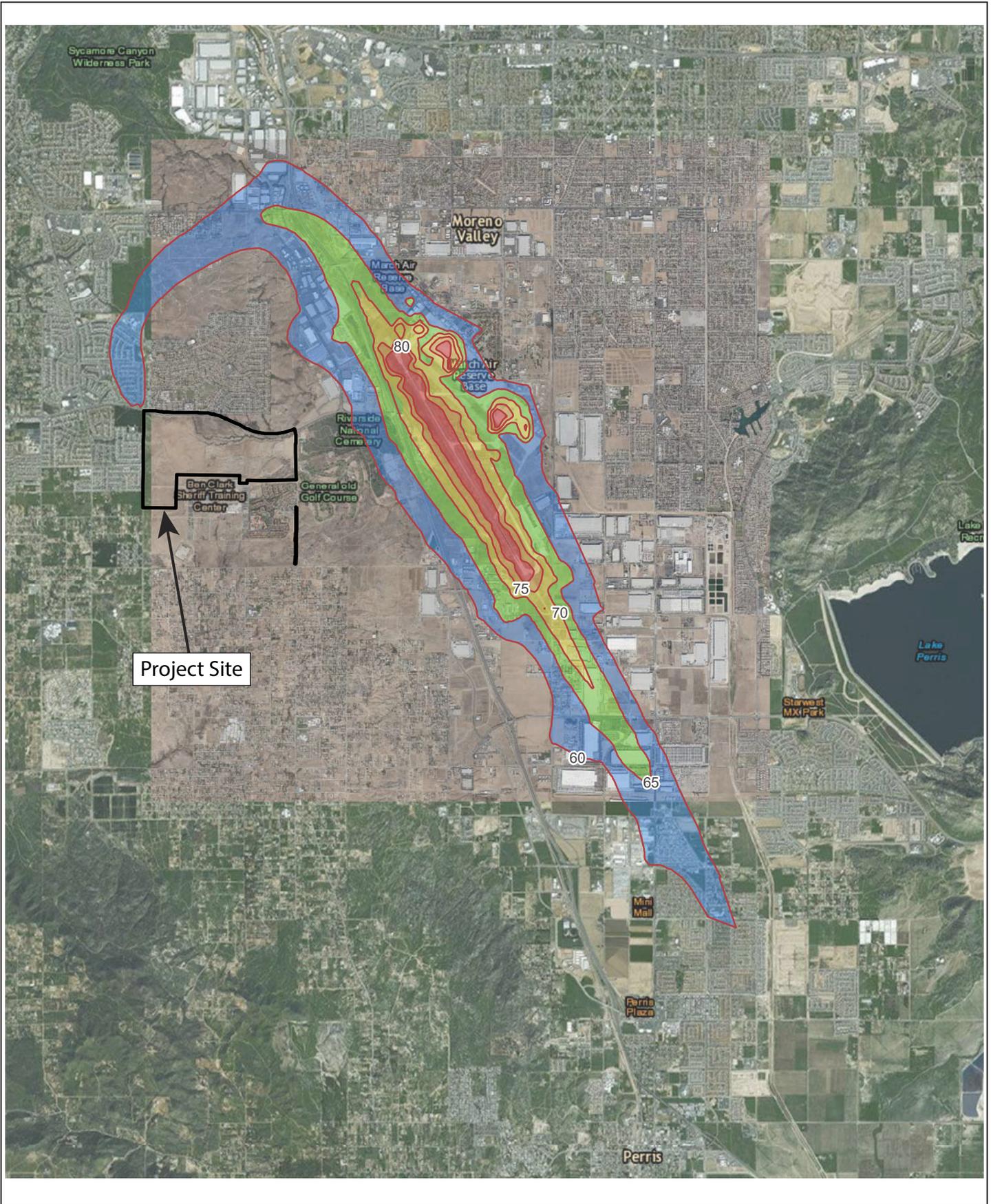
The Project would be located within the boundaries of the March Business Center Specific Plan. No existing land use designations would be removed, and one new land use designation, Public Facilities, would be introduced within South Campus. Acreages within each of the pre-existing zoning designations would change as a result of the proposed Project, and 0.9 acres of Public Facilities would be added to South Campus. The proposed Project would not result in the introduction of incompatible uses in the area. The proposed increase in Industrial, Commercial, Mixed Use, Public Facilities and Park/Open Space land uses (and respective reduction in Office and Business Park land uses) is in response to market conditions and community requests. Proposed land uses are consistent with existing and planned development within surrounding areas of the previously-adopted March Business Center Specific Plan, resulting in a reduction in developable acreage when compared to existing permitted land uses.

Table 4-1, Related Projects, within Chapter 4, Environmental Analysis, of this SEIR includes a list of cumulative development proposals within the vicinity of the Project site. Proposed future cumulative projects will undergo an evaluation for consistency with local land use policies, as the proposed Project has done above. Planned future development identified in Table 4-1 has been anticipated in the General Plans prepared by the local jurisdictions

surrounding the proposed Project or through the General Plan Amendment process. Therefore, the proposed Project, when viewed in context with the cumulative development proposals, is not expected to result in adverse cumulative land use impacts above those already disclosed in the previous environmental analyses. In addition, future development within the Specific Plan area (including the southwest, central, and eastern segments of the South Campus Specific Plan area) would undergo site-specific analysis to ensure compliance with applicable development standards to prevent land use conflicts. The March JPA or other local jurisdiction would also be responsible for determining the appropriate public and infrastructure improvements required with the implementation of each project. Therefore, development consistent with the proposed Project is not expected to result in cumulative land use impacts.

4.9.8 References Cited

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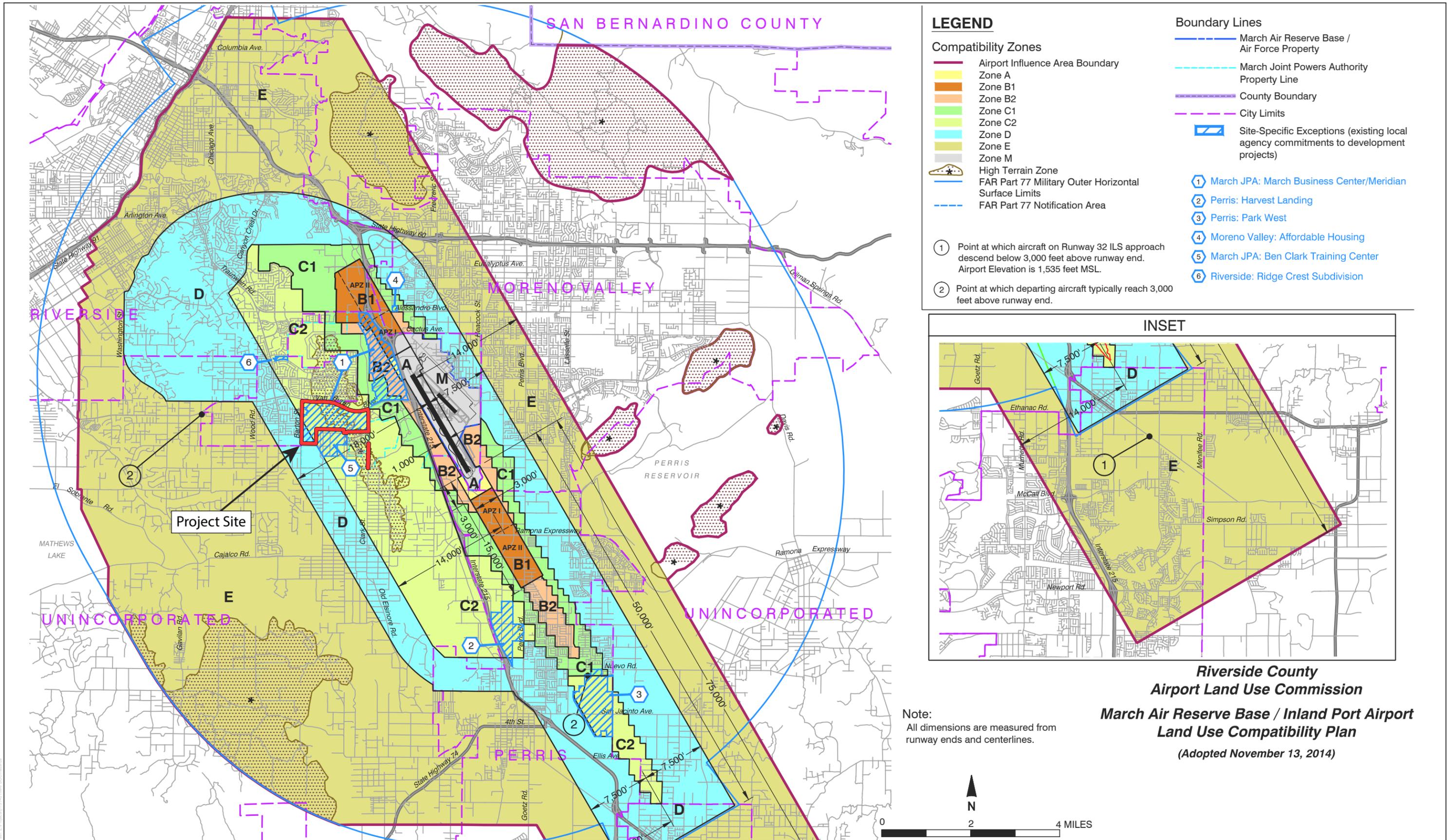


SOURCE: March Air Reserve Base Final AICUZ Study 2018

FIGURE 4.9-1

March ARB/Inland Port Air Installation Compatible Use Zone Noise Contours
 South Campus Specific Plan and Village West Drive Extension

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SOURCE: Mead & Hunt 2014

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MARCH BUSINESS CENTER - SPECIFIC PLAN AMENDMENT

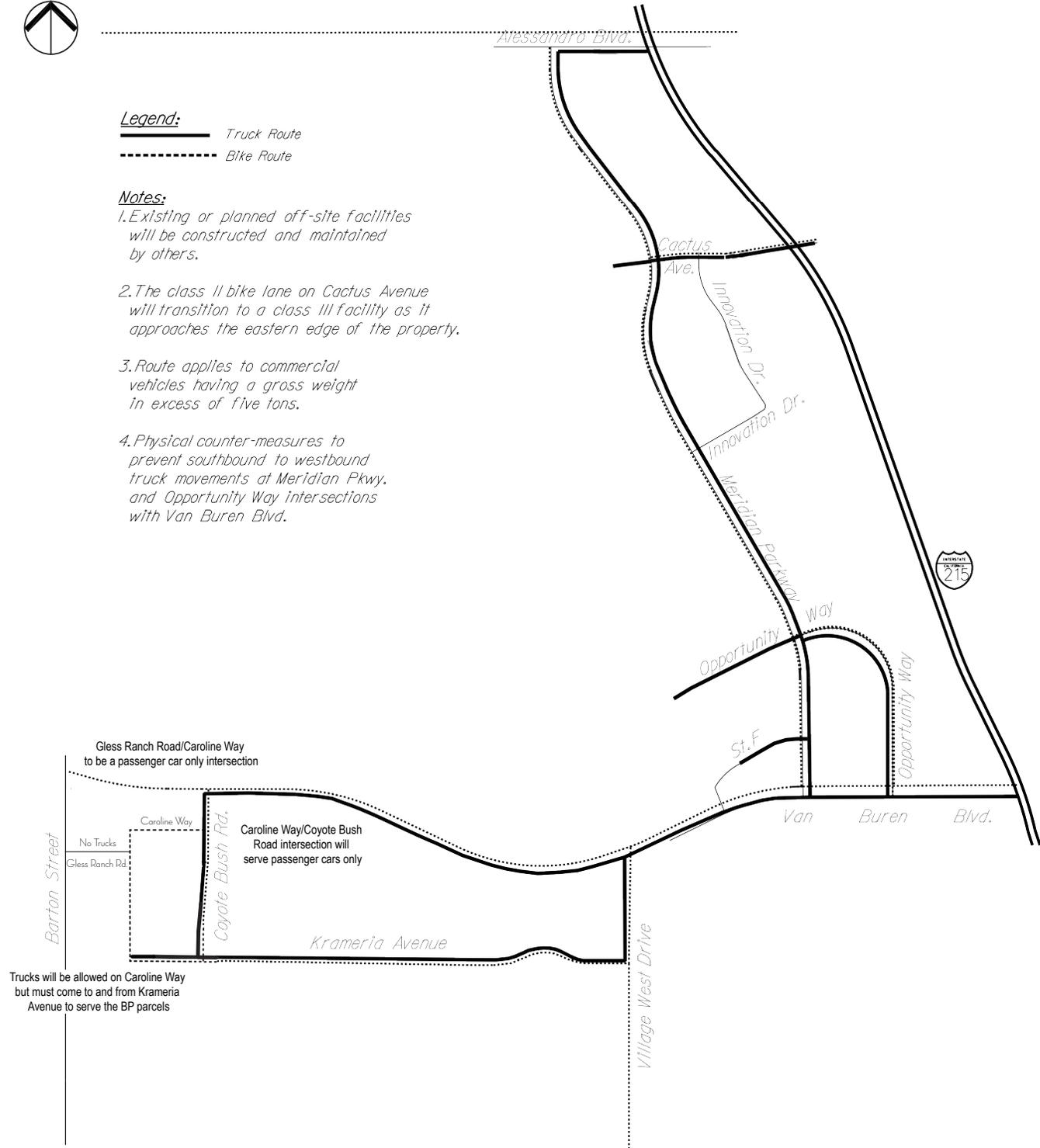


Legend:

- Truck Route
- Bike Route

Notes:

1. Existing or planned off-site facilities will be constructed and maintained by others.
2. The class II bike lane on Cactus Avenue will transition to a class III facility as it approaches the eastern edge of the property.
3. Route applies to commercial vehicles having a gross weight in excess of five tons.
4. Physical counter-measures to prevent southbound to westbound truck movements at Meridian Pkwy. and Opportunity Way intersections with Van Buren Blvd.



Gless Ranch Road/Caroline Way to be a passenger car only intersection

Barton Street

No Trucks
Gless Ranch Rd

Caroline Way
Coyote Bush Rd.

Caroline Way/Coyote Bush Road intersection will serve passenger cars only

Krameria Avenue

Village West Drive

Trucks will be allowed on Caroline Way but must come to and from Krameria Avenue to serve the BP parcels

SOURCE: March Business Center - General Plan Amendment 2017

FIGURE 4.9-3

Truck Route Plan

South Campus Specific Plan and Village West Drive Extension

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4.10 Noise

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing noise conditions of the South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project.

This analysis is based on field noise measurements, traffic noise estimation using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model, construction noise emissions based upon the FHWA Roadway Construction Noise Model, and operational noise levels using analytical software, presented in the Meridian South Campus Noise Impact Analysis, included in Appendix J of this SEIR.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project and will be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

4.10.1 Acoustic Terminology and Existing Conditions

Noise Characteristics

Simply defined, noise is “unwanted sound.” Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. Noise is measured on the basis of sound pressure level, with the basic unit known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. Table 4.10-1 presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

Range of Noise

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. Each interval of 10 dB indicates a sound energy 10 times greater than before, which is perceived by the human ear as being approximately twice as loud. The most

common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is approximately at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. Table 4.10-1 provides the noise levels associated with common activities. Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

Table 4.10-1. Typical Noise Levels

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	LOUD	SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	MODERATE	SLEEP DISTURBANCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40	FAINT	NO EFFECT
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: EPA 1974.

Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the noise equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in dBA. L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50} , L_{25} , L_8 , and L_2 , are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50%, 25%, 8%, and 2%, respectively, of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. While the L_{50} describes the mean noise levels occurring 50% of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour. Therefore, the L_{eq} noise descriptor is generally 1 to 2 dBA higher than the L_{50} noise level. The maximum noise level which occurs during a given noise measurement period is denoted L_{max} and L_{min} denotes the minimum level recorded in that period.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the community noise equivalent level (CNEL), representing a composite 24-hour noise level is used. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. Another 24-hour average, the day/night average sound level (expressed as L_{DN}), includes only the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. Calculated values using the CNEL versus L_{DN} methods rarely vary by more than 1 dBA, and these terms are therefore used interchangeably. CNEL (L_{DN}) does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The March Joint Powers Authority (JPA) relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance (Caltrans 1995). This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (e.g., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (e.g., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source, and an overall drop-off rate of 7.5 dB per doubling of distance from a point source.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (e.g., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

Shielding

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to a nearby residence. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure.

Traffic Noise Prediction

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway. Per the Highway Traffic Noise Analysis and Abatement Policy and Guidance (DOT 2011), the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. A doubling of the traffic volume, if the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also influence community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, roadway adjacent noise levels will increase.

Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise or a stationary noise source in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source.

Land Use Compatibility with Noise/Noise Sensitive Land Uses

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. The land uses which can be easily affected by increased noise levels are referred to as noise-sensitive land uses. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area’s desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages state and local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. For instance, major new commercial or industrial development with the potential to generate noise must avoid increasing the noise level experienced at noise-sensitive land uses in the project vicinity.

Community Response to Noise

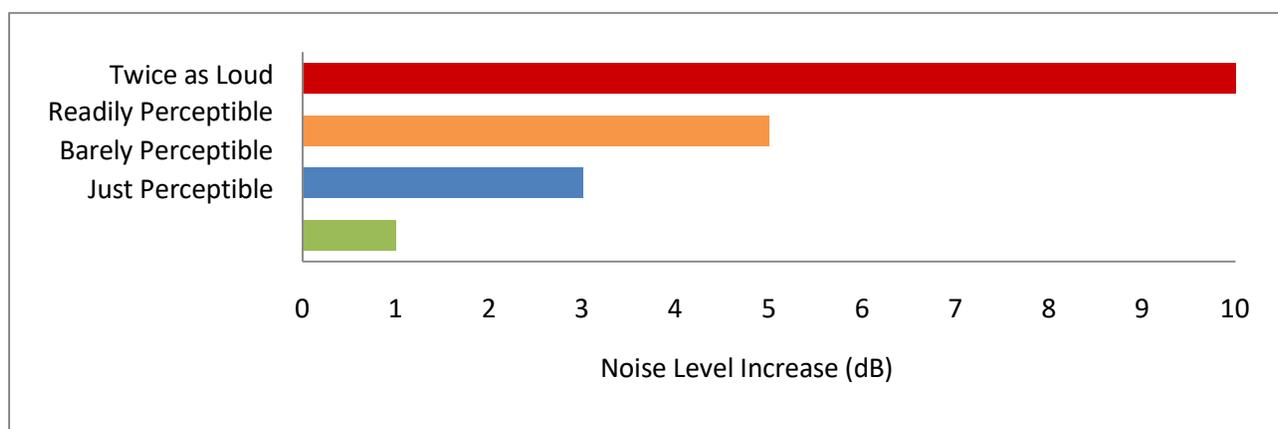
Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance, including the following:

- Fear associated with noise producing activities
- Socio-economic status and educational level
- Perception that those affected are being unfairly treated
- Attitudes regarding the usefulness of the noise-producing activity
- Belief that the noise source can be controlled

Approximately 10% of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another 25% of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. Surveys have shown that about 10% of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately 2% more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain.

Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown in Table 4.10-2. An increase or decrease of 1 dB cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dB is considered barely perceptible, and changes of 5 dB are considered readily perceptible.

Table 4.10-2. Noise Level Increase Perception



Source: Caltrans 2013.

Vibration

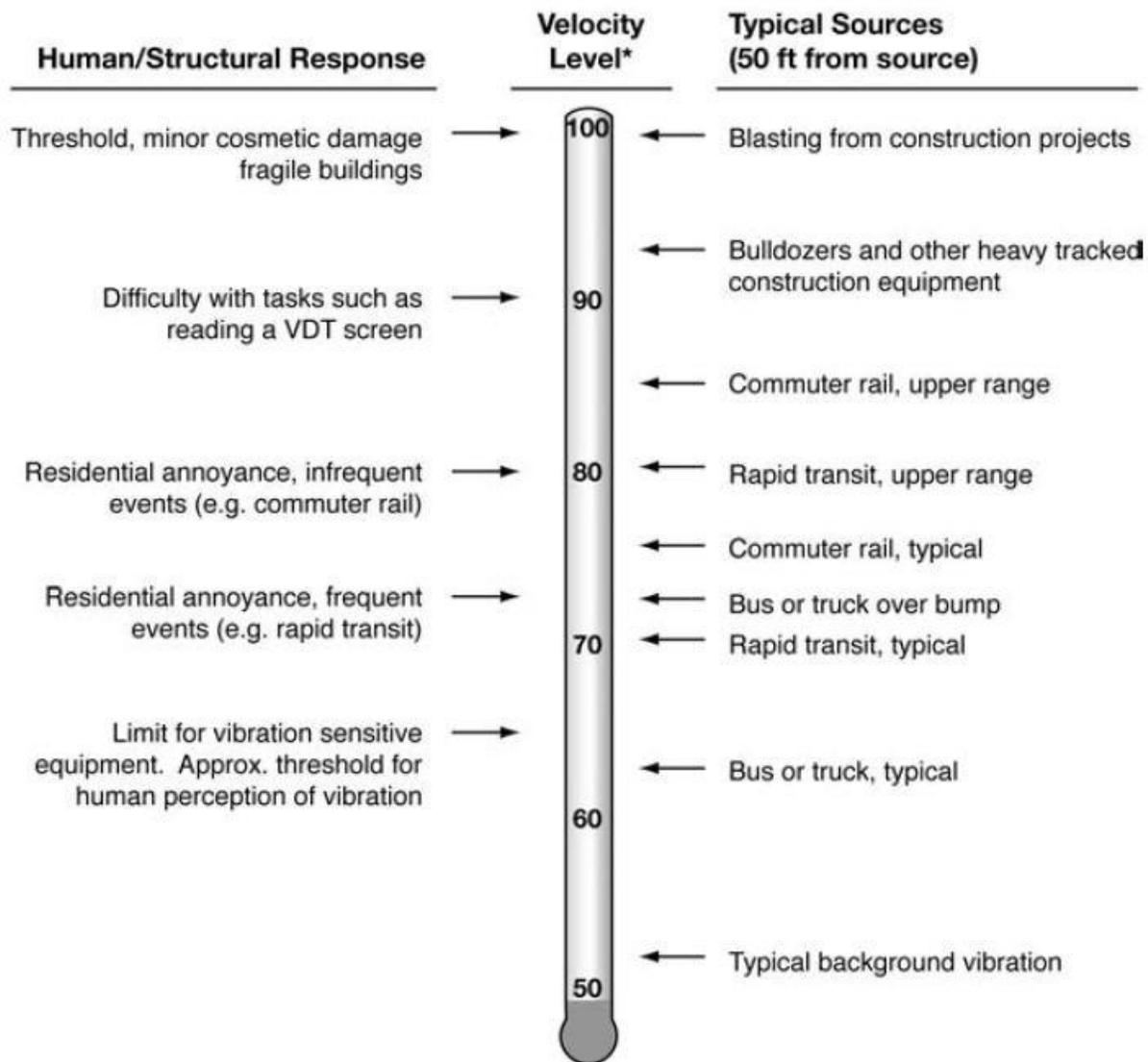
Per the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions,

sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to denote “vibration” pressures in a medium other than air, to differentiate it from sound pressure in air (dB). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, older adults, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Table 4.10-3 illustrates common vibration sources and the human and structural response to ground-borne vibration.

Table 4.10-3. Typical Levels of Ground-Borne Vibration and Human Response



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Existing Noise Conditions

The Project site is located on the south side of Van Buren Boulevard between Barton Street and Village West Drive. Interstate (I) 215 is located roughly 1 mile east of the Project site. In addition, the March Air Reserve Base/Inland Port Airport (ARB/IPA) is located just over 1 mile east of the Project site across I-215. Noise levels at the project site are influenced primarily by traffic along these adjacent roadways, and to a lesser extent by aircraft overflights associated with March ARB/IPA.

The noise contour boundaries associated with March ARB/IPA are found on Exhibit MA-4 of the Riverside County Airport Land Use Compatibility Plan (ALUCP) (County of Riverside 2014) and are presented herein on Figure 4.10-

1, March Air Reserve Base Noise Contours. Based on the Riverside County ALUCP noise level contours for the March ARB/IPA, the Project is entirely located outside the 60 dBA CNEL noise level contour boundaries, indicating noise levels from March ARB/IPA within the Project site are considered normally acceptable for even residential uses. Existing residential land uses are located north, west and southeast of the Project site in the City of Riverside and County of Riverside jurisdictions.

Ambient Noise Measurements

To assess the existing ambient noise level environment within the Project study area, ten, 24-hour noise level measurements were collected at sensitive receiver locations in the Project study area on Wednesday, September 4, 2019 (Figure 4.10-2, Noise Measurement Locations).

The hourly noise levels were measured during typical weekday conditions over a 24-hour period. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in “slow” mode to record noise levels in “A” weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013 (Appendix J).

Table 4.10-4 provides the range of hourly noise levels and average noise levels used to describe the daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) ambient conditions at each noise level measurement location. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number.

Table 4.10-4. 24-Hour Ambient Noise Level Measurement Results

Location ¹	Distance to Site (feet)	Description	Energy Average Noise Level (dBA L_{eq}) ²		CNEL
			Daytime	Nighttime	
L1	736	Located north of Project site on Gumtree Lane and Aptos Street near Amelia Earhart Middle School. City of Riverside.	50.4	51.3	58.0
L2	211	Located north of Project site on Coyote Bush Boulevard and Van Buren Boulevard near Tomas Rivera Elementary School. City of Riverside.	73.8	71.6	78.8
L3	964	Located north of Project site on Golden Rain Road near existing single-family homes. City of Riverside.	58.2	53.3	61.2
L4	—	Located on Krameria Avenue and Bundy Avenue near existing vacant land planned for industrial use in the City of Riverside.	60.7	59.3	66.2
L5	754	Located east of the Project site on Village West Drive near General Old Golf Course and Riverside National Cemetery. County of Riverside.	54.4	50.1	58.1

Table 4.10-4. 24-Hour Ambient Noise Level Measurement Results

Location ¹	Distance to Site (feet)	Description	Energy Average Noise Level (dBA L_{eq}) ²		CNEL
			Daytime	Nighttime	
L6	355	Located on White Street near the northwest corner of Altavita Village apartment complex in March JPA.	49.6	45.1	53.3
L7	1,200	Located southwest of 12th Street and Davis Avenue near Ben Clark Public Safety Training Center in March JPA.	50.0	43.3	52.7
L8	2,978	Located south of Project site on Larry Parrish Parkway near existing vacant land, designated public facility in March JPA.	56.7	51.7	59.9
L9	1,684	Located west of the Project site on Barton Street and Lurin Avenue near existing single-family homes. City of Riverside.	74.2	70.5	78.0
L10	90	Located west of Project site on Barton Street and Glass Ranch Road near existing single-family homes and orange farm. City of Riverside.	65.9	62.4	69.9

Notes:

¹ See Figure 4.10-2 for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix J. Daytime = 7:00 a.m. to 10:00 p.m.; Nighttime = 10:00 p.m. to 7:00 a.m.

The ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network. Major traffic noise sources include the auto and heavy truck activities on Van Buren Boulevard and Barton Street near the noise level measurement locations. The CNEL value calculated from the 24-hour noise measurement data at each location is also provided in Table 4.10-4.

Receivers Established to Represent Project Vicinity Noise-Sensitive Land Uses

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown in Figure 4.10-3, Noise Sensitive Receiver Locations, were identified as representative locations for analysis. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. Sensitive receiver locations in the Project study area include residential uses schools, and cemeteries as described below; all distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines, consistent with additional guidance provided by the California Department of Transportation (Caltrans) and the FTA. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise analysis will experience lower noise levels than those presented in this section due to the additional attenuation from distance and the shielding of intervening structures.

- R1:** Location R1 represents the existing private outdoor living area (backyard) at 20137 Sedona Drive in the City of Riverside. This residence is approximately 161 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R2:** Location R2 represents the existing private outdoor living area (backyard) at 20531 Red Poppy Lane in the City of Riverside. This residence is approximately 173 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3:** Location R3 represents the existing private outdoor living area (backyard) at 20675 Golden Rain Road in the City of Riverside. This residence is approximately 729 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4:** Location R4 represents the existing private outdoor living area (backyard) at 20893 Golden Rain Road in the City of Riverside. This residence is approximately 1,452 feet north of the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R5:** Location R5 represents Riverside National Cemetery on the east side of Village West Drive at about 385 feet from the Project site in Riverside County. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R6:** Location R6 represents the existing residence at the end of Charles Gabriel Circle, approximately 1,362 feet southeast of the Project site in March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R6 is placed at the residential building façade. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R7:** Location R7 represents the existing residence at the end of Thomas White Drive, approximately 687 feet southeast of the Project site in March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R7 is placed at the residential building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R8:** Location R8 represents the Ben Clark Training Center at 16902 Bundy Avenue, approximately 812 feet south of the Project site in March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R8 is placed at the building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R9:** Location R9 represents the existing private outdoor living area (backyard) at 19992 Krameria Avenue in the City of Riverside. This residence is approximately 117 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L9, to describe the existing ambient noise environment.
- R10:** Location R10 represents the existing private outdoor living area (backyard) at 9180 San Miguel Court in the City of Riverside. This residence is approximately 126 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L10, to describe the existing ambient noise environment.

- R11:** Location R11 represents an existing Warehouse (Building C) located approximately 207 feet east of the Project site in March JPA. Location R11 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.
- R12:** Location R12 represents the approved Commercial Parcel 72 located 213 feet north of the Project site in March JPA where future workers could be located. The nearest 24-hour noise level measurement taken near this location, L2, is used to describe the existing ambient noise environment.
- R13:** Location R13 represents the Amazon (Building A) warehouse located roughly 294 feet south of the Area C and 247 feet west of Area D in March JPA. Location R13 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.
- R14:** Location R14 represents the existing private outdoor living area (backyard) at the end of Westover Circle in March JPA. This residence is approximately 1,422 feet south of the Project site. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment.
- R15:** Location R15 represents residents of the Westmont Village retirement living community. Location R15 is placed at the nearest building façade approximately 81 feet west of the construction activities associated with the Village West Drive Extension at the corner of Lemay Drive and Village West Drive in March JPA. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment. Like R15, L5 receives traffic noise from Village West Drive.

4.10.2 Relevant Plans, Policies, and Ordinances

Federal

Title 40 of the Code of Federal Regulations, Part 205, Subpart B

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 of the Code of Federal Regulations, Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specific test procedures. These controls are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

In 1972, the Noise Control Act (42 USC Section 4901 et seq.) was passed by Congress to promote noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control to coordinate federal noise control activities. The EPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The EPA found that to prevent hearing loss over the lifetime of a receiver, the yearly average L_{eq} should not exceed 70 dBA, and the L_{dn} should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance. However, in 1982, the EPA phased out the office's funding as part of a shift

in federal noise control policy to transfer the primary responsibility of regulating noise to state and local governments. A bill is pending before Congress that would reestablish the Office of Noise Abatement and Control. The EPA retains authority to investigate and study noise and its effects, disseminate information to the public regarding noise pollution and its adverse health effects, respond to inquiries on matters relating to noise, and evaluate the effectiveness of regulations for protecting the public health and welfare.

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a Noise Element in a General Plan, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor’s Office of Planning and Research, provides guidance for the acceptability of specific land use types within areas of specific noise exposure. Table 4.10-5, Land Use Compatibility for Community Noise Environments, presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community. The Governor’s Office of Planning and Research guidelines are advisory in nature.

Table 4.10-5. Land Use Compatibility for Community Noise Environments

Land Use	Community Noise Exposure (dBA CNEL)			
	<i>Normally Acceptable¹</i>	<i>Conditionally Acceptable²</i>	<i>Normally Unacceptable³</i>	<i>Clearly Unacceptable⁴</i>
Residential-low density, single-family, duplex, mobile homes	50-60	55-70	70-75	75-85
Residential – multiple-family	50-65	60-70	70-75	70-85
Transit lodging – motel, hotels	50-65	60-70	70-80	80-85
Schools, libraries, churches, hospitals, nursing homes	50-70	60-70	70-80	80-85
Auditoriums, concert halls, amphitheaters	NA	50-70	NA	65-85
Sports arenas, outdoor spectator sports	NA	50-75	NA	70-85
Playgrounds, neighborhood parks	50-70	NA	67.5-77.5	72.5-85

Table 4.10-5. Land Use Compatibility for Community Noise Environments

Land Use	Community Noise Exposure (dBA CNEL)			
	Normally Acceptable ¹	Conditionally Acceptable ²	Normally Unacceptable ³	Clearly Unacceptable ⁴
Golf courses, riding stables, water recreation, cemeteries	50-70	NA	70-80	80-85
Office buildings, business commercial and professional	50-70	67.5-77.5	75-85	NA
Industrial, manufacturing, utilities, agriculture	50-75	70-80	75-85	NA

Source: OPR 2003

Notes: CNEL = community noise equivalent level; NA = not applicable

- 1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- 2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
- 3 Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
- 4 Clearly Unacceptable: New construction or development should generally not be undertaken.

State of California Building Code

The 2019 State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class rating of the wall and roof-ceiling assemblies must be at least 50 (Section 5.507.4.1).

Local

March Joint Powers Authority General Plan

The March JPA adopted General Plan 1999 policies are described in this section in relation to the Project. The Noise/Air Quality Element of the General Plan identifies several goals and policies to protect and enhance the quality of life for those who live and work in the March JPA jurisdiction. The Noise/Air Quality Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise.

The adopted March JPA General Plan includes the following goals and policies in the Noise/Air Quality Element that would apply to the project (March JPA 1999):

Goal 1: Ensure that land uses are protected from excessive and unwanted noise.

Policy 1.1: Establish acceptable limits of noise for various land uses throughout the March JPA Planning Area. Future development that could increase ambient noise levels shall be required to mitigate the anticipated noise increase, to the extent possible.

- Policy 1.2:** Noise sensitive uses (such as schools, libraries, hospitals, medical facilities, residential uses, etc.) shall be discouraged in areas where noise levels exceed acceptable limits.
- Policy 1.3:** Encourage good acoustical design in new construction.
- Policy 1.4:** Provide buffer areas between noise sources and other developments, where practical.
- Goal 2:** Minimize incompatible noise level exposures throughout the Planning Area, and where possible, mitigate the effect of noise incompatibilities to provide a safe and health environment.
- Policy 2.1:** Avoid placing noise sensitive land uses in proximity to areas devoted to noise generating facilities such as areas of aviation related activities, industrial parks, transportation facilities, and other noise generating land uses.
- Policy 2.2:** Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and mitigation measures needed.
- Policy 2.3:** Noise sensitive land uses shall not be located in areas influenced by noise generating land uses, in particular the noise contours associated with the joint use airfield, unless appropriate mitigation is utilized.
- Policy 2.4:** March JPA shall evaluate noise sensitivity and noise generation when considering land use Projects and transportation improvement Projects, and where appropriate mitigation measures shall be employed.
- Policy 2.5:** March JPA shall utilize and comply with the CALTRANS standards for noise compatibility for aviation generated noise to proposed land use development.
- Goal 3:** Work toward the reduction of noise impacts from vehicular traffic, and aviation and rail operations.
- Policy 3.1:** Include mitigating measures such as landscaping, berming and site orientation, in the design of Projects located near noise generating sources such as arterial roadways.
- Policy 3.2:** Coordinate with adjacent cities and county agencies for noise abatement.
- Policy 3.3:** Adhere to the adopted AICUZ and Comprehensive Land Use Plan standards and promote the use of newer and quieter aircraft and support equipment.
- Policy 3.4:** Where appropriate, noise mitigation measures shall be incorporated in the design and approval of development on property located adjacent to aviation and rail facilities.
- Policy 3.5:** Where appropriate, development in areas adjacent to freeways, arterial streets, and other noise source shall be designed to reduce the potential for noise impacts.
- Policy 3.6:** Regulate the use of local streets by trucks, trailers, and construction vehicles, to the extent possible.

- Policy 3.7:** Limit trucking operations to appropriate routes, times and speeds.
- Policy 3.8:** Appropriate muffling systems for construction equipment and operations shall be required, as necessary.
- Policy 3.9:** March JPA shall encourage and facilitate the use of mass transit services and alternative transportation systems to minimize dependence of the automobile within the Planning Area, thereby minimizing the level of noise generated by surface transportation.

Land Use Compatibility

The compatibility criteria, shown in Table 4.10-5 provides the City, County, and March JPA with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The State Land Use Compatibility guidelines indicate that industrial and manufacturing land uses, such as the Project, are considered *normally acceptable* with noise levels below 70 dBA CNEL and *conditionally acceptable* with noise levels of less than 75 dBA CNEL. For residential uses, which could be affected by noise generated on-site by the project or of-site by project related traffic increases, noise levels below 60 dBA CNEL are considered *normally acceptable* while noise levels of less than 70 dBA CNEL are deemed *conditionally acceptable*.

Riverside County Airport Land Use Compatibility Plan Policy Document

The Riverside County ALUCP (County of Riverside 2014) includes the policies for determining the land use compatibility of the Project since it is located within the airport influence area. Policy 4.1.5, Noise Exposure for Other Land Uses of the Riverside County ALUCP, requires that land uses, such as the business park (mixed use) and industrial land use of the Project site, demonstrate compatibility with the acceptable noise levels, as follows. Mixed use business park land uses are clearly compatible if they experience exterior noise levels below 55 dBA CNEL, for industrial land uses this limit would be 60 dBA CNEL. Normally acceptable noise levels for business park (mixed use) land uses range from 55 to 60 dBA CNEL, and from 60 to 65 dBA CNEL for industrial land uses. Marginally acceptable noise levels at business park (mixed use) land uses range from 60 to 70 dBA CNEL, and from 65 to 70 dBA CNEL for industrial land uses. Proposed land uses within “marginally acceptable” should be conditioned for outdoor activities to be minimal and to include construction features which provide sufficient noise attenuation are (e.g., installation of air conditioning so that windows can be kept closed).

The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Exhibit MA-4 of the Riverside County ALUCP and are presented on Figure 4.10-1. Based on the Riverside County ALUCP noise level contours for the March ARB/IPA, the Project is entirely located outside the 60 dBA CNEL noise level contour boundaries and is considered normally acceptable. Outdoor activities at the business park (mixed use) land use within the Project site are expected to be minimal and include employees traveling from their vehicles to the office buildings within the site. Therefore, based on the Riverside County ALUCP compatibility criteria, conventional construction methods will eliminate noise intrusions above 60 dBA CNEL upon indoor activities and thus is allowed under the Riverside County ALUCP.

Operational Noise Standards

Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside jurisdictions. Therefore, to accurately describe the potential Project-related operational noise level contributions, this subsection

presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The March JPA, City of Riverside, and the County of Riverside operational noise level standards are shown on Table 4.10-6.

March JPA Operational Noise Standards

The March JPA Development Code, Section 9.10.140, Noise and Sound, identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA L_{eq} at any time beyond the boundaries of the property. If the sound from noise attention or attracting devices (i.e., loudspeakers, bells, gongs, buzzers) creates a noise disturbance across the property line of a residential use, that sound must cease between the hours of 10:00 p.m. and 7:00 a.m.

City of Riverside Operational Noise Standards

The noise regulations included in the City of Riverside Municipal Code, Title 7 *Noise Control*, provide standards for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. For the noise-sensitive residential land uses in the Project study area, a daytime (7:00 a.m. to 10:00 p.m.) noise level standard of 55 dBA L_{50} applies and a nighttime (10:00 p.m. to 7:00 a.m.) noise level standard of 45 dBA L_{50} applies. These standards cannot be exceeded plus 5 dBA for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels generally result in acceptable interior noise levels. The City of Riverside exterior noise standards for noise-sensitive residential land uses are shown on Table 4.10-6 (relevant code excerpts are included in Appendix J).

County of Riverside Operational Noise Standards

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. These stationary-source noise level standards are consistent with the County of Riverside Office of Industrial Hygiene guidelines for noise studies within the County. The County of Riverside stationary-source (operational) noise standards are shown on Table 4.10-6.

Table 4.10-6. Summary of Applicable Operational Noise Standards

Jurisdiction	Land Use	Time Period	Exterior Noise Level Standards (dBA) ¹					
			L_{eq} (Average)	L_{50} (30 mins)	L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (Anytime)
March JPA ²	Residential	Anytime	55	—	—	—	—	—
City of Riverside ³	Residential	Daytime	—	60	60	65	70	75
		Nighttime	—	50	50	55	60	65
County of Riverside ⁴	Residential	Daytime	65	—	—	—	—	—
		Nighttime	45	—	—	—	—	—

Notes: "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

- ¹ L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.
- ² Source: March Joint Powers Authority, Development Code, Chapter 9.10, Performance Standards, Section 9.10.140 (Appendix J).
- ³ Source: City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010 (A) (Appendix J).
- ⁴ Source: County of Riverside General Plan Noise Element, Table N-2.

Construction Noise Standards

Noise impacts from construction activities are typically limited by establishment of allowable hours of operation under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this subsection presents the appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside. However, the permitted hours of construction for the March JPA are the only applicable hour restrictions for the Project, since the construction activity would be within the March JPA jurisdiction.

March JPA Construction Noise Standards

The March JPA Development Code, Section 9.10.140, specifies that outdoor construction and grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing or demolition work within 500 feet of the property line of a residential use, is prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday and between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a Federal Holiday. Construction activities are considered exempt from the noise performance standards if they occur within the above described permitted hours; consequently, the March JPA Development Code does not identify a specific noise level standard for construction activity. The March JPA Development Code construction noise standards are shown on Table 4.10-6 and included in Appendix J.

City of Riverside Construction Noise Standards

The City of Riverside Municipal Code, Section 7.35.020(G), states that construction activities are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, with no activities allowed on Sundays or federal holidays. The land uses in the Project study area with the potential to be impacted by Project-related construction noise levels include noise-sensitive residential land use. Based on the City of Riverside Municipal Code, Table 7.25.010A, Exterior Noise Standards, residential land uses have an anytime noise level standard of 75 dBA L_{max} during the daytime hours, and 65 dBA L_{max} during the nighttime hours for construction noise levels. The City of Riverside Municipal Code construction noise standards are shown on 4.10-6 and included in Appendix J.

County of Riverside Construction Noise Standards

Section 9.52.020(I) of the County's Noise Regulation Ordinance, provided in Appendix J, indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what the California Environmental Quality Act (CEQA) constitutes a *substantial temporary or periodic noise increase*.

To allow for a quantified determination of what the Noise Regulation Ordinance constitutes as noise that *may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life* due to Project

construction activity, relevant quantified stationary source noise standards established in the General Plan, Policy N 4.1, are used in this analysis to assess the Project construction noise levels at nearby sensitive receivers. Therefore, the daytime noise level standard of 65 dBA L_{eq} and nighttime noise level standard of 45 dBA L_{eq} are used to evaluate the potential Project-related construction noise impacts. These standards are included in Table 4.10-7.

Table 4.10-7. Summary of Applicable Construction Noise Standards

Jurisdiction	Land Use	Permitted Hours of Construction Activity	Construction Noise Level Limit at Receiving Use ¹	
			Daytime	Nighttime
March JPA ²	n/a	7:00 a.m. to 7:00 p.m. if within 500 feet of the property line of a residential use: 7:00 a.m. to 7:00 p.m. on weekdays, 8:00 a.m. to 5:00 p.m. on Saturdays; no work on Sundays or federal holidays	n/a	
City of Riverside ³	Residential	7:00 a.m. to 7:00 p.m. on weekdays; 8:00 a.m. to 5:00 p.m. on Saturdays; no work on Sundays or federal holidays	75 dBA L_{max}	65 dBA L_{max}
County of Riverside ⁴	Residential	6:00 a.m. to 6:00 p.m. June to September; 7:00 a.m. to 6:00 p.m. October to May	65 dBA L_{eq}	45 dBA L_{eq}

Notes: "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

¹ Thresholds based on the City of Riverside and County of Riverside noise level standard for non-transportation noise sources (Table 4.10-5).

² Source: March Joint Powers Authority, Development Code, Chapter 9.10, Performance Standards, Section 9.10.030 (Appendix J).

³ Source: City of Riverside Municipal Code, Section 7.35.020(G), Table 7.25.010A (Appendix J).

⁴ Source: County of Riverside County Code, Section 9.52.020 (I) (Appendix J).

Vibration Standards

The March JPA and the City of Riverside General Plans and Municipal Codes do not identify specific vibration level standards. Therefore, the impacts due to vibration are assessed based on vibration level limits identified in the County of Riverside General Plan Noise Element. Vibration levels with a PPV of 0.787 inches per second (in/sec) are considered readily perceptible and PPV above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 in/sec over the range of one to 100 Hertz. For the purposes of this analysis, the vibration perception threshold of 0.01 in/sec shall be used to assess the potential impacts due to Project construction at nearby sensitive receiver locations. The vibration standards are shown on Table 4.10-8.

Typically, the human response at the perception threshold for vibration includes annoyance in residential areas as previously shown on Exhibit 2-B, when vibration levels expressed in vibration decibels (VdB) approach 75 VdB. The County of Riverside, however, identifies a vibration perception threshold of 0.01 in/sec. For vibration levels expressed in velocity, the human body responds to the average vibration amplitude often described as RMS. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a one-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as VdB, which serves to reduce the range of numbers used to describe human response to vibration. Therefore, the vibration standard of 0.01 in/sec in RMS velocity levels is used in this analysis to assess the human perception of vibration levels due to Project-related construction activities.

Table 4.10-8. Vibration Noise Standards

Jurisdiction	Root Mean Square Velocity (inches per second)
March JPA	n/a
City of Riverside	n/a
County of Riverside ¹	0.01

Notes:

¹ **Source:** County of Riverside 2015 (Policy N 16.3).

n/a = The General Plan and Municipal Code do not identify specific vibration level standards.

4.10.3 Thresholds of Significance

CEQA Guidelines

The significance criteria used to evaluate the Project impacts related to noise are based on the March JPA 2019 CEQA Guidelines. According to of the March JPA 2019 CEQA Guidelines, a significant impact related to noise would occur if the Project would:

- NOI-1:** Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- NOI-2:** Result in generation of excessive groundborne vibration or groundborne noise levels.
- NOI-3:** For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
- NOI-4:** Aircraft operations (i.e., aircraft landings and/or takeoffs) at the March Inland Port Airport between 10:00 p.m. and 6:59 a.m. that could expose people within the March Inland Port Airport's vicinity to a significant risk of sleep disturbance due to noise, as based on a single event noise exposure level analysis.

While the CEQA Guidelines and the March JPA General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts they do not define the levels at which increases are considered substantial for use under Threshold NOI-1.

Significance Thresholds Applicable to the Project

Noise level increases resulting from the Project are evaluated based on the CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. An important way of determining a person's subjective reaction to a new noise is the comparison of the new noise level against the existing ambient noise environment.

The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of Project-generated permanent increases in noise levels that consider the ambient noise level. The FICON recommendations

are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as CNEL and L_{eq} . FICON identifies that a *readily perceptible* 5 dBA or greater Project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per FICON, in areas where the without Project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without Project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4.10-9 provides a summary of the noise impact significance criteria for permanent noise increases associated with the Project, based on guidance from FICON.

Table 4.10-9. Significance of Permanent Noise Increase Impacts at Noise-Sensitive Receivers

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 – 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Source: FICON 1992.

Due to the temporary, short-term nature of noise-generating construction activities, the temporary or periodic noise level increases over the existing ambient conditions must be considered under CEQA Threshold NOI-1. Caltrans *Traffic Noise Analysis Protocol* identifies a 12 dBA L_{eq} increase significance threshold for assessment of temporary noise level increases (i.e., construction-related noise) (Caltrans 2013). If the Project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA L_{eq} , then the Project construction noise level increases would be considered a potentially significant impact. Although the Caltrans recommendations were specifically developed to assess traffic noise impacts, the 12 dBA L_{eq} substantial noise level increase threshold is used in California to address noise level increases with the potential to exceed existing conditions.

The March JPA General Plan Update 2030 Noise/Air Quality Element, Policy 1f is used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area; the noise analysis relies on the specific land use compatibility criteria and noise policies outlined in the draft 2030 General Plan Update. As indicated in Policy 1f, the exterior noise level criteria for non-noise-sensitive land use, such as industrial use, is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *State Land Use Compatibility* matrix, previously shown in Table 4.10-1.

To determine if Project-related traffic noise level increases would be significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria are used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded.

Significance Criteria Summary

Noise impacts would be considered significant if any of the following occur as a direct result of the proposed development. Table 4.10-10 provides a significance criteria summary matrix.

Off-Site Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential):
 - are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g. industrial):
 - are less than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - are greater than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase.

Operational Noise

- If Project-related operational (stationary-source) noise levels:
 - exceed the exterior 55 dBA L_{eq} noise level standards at nearby sensitive residential land uses within the March Joint Powers Authority jurisdiction (March JPA Development Code, Section 9.10.140); or
 - exceed the exterior 55 dBA L_{50} daytime or 45 dBA L_{50} nighttime noise level standards for sensitive residential land uses. These standards shall not be exceeded plus 5 dBA for a cumulative period of 30 minutes (L_{50}), or plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_5) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_2) in any hour, or the standard plus 20 dBA at any time (L_{max}) (City of Riverside Municipal Code, Section 7.25.010 [A]); or
 - exceed the exterior 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime noise level standards at nearby sensitive receiver locations in the County of Riverside (County of Riverside General Plan Noise Element, Table N-2).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON 1992).

Construction Noise

- If Project-related construction activities:
 - occur at any time other than the permitted hours of 7:00 a.m. to 7:00 p.m. (or, if located within 500 feet of a residential use, any time other than 7:00 a.m. to 7:00 p.m. weekdays, 8:00 a.m. to 5:00 p.m. on Saturdays; or on Sundays or federal holidays), (March JPA Development Code, Sections 9.10.030, 9.10.140) unless otherwise permitted; or

- create noise levels which exceed the City of Riverside 75 dBA L_{max} daytime or 65 dBA L_{max} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the City of Riverside (City of Riverside Municipal Code, Section 7.25.010[A]);
- create noise levels which exceed the County of Riverside 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the County of Riverside (Based on the County of Riverside General Plan, Policy N 4.1); or
- generate temporary Project construction-related noise level increases which exceed the 12 dBA L_{eq} *substantial* noise level increase threshold at noise-sensitive receiver locations (Caltrans 2013).

Vibration

- If construction activity or project operations would result in a vibration level greater than 0.1 in/sec RMS at a vicinity receptor.

Table 4.10-10. Significance Thresholds Summary

Analysis	Land Use	Jurisdiction	Condition(s)	Significance Criteria	
				Daytime	Nighttime
Off-Site	Noise-Sensitive ¹	All	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
			If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive ²	All	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
			If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive	March JPA ³	Noise Level Threshold	55 dBA L_{eq}	
		City of Riverside ⁴	≥ 30 Minutes L_{50}	60	50
			≥ 15 Minutes L_{25}	60	50
			≥ 5 Minutes L_8	65	55
			≥ 1 Minute L_2	70	60
			Anytime L_{max}	75	65
		County of Riverside ⁵	Noise Level Threshold	65 dBA L_{eq}	45 dBA L_{eq}
		All ¹	If ambient is < 60 dBA L_{eq}	≥ 5 dBA CNEL Project increase	
			If ambient is 60 - 65 dBA L_{eq}	≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA L_{eq}	≥ 1.5 dBA CNEL Project increase	
Construction	Noise-Sensitive	March JPA	Permitted hours between 7:00 a.m. to 7:00 p.m.; if within 500 feet of a residential use: 7:00 a.m. to 7:00 p.m.. weekdays, 8:00 a.m. to 5:00 p.m. on Saturdays; no work on Sundays or federal holidays.		
		City of Riverside	Noise Level Threshold ⁷	75 dBA L_{max}	65 dBA L_{max}
		County of Riverside	Noise Level Threshold ⁸	65 dBA L_{eq}	45 dBA L_{eq}
		All	Noise Level Increase ⁹	12 dBA L_{eq}	n/a

Source: Appendix J.

4.10.4 Impacts Analysis

NOI-1. Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

On-site noise-generating activities associated with the proposed Project would include short-term construction as well as long-term operational noise associated with the warehouse, industrial, business park, and mixed use operations; and other on-site noise sources (e.g., heating, ventilation, and air conditioning [HVAC] equipment). The proposed Project would also generate off-site traffic noise along various roads in the area. Following the order of the Noise Study prepared for the proposed Project (Appendix J), the following impact discussion begins with off-site traffic noise, examines operational noise from on-site sources next, and concludes with construction-related noise impacts.

Off-Site Traffic Noise

The expected roadway noise level increases resulting from Project-related vehicle trip contributions were calculated by Urban Crossroads using a computer program that replicates the FHWA’s Traffic Noise Prediction Model-FHWA-RD-77-108 (DOT 1978). The FHWA Model inputs include the total average daily traffic, the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions (“hard” or “soft” relating to the absorption of the ground, pavement, or landscaping), and the percentage of total average daily traffic that flows each hour throughout a 24-hour period.

Table 4.10-11 presents the roadway parameters used to assess the Project’s off-site transportation noise impacts for the 48 study area roadway segments, including the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the March JPA, City of Riverside, County of Riverside, and City of Moreno Valley General Plan Circulation Elements, and the posted vehicle speeds. Traffic noise analysis was conducted for the following traffic scenarios:

- Existing (2019)
- Existing plus Project (E+P) (net change in trips of proposed Project compared to the 2003 Approved South Campus) (E+P)
- Opening Year Cumulative (2024) Without Project (includes 2003 Approved South Campus)
- Opening Year Cumulative (2024) With Proposed Project (Revised Specific Plan land uses)
- Horizon Year (2040) Without Project (includes 2003 Approved South Campus)
- Horizon Year (2040) With Proposed Project (Revised Specific Plan land uses)

Table 4.10-11. Off-Site Roadway Parameters Used in Noise Modeling

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	44	45
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	44	40

Table 4.10-11. Off-Site Roadway Parameters Used in Noise Modeling

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	60	50
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	60	50
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	55	50
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	55	50
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	55	50
8	Barton St.	n/o Van Buren Bl.	Residential	44	40
9	Barton St.	s/o Van Buren Bl.	Residential	44	40
10	Barton St.	n/o Krameria Av.	Commercial/Residential	44	40
11	Barton St.	s/o Krameria Av.	Residential	44	40
12	Barton St.	s/o Lurin Av.	Residential	44	40
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	33	25
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	55	45
15	Village West Dr.	n/o Krameria Av.	Business Park	56	40
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	39	40
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/Business Park	56	45
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	56	45
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	56	45
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	56	45
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	56	45
22	Day St.	n/o Cottonwood Av.	Residential/Office	44	40
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	44	40
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	60	55
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	60	55
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	60	55
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	60	45
28	Alessandro Bl.	w/o Day St.	Commercial	67	45
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	67	45
30	Cactus Av.	w/o Innovation Dr.	Business Park	60	45
31	Cactus Av.	e/o Innovation Dr.	Business Park	60	45
32	Cactus Av.	w/o Elsworth St.	Business Park	67	50
33	Cactus Av.	e/o Elsworth St.	Business Park	67	50
34	Cactus Av.	w/o Graham St.	Business Park	67	50
35	Cactus Av.	e/o Graham St.	Business Park	67	50
36	Van Buren Bl.	w/o Wood Rd.	Commercial	60	50
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	60	50
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	60	50
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	60	55

Table 4.10-11. Off-Site Roadway Parameters Used in Noise Modeling

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	60	55
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	60	55
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	55	55
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	55	55
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	55	55
45	I-215	n/o Alessandro Bl.	Business Park	125	65
46	I-215	s/o Alessandro Bl.	Business Park	125	65
47	I-215	s/o Cactus Av.	Business Park	125	65
48	I-215	s/o Van Buren Bl.	Public Facilities	125	65

Notes:

¹ Source: Appendix J

² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

Consistent with the Project traffic impact analysis, this section evaluates the net change in potential impacts from the 2003 Approved South Campus to what is proposed as part of the Project (including built/entitled). For analytical purposes, the “without Project” conditions would reflect the 2003 Approved South Campus as evaluated by the 2003 Focused EIR and the “with Project” conditions would reflect the net change in impact levels due to the shift in mix of uses in order to provide an appropriate comparative analysis.

Traffic Noise Contours

Traffic noise modeling was conducted in order to construct noise level contours, to assess the Project's incremental traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. Tables 4.10-12 through 4.10-17 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 48 study area roadway segments analyzed from the without Project conditions (2003 Approved South Campus) to the with Project conditions (proposed Specific Plan plus built/entitled) in each of the three timeframes: Existing, Opening Year Cumulative 2024, and Horizon Year 2040 conditions. Appendix J includes a summary of the traffic noise level contours for each of the six traffic scenarios.

Table 4.10-12. Existing (No Project) Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73	157	337

Table 4.10-12. Existing (No Project) Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	490
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	784
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	129	279	601
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	RW	67	144
16	Village West Dr.	s/o Krameria Av.	Park/ Open Space	63.3	RW	RW	65
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	73.6	98	210	453
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	72.7	84	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	85	184	396
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	63	135	291
22	Day St.	n/o Cottonwood Av.	Residential/ Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	70.7	49	105	226
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	79.7	268	577	1242

Table 4.10-12. Existing (No Project) Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	316	682
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	75.1	146	315	678
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	219	473	1019
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	216	464	1000
34	Cactus Av.	w/o Graham St.	Business Park	78.0	229	493	1063
35	Cactus Av.	e/o Graham St.	Business Park	77.4	208	448	966
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	435	938
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	77.4	186	400	862
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	78.0	205	442	953
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	77.9	200	432	931
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	77.8	200	431	929
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	237	511	1101
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	212	458	986
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	227	489	1055
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	454	978	2107
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	451	972	2095
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	438	944	2035
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	466	1005	2165

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Sources: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Table 4.10-13. Existing With Project Conditions Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	73.3	73	157	337
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	491
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	59.0	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	785
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	130	279	602
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.9	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	101	219	471
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.4	RW	RW	65
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	73.6	98	211	454
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	72.7	85	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.8	85	184	397
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.8	63	136	292
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	70.7	49	105	227
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	79.7	268	577	1242

Table 4.10-13. Existing With Project Conditions Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.6	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	317	682
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	75.1	146	315	679
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.8	222	478	1031
33	Cactus Av.	e/o Elsworth St.	Business Park	77.7	218	470	1012
34	Cactus Av.	w/o Graham St.	Business Park	78.1	231	499	1074
35	Cactus Av.	e/o Graham St.	Business Park	77.5	211	454	978
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	436	939
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	77.4	186	401	864
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	78.0	206	443	955
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	78.5	220	475	1023
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	78.5	220	474	1021
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.7	331	712	1534
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.3	310	667	1437
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	81.5	322	694	1494
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.1	505	1087	2343
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.1	502	1082	2332
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.9	492	1061	2285
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.9	489	1055	2272

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Table 4.10-14. Opening Year Cumulative (2024) Without Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	73.7	78	167	360
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	RW	RW	98
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	415	895
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	152	328	707
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	81	175	376
16	Village West Dr.	s/o Krameria Av.	Park/ Open Space	70.8	44	95	204
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	74.9	120	258	555
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	517
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/ Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	71.5	56	120	259

Table 4.10-14. Opening Year Cumulative (2024) Without Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1342
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	420	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	266	572	1232
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	258	556	1197
34	Cactus Av.	w/o Graham St.	Business Park	79.1	270	582	1253
35	Cactus Av.	e/o Graham St.	Business Park	78.5	247	531	1144
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	78.6	223	480	1035
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	78.5	220	475	1023
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	79.2	246	529	1140
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	79.5	259	559	1204
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	79.7	267	574	1237
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	312	672	1448
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	333	718	1547
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	347	748	1612
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	531	1144	2465
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	554	1193	2569
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	558	1202	2590
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	584	1257	2709

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Table 4.10-15. Opening Year Cumulative (2024) With Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	73.7	78	167	361
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.3	RW	RW	99
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	416	896
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	153	329	708
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	75.8	136	292	629
16	Village West Dr.	s/o Krameria Av.	Park/ Open Space	70.8	44	95	204
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/ Business Park	74.9	120	258	556
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	518
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/ Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	71.5	56	120	259

Table 4.10-15. Opening Year Cumulative (2024) With Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1343
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	421	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	268	577	1243
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	260	561	1208
34	Cactus Av.	w/o Graham St.	Business Park	79.1	272	587	1264
35	Cactus Av.	e/o Graham St.	Business Park	78.5	249	536	1155
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	78.6	223	481	1036
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	78.5	221	476	1025
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	79.2	246	530	1141
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	80.0	277	597	1286
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	80.1	284	612	1318
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	82.9	396	852	1836
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.2	414	893	1923
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.4	427	920	1982
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	80.0	578	1246	2685
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	80.2	600	1293	2785
47	I-215 Fwy.	s/o Cactus Av.	Business Park	80.3	606	1306	2814

Table 4.10-15. Opening Year Cumulative (2024) With Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.3	604	1302	2804

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Table 4.10-16. Horizon Year (2040) Without Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	74.3	85	184	397
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	74.8	92	199	428
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	809
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	78.4	199	430	926
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1005
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	153	331	712
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	81	176	378
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	73.3	73	157	338
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	389
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	102	219	472
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364
17	Meridian Pkwy.	s/o Alessandro Bl.	Industrial/ Business Park	75.4	127	274	591
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	75.2	125	269	580
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	74.9	120	258	555

Table 4.10-16. Horizon Year (2040) Without Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	122	263	566
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	76.3	116	249	537
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	81.1	330	711	1531
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	81.2	335	721	1553
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	337	727	1566
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	935
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	77.1	200	430	927
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	152	329	708
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	793
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	278	599	1291
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	274	591	1274
34	Cactus Av.	w/o Graham St.	Business Park	79.5	287	619	1334
35	Cactus Av.	e/o Graham St.	Business Park	78.9	262	565	1218
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	529	1141
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	78.9	237	510	1098
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	78.7	229	493	1061
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	248	535	1152
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.9	273	588	1268
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	80.0	277	597	1287
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	334	720	1551
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	351	757	1631
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	366	789	1700
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.0	673	1451	3126
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.2	693	1494	3218
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.2	695	1498	3227
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.3	706	1521	3278

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Table 4.10-17. Horizon Year (2040) With Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	74.3	86	184	397
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	74.8	92	199	428
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	810
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	78.4	200	430	926
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1006
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	154	331	713
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	82	176	378
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	73.3	73	157	338
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	390
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	76.5	152	327	706
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	75.4	127	274	591
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	75.2	125	270	581
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	74.9	120	258	556
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444
22	Day St.	n/o Cottonwood Av.	Residential/ Office	76.6	122	263	566
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	76.3	116	249	537
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	81.1	330	711	1531
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	81.2	335	721	1553
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.3	337	727	1566
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	936

Table 4.10-17. Horizon Year (2040) With Project Noise Contours

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	77.1	200	430	927
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	153	329	708
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	794
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	280	604	1302
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	277	596	1285
34	Cactus Av.	w/o Graham St.	Business Park	79.5	290	624	1344
35	Cactus Av.	e/o Graham St.	Business Park	79.0	265	570	1229
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	530	1141
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	78.9	237	510	1099
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	78.7	229	493	1063
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	79.3	249	535	1154
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	80.3	290	625	1348
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	80.4	294	634	1366
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	83.2	415	895	1928
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.4	431	928	1999
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.6	444	957	2061
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.4	716	1542	3322
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.5	735	1583	3411
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.6	739	1591	3429
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.5	725	1562	3365

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Existing Project Traffic Noise Level Contributions

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this discussion. However, the analysis of existing traffic noise levels plus traffic noise generated by the proposed Project scenario would not actually occur since the Project would not be fully constructed and operational until Year 2024 cumulative conditions.

Table 4.10-12 shows the Existing without Project noise levels. The Existing without Project exterior noise levels are expected to range from 58.7 to 79.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.10-13 shows that the Existing with Project conditions traffic noise levels will range from 59.0 to 81.7 dBA CNEL. Table 4.10-18 shows that the Project off-site traffic noise level will experience a noise level increase ranging from 0.0 to 7.7 dBA CNEL on the study area roadway segments. While this scenario is assessed for informational purposes, development associated with the Project would not be

expected to occur earlier than approximately 2024, assuming Project approval. However, if components of the Project were to be constructed earlier than 2024, land uses adjacent to the study area roadway segments would experience **less than significant** noise level impacts due to unmitigated Project-related traffic noise levels, as explained in further detail below.

Potential Project-related increases in traffic noise along area roadways is evaluated on the basis of whether noise-sensitive land uses (i.e., residences) would be exposed to such traffic noise increases. Based solely on the 5 dBA CNEL increase significance criteria when without Project noise levels are below 60 dBA CNEL and 3 dBA CNEL increase criteria when without Project noise levels already exceed 60 dBA CNEL, one of the 48 study area roadway segments, identified below, would exceed the criteria under Existing With Project Conditions. As explained below, there are no noise-sensitive land uses aligned adjacent to this roadway segment, and therefore the traffic noise significance criteria is not applicable to this roadway segment.

- Village West Drive north of Krameria Avenue (Segment #15). A review of the Project study area indicates that there are no existing or future noise-sensitive receivers located adjacent to this roadway segment that would experience a change in the off-site Project related traffic noise levels. Therefore, the off-site traffic noise level contributions for the Existing With Project Conditions would be **less than significant**, and no mitigation is required.

Table 4.10-18. Traffic Noise Level Changes Existing Versus Existing With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	73.3	73.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	73.6	73.6	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	73.7	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	59.0	0.3	Yes	5.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	77.4	77.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	77.3	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	75.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	68.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	71.8	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	71.5	71.5	0.0	Yes	1.5	No

Table 4.10-18. Traffic Noise Level Changes Existing Versus Existing With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
11	Barton St.	s/o Krameria Av.	Residential	71.2	71.2	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	71.1	71.1	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	60.9	0.1	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	69.6	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	73.9	7.7	No	5.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/ Open Space	63.3	63.4	0.1	No	5.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	73.6	73.6	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	73.5	73.5	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	72.7	72.7	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	72.8	0.1	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	70.8	0.1	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/ Office	71.9	71.9	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	70.7	70.7	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	79.5	79.5	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	79.7	79.7	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	79.3	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	76.6	0.1	No	3.0	No

Table 4.10-18. Traffic Noise Level Changes Existing Versus Existing With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	75.1	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	75.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	73.4	0.0	No	3.0	No
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	74.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	77.8	0.1	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	77.7	0.1	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	78.0	78.1	0.1	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	77.4	77.5	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	77.9	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	77.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	77.4	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	78.0	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	77.9	78.5	0.6	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	77.8	78.5	0.7	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	81.7	2.2	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	81.3	2.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	81.5	2.3	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No

Table 4.10-18. Traffic Noise Level Changes Existing Versus Existing With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	78.9	0.7	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	78.9	0.3	No	3.0	No

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Opening Year Cumulative 2024 Project Traffic Noise Level Contributions

Table 4.10-14 presents the Opening Year Cumulative 2024 Without Project conditions CNEL noise levels. The Opening Year Cumulative 2024 without Project exterior noise levels are expected to range from 62.5 to 82.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.10-15 shows the Opening Year Cumulative 2024 with Project conditions will range from 62.5 to 83.4 dBA CNEL. Table 4.10-19 shows Opening Year 2024 Project Traffic Noise Level Contributions. Table 4.10-19 shows that the Project off-site traffic noise level increase would range from 0.0 to 3.4 dBA CNEL.

Potential Project-related increases in traffic noise along area roadways is evaluated on the basis of whether noise-sensitive land uses (i.e., residences) would be exposed to such traffic noise increases. Based solely on the 5 dBA CNEL increase significance criteria when without Project noise levels are below 60 dBA CNEL and 3 dBA CNEL increase criteria when without Project noise levels already exceed 60 dBA CNEL, one of the 48 study area roadway segments, identified below, would exceed the criteria under Opening Year Cumulative 2024 with Project conditions. As explained below, there are no noise-sensitive land uses aligned adjacent to this roadway segment, and therefore the traffic noise significance criteria is not applicable to this roadway segment.

- Village West Drive north of Krameria Avenue (Segment #15). A review of the Project study area indicates that there are no existing or future noise-sensitive receivers located adjacent to this roadway segment that would experience a change in the off-site Project related traffic noise levels. Therefore, the off-site traffic noise level contributions for the Opening Year Cumulative 2024 with Project conditions would be **less than significant**, and no mitigation is required.

Table 4.10-19. Traffic Noise Level Changes Year 2024 Versus Year 2024 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/ Residential	73.7	73.7	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/ Residential	74.0	74.0	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	74.3	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	63.3	0.1	Yes	3.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/ Residential	78.2	78.2	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	78.2	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	76.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	69.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	73.7	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/ Residential	73.1	73.1	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	73.3	73.3	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	72.9	72.9	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	62.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	75.8	3.4	No	3.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/ Open Space	70.8	70.8	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/ Business Park	74.9	74.9	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/ Business Park	74.8	74.8	0.0	No	3.0	No

Table 4.10-19. Traffic Noise Level Changes Year 2024 Versus Year 2024 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/ Business Park	74.6	74.6	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	74.5	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	73.2	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/ Office	73.1	73.1	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/ Residential	71.5	71.5	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/ Residential	80.2	80.2	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/ Residential	80.5	80.5	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	80.2	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	77.7	0.0	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	76.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	76.1	76.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	75.7	0.0	No	3.0	No
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	76.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	79.0	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	78.8	0.0	No	3.0	No

Table 4.10-19. Traffic Noise Level Changes Year 2024 Versus Year 2024 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
34	Cactus Av.	w/o Graham St.	Business Park	79.1	79.1	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.5	78.5	0.0	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	78.8	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	78.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	78.5	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	79.2	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.5	80.0	0.5	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	79.7	80.1	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	82.9	1.6	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	83.2	1.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	83.4	1.4	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	80.0	0.6	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	80.2	0.5	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	80.3	0.6	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	80.3	0.3	No	3.0	No

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

Horizon Year 2040 Project Traffic Noise Level Contributions

Table 4.10-16 presents the Horizon Year 2040 Without Project conditions CNEL noise levels. The Horizon Year 2040 without Project exterior noise levels are expected to range from 63.5 to 82.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 4.10-17 shows the Horizon Year 2040 with Project conditions would range from 63.5 to 83.6 dBA CNEL. Table 4.10-20 shows traffic noise level changes for horizon year 2040 versus year 2040 with Project. Table 4.10-20 shows that the Project off-site traffic noise level increase ranging from 0.0 to 2.6 dBA CNEL. Based on the significance criteria for off-site traffic noise described above, land uses adjacent to the study area roadway segments would experience **less than significant** noise level impacts due to unmitigated Project-related traffic noise levels.

Table 4.10-20. Traffic Noise Level Changes Year 2040 Versus Year 2040 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	74.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	74.8	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	77.0	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	75.1	0.0	Yes	1.5	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	78.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	78.9	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	76.7	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	74.8	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	74.0	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73.3	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	74.5	74.5	0.0	Yes	1.5	No

Table 4.10-20. Traffic Noise Level Changes Year 2040 Versus Year 2040 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
12	Barton St.	s/o Lurin Av.	Residential	74.2	74.2	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	63.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	76.5	2.6	No	3.0	No
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	74.5	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	75.4	75.4	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	75.2	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	74.9	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	74.9	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	73.5	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	76.6	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	76.3	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	81.1	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	81.2	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	81.3	0.1	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	79.0	0.0	No	3.0	No

Table 4.10-20. Traffic Noise Level Changes Year 2040 Versus Year 2040 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	77.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/ Residential	77.1	77.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	76.1	0.0	No	3.0	No
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	76.8	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	79.3	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	79.2	0.0	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	79.5	79.5	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.9	79.0	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	79.2	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/ Residential	78.9	78.9	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/ Residential	78.7	78.7	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/ Residential	79.2	79.3	0.1	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/ Residential	79.9	80.3	0.4	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/ Residential	80.0	80.4	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	83.2	1.4	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	83.4	1.3	No	3.0	No

Table 4.10-20. Traffic Noise Level Changes Year 2040 Versus Year 2040 With Project

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold ²	
				Without Project	With Project	Project Addition		Limit	Exceeded?
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	83.6	1.2	No	3.0	No
45	I-215	n/o Alessandro Bl.	Business Park	81.0	81.4	0.4	No	3.0	No
46	I-215	s/o Alessandro Bl.	Business Park	81.2	81.5	0.3	No	3.0	No
47	I-215	s/o Cactus Av.	Business Park	81.2	81.6	0.4	No	3.0	No
48	I-215	s/o Van Buren Bl.	Public Facilities	81.3	81.5	0.2	No	3.0	No

Notes: "RW" = Location of the respective noise contour falls within the right-of-way of the road.

¹ Source: Appendix J

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

To reiterate, the above traffic noise analysis evaluates the net change in potential impacts from the 2003 Approved South Campus to what is proposed as part of the Project (including built/entitled). For analytical purposes, the “without Project” conditions would reflect the 2003 Approved South Campus as evaluated by the 2003 Focused EIR and the “with Project” conditions would reflect the net change in impact levels due to the shift in mix of uses in order to provide an appropriate comparative analysis. On the basis of such analysis, and as described above, the Project would not result in any significant traffic noise impacts, when compared to 2003 Approved South Campus. As explained previously, Village West Drive north of Krameria Avenue (Segment #15) would have a Project-related noise increase that exceeds the threshold for the Existing With Project and Opening Year Cumulative 2024 with Project conditions. A review of the Project study area indicates that there are no existing or future noise-sensitive receivers located adjacent to this roadway segment that would experience a change in the off-site Project related traffic noise levels. All other roadway segments would experience a Project-related traffic noise increase that is less than the identified significance threshold. Based on the traffic noise analysis results, as presented in the above tables, the Project would result in **less than significant** off-site traffic noise impacts upon noise-sensitive land uses in the Project vicinity, and no mitigation is required.

As discussed in the 2003 Focused EIR, off-site traffic noise impacts were also determined to be less than significant. However, mitigation measure J-7 was prescribed in order to guide planning efforts to minimize truck traffic noise at residential properties. The quantification of Project-related traffic noise for the proposed Project (as described above) concludes that traffic noise level increase would be **less than significant**. However, mitigation measure J-7 from the 2003 Focused EIR would continue to be required to address traffic noise level impacts of the Project.

On-Site Operational Noise

Operational Noise Sources

In order to be conservative in the operational analysis, the noise assessment evaluates the maximum reasonable outdoor activities and mechanical equipment installed per anticipated structural floor area, to account for changes in tenancy over the Project life. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: idling trucks with and without operating refrigeration units, delivery truck activities, parking, backup alarms, roof-top air conditioning, parking lot vehicle movements and dog park activity. This noise analysis is intended to describe noise level impacts associated with the expected typical warehouse and distribution storage activities at the Project site. The locations of major on-site noise sources associated with the Project are depicted on Figure 4.10-4, Operational Noise Source Locations.

Reference Noise Levels

Since the future tenants of the proposed Project are unknown, the Project's operational noise levels were estimated based on reference noise level measurements of similar operational activities. Urban Crossroads completed a sound level measurement program of existing activities at facilities with similar characteristics to Project components for noise sources including idling trucks, delivery truck activities, parking, backup alarms, roof-top air conditioning, parking lot vehicle movements and dog park activity. Refer to Appendix J for a description of the methodology employed for collecting the reference noise levels, as well as a detailed description of each source. Based upon the results of this reference noise level program, Table 4.10-21 presents the hourly average L_{eq} noise levels for each noise source, used to assess compliance with the March JPA and County of Riverside operational noise level limits. Table 4.10-22 provides the percentile noise levels from the noise source measurement program, to demonstrate compliance with the City of Riverside operational limits for the same reference noise level measurements.

Table 4.10-21. Hourly Average Noise Level Measurement Results for Reference Sound Sources

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Min./Hour		Reference Noise Level (dBA L_{eq})	
				Day	Night	@ Ref. Dist.	@ 50 Feet
Truck Activities	00:14:00	30	8	60	60	70.1	65.7
Roof-Top Air Conditioning Units	96:00:00	5	5	39	28	77.2	57.2
Parking Lot Vehicle Movements	01:00:00	10	5	60	60	52.2	41.7
Dog Park	00:15:00	5	4	60	0	62.8	42.8

Source: Appendix J

Table 4.10-22. Percentile Reference Noise Level Measurements Results for Reference Sound Sources

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Reference Noise Level (dBA)				
				<i>L</i> ₅₀ (30 mins)	<i>L</i> ₂₅ (15 mins)	<i>L</i> ₈ (5 mins)	<i>L</i> ₂ (1 min)	<i>L</i> _{max} (Anytime)
Truck Activities	00:14:00	30	8	69.6	70.9	71.9	73.7	80.6
Roof-Top Air Conditioning Units	96:00:00	5	5	74.4	76.1	77.4	77.7	78.2
Parking Lot Vehicle Movements	01:00:00	10	5	49.0	50.0	55.0	61.0	71.9
Dog Park	00:15:00	5	4	58.5	61.0	65.2	72.6	78.6

Source: Appendix J

Operational Noise Modeling (CADNA A)

To fully describe the exterior operational noise levels from the Project, Urban Crossroads developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program, based upon the spatially accurate Project site plan and flown aerial imagery from Nearmap, and employing the reference sound levels described in the preceding sub-section. CadnaA can analyze the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan, including the effects of topography, buildings, and multiple barriers in its calculations using the latest standards to predict outdoor noise impacts. Appendix J includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this sub-section.

Project Operational Noise (Modeling Results)

Using the CadnaA model and reference noise levels to represent the proposed Project operations that include idling trucks, delivery truck activities, parking, backup alarms, roof-top air conditioning, parking lot vehicle movements and dog park activity, Urban Crossroads determined the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. The operational noise level modeling inputs and results are provided in Appendix J. Table 4.10-23 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 35.7 to 53 dBA *L*_{eq}.

Table 4.10-23. Project Operational Noise Levels (Daytime)

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			<i>L</i> _{eq} (Average)	<i>L</i> ₅₀ (30 mins)	<i>L</i> ₂₅ (15 mins)	<i>L</i> ₈ (5 mins)	<i>L</i> ₂ (1 min)	<i>L</i> _{max} (Anytime)
R1	City of Riverside	Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	38.2	37.7	39.5	39.2	40.0	45.1
		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	14.8	14.3	16.1	15.8	16.6	21.7
		Combined Noise Level:	44.6	44.1	45.9	45.6	46.4	51.5

Table 4.10-23. Project Operational Noise Levels (Daytime)

Receiver Location ¹	Noise Sources ²	Hourly Operational Noise Levels (dBA) ³						
		<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)	
R2	Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8	
	Roof-Top Air Conditioning Unit	41.3	40.8	42.6	42.3	43.1	48.2	
	Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9	
	Dog Park	11.0	10.5	12.3	12.0	12.8	17.9	
	Combined Noise Level:	44.1	43.6	45.4	45.1	45.9	51.0	
R3	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6	
	Roof-Top Air Conditioning Unit	35.9	35.4	37.2	36.9	37.7	42.8	
	Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5	
	Dog Park	13.3	12.8	14.6	14.3	15.1	20.2	
	Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0	
R4	Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3	
	Roof-Top Air Conditioning Unit	32.7	32.2	34.0	33.7	34.5	39.6	
	Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2	
	Dog Park	9.7	9.2	11.0	10.7	11.5	16.6	
	Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2	
R5	County of Riverside	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
	Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7	
	Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1	
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0	
	Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0	
R6	March JPA	Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
	Roof-Top Air Conditioning Unit	31.8	31.3	33.1	32.8	33.6	38.7	
	Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5	
	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0	
	Combined Noise Level:	41.5	41.0	42.8	42.5	43.3	48.4	
R7	Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1	
	Roof-Top Air Conditioning Unit	34.3	33.8	35.6	35.3	36.1	41.2	
	Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7	
	Dog Park	10.7	10.2	12.0	11.7	12.5	17.6	
	Combined Noise Level:	44.7	44.2	46.0	45.7	46.5	51.6	

Table 4.10-23. Project Operational Noise Levels (Daytime)

Receiver Location ¹	Noise Sources ²	Hourly Operational Noise Levels (dBA) ³						
		<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)	
R8	Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9	
	Roof-Top Air Conditioning Unit	32.2	31.7	33.5	33.2	34.0	39.1	
	Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2	
	Dog Park	11.9	11.4	13.2	12.9	13.7	18.8	
	Combined Noise Level:	42.5	42.0	43.8	43.5	44.3	49.4	
R9	City of Riverside	Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
	Roof-Top Air Conditioning Unit	43.6	43.1	44.9	44.6	45.4	50.5	
	Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4	
	Dog Park	33.3	32.8	34.6	34.3	35.1	40.2	
	Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8	
R10	Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0	
	Roof-Top Air Conditioning Unit	37.3	36.8	38.6	38.3	39.1	44.2	
	Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2	
	Dog Park	20.4	19.9	21.7	21.4	22.2	27.3	
	Combined Noise Level:	46.0	45.5	47.3	47.0	47.8	52.9	
R11	March JPA	Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
	Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5	
	Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6	
	Dog Park	21.8	21.3	23.1	22.8	23.6	28.7	
	Combined Noise Level:	53.1	52.6	54.4	54.1	54.9	60.0	
R12	Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9	
	Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5	
	Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0	
	Dog Park	14.4	13.9	15.7	15.4	16.2	21.3	
	Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8	
R13	Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8	
	Roof-Top Air Conditioning Unit	38.5	38.0	39.8	39.5	40.3	45.4	
	Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1	
	Dog Park	12.7	12.2	14.0	13.7	14.5	19.6	
	Combined Noise Level:	49.4	48.9	50.7	50.4	51.2	56.3	
R14	Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4	
	Roof-Top Air Conditioning Unit	30.9	30.4	32.2	31.9	32.7	37.8	

Table 4.10-23. Project Operational Noise Levels (Daytime)

Receiver Location ¹		Noise Sources ²	Hourly Operational Noise Levels (dBA) ³					
			<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)
R15		Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	40.2	39.7	41.5	41.2	42.0	47.1
		Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
		Roof-Top Air Conditioning Unit	26.6	26.1	27.9	27.6	28.4	33.5
		Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	35.7	35.2	37.0	36.7	37.5	42.6

Notes:

- ¹ See Figure 4.10-3 for the receiver and noise source locations.
- ² Reference noise sources as shown on Tables 4.10-21 and 4.10-22.
- ³ Operational noise level calculations are provided in Appendix J.

Table 4.10-24 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 35.5 to 53 dBA *L_{eq}*.

Table 4.10-24. Project Operational Noise Levels (Nighttime)

Receiver Location		Noise Sources	Hourly Operational Noise Levels (dBA)					
			<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)
R1	City of Riverside	Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7
		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.2	43.7	45.5	45.2	46.0	51.1
R2		Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8
		Roof-Top Air Conditioning Unit	38.9	38.4	40.2	39.9	40.7	45.8
		Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	43.0	42.5	44.3	44.0	44.8	49.9
R3		Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	33.5	33.0	34.8	34.5	35.3	40.4

Table 4.10-24. Project Operational Noise Levels (Nighttime)

Receiver Location		Noise Sources	Hourly Operational Noise Levels (dBA)					
			<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)
R4		Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.8	42.3	44.1	43.8	44.6	49.7
		Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3
		Roof-Top Air Conditioning Unit	30.3	29.8	31.6	31.3	32.1	37.2
		Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.0	40.5	42.3	42.0	42.8	47.9
R5	County of Riverside	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
		Roof-Top Air Conditioning Unit	33.4	32.9	34.7	34.4	35.2	40.3
		Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.7	42.2	44.0	43.7	44.5	49.6
R6	March JPA	Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
		Roof-Top Air Conditioning Unit	29.4	28.9	30.7	30.4	31.2	36.3
		Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2
R7		Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1
		Roof-Top Air Conditioning Unit	31.9	31.4	33.2	32.9	33.7	38.8
		Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.5	44.0	45.8	45.5	46.3	51.4
R8		Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9
		Roof-Top Air Conditioning Unit	29.8	29.3	31.1	30.8	31.6	36.7
		Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.4	41.9	43.7	43.4	44.2	49.3
R9	City of Riverside	Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
		Roof-Top Air Conditioning Unit	41.2	40.7	42.5	42.2	43.0	48.1
		Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4

Table 4.10-24. Project Operational Noise Levels (Nighttime)

Receiver Location		Noise Sources	Hourly Operational Noise Levels (dBA)					
			<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)	<i>L_{max}</i> (Anytime)
R10		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.3	43.8	45.6	45.3	46.1	51.2
		Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0
		Roof-Top Air Conditioning Unit	34.9	34.4	36.2	35.9	36.7	41.8
		Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
R11	March JPA	Combined Noise Level:	45.7	45.2	47.0	46.7	47.5	52.6
		Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
		Roof-Top Air Conditioning Unit	39.2	38.7	40.5	40.2	41.0	46.1
		Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	53.0	52.5	54.3	54.0	54.8	59.9
R12		Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9
		Roof-Top Air Conditioning Unit	39.1	38.6	40.4	40.1	40.9	46.0
		Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	45.1	44.6	46.4	46.1	46.9	52.0
		Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8
R13		Roof-Top Air Conditioning Unit	36.1	35.6	37.4	37.1	37.9	43.0
		Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	49.3	48.8	50.6	50.3	51.1	56.2
		Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4
		Roof-Top Air Conditioning Unit	28.5	28.0	29.8	29.5	30.3	35.4
R14		Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	40.0	39.5	41.3	41.0	41.8	46.9
		Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
		Roof-Top Air Conditioning Unit	24.2	23.7	25.5	25.2	26.0	31.1
		Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
R15		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	35.5	35.0	36.8	36.5	37.3	42.4

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the March JPA exterior noise level standards at nearby noise-sensitive receiver locations. Table 4.10-25 shows that the daytime Project operational noise levels would fall below the noise level thresholds at all nearby receiver locations. Therefore, the daytime operational noise impacts would be **less than significant** at the nearby noise-sensitive receiver locations.

Table 4.10-25. Operational Noise Level Compliance (Daytime)

Receiver Location ¹		Noise Level at Receiver Locations (dBA) ²					Threshold Exceeded? ³	
		<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)		<i>L_{max}</i> (Anytime)
R1	City of Riverside	-.4	44.1	45.9	45.6	46.4	51.5	No
R2		-.4	43.6	45.4	45.1	45.9	51.0	No
R3		-.4	42.6	44.4	44.1	44.9	50.0	No
R4		-.4	40.8	42.6	42.3	43.1	48.2	No
R5	Riverside County	43.1	-.4	-.4	-.4	-.4	-.4	No
R6	March JPA	41.5	-.4	-.4	-.4	-.4	-.4	No
R7		44.7	-.4	-.4	-.4	-.4	-.4	No
R8		42.5	-.4	-.4	-.4	-.4	-.4	No
R9	City of Riverside	-.4	45.4	47.2	46.9	47.7	52.8	No
R10		-.4	45.5	47.3	47.0	47.8	52.9	No
R11	March JPA	53.1	-.4	-.4	-.4	-.4	-.4	No
R12		45.9	-.4	-.4	-.4	-.4	-.4	No
R13		49.4	-.4	-.4	-.4	-.4	-.4	No
R14		40.2	-.4	-.4	-.4	-.4	-.4	No
R15		35.7	-.4	-.4	-.4	-.4	-.4	No

Notes:

- ¹ See Figure 4.10-3 for the receiver and noise source locations.
- ² Estimated Project stationary source noise levels as shown on Table 4.10-22.
- ³ Refer to Table 4.10-10 for applicable thresholds.
- ⁴ Standards not applicable "Daytime" = 7:00 a.m. to 10:00 p.m.

Project nighttime operational noise level results from CadnaA are presented in Table 4.10-26. Table 4.10-26 shows that the nighttime Project operational noise levels would fall below the noise level thresholds at all nearby receiver locations. Therefore, the nighttime operational noise impacts would be **less than significant** at the nearby noise-sensitive receiver locations, and no mitigation is required.

Table 4.10-26. Operational Noise Level Compliance (Nighttime)

Receiver Location ¹		Noise Level at Receiver Locations (dBA) ²					Threshold Exceeded? ³	
		<i>L_{eq}</i> (Average)	<i>L₅₀</i> (30 mins)	<i>L₂₅</i> (15 mins)	<i>L₈</i> (5 mins)	<i>L₂</i> (1 min)		<i>L_{max}</i> (Anytime)
R1	City of	-.4	43.7	45.5	45.2	46.0	51.1	No
R2	Riverside	-.4	42.5	44.3	44.0	44.8	49.9	No

Table 4.10-26. Operational Noise Level Compliance (Nighttime)

Receiver Location ¹		Noise Level at Receiver Locations (dBA) ²						Threshold Exceeded? ³
		<i>Leq</i> (Average)	<i>L</i> ₅₀ (30 mins)	<i>L</i> ₂₅ (15 mins)	<i>L</i> ₈ (5 mins)	<i>L</i> ₂ (1 min)	<i>L</i> _{max} (Anytime)	
R3		-.4	42.3	44.1	43.8	44.6	49.7	No
R4		-.4	40.5	42.3	42.0	42.8	47.9	No
R5	Riverside County	42.7	-.4	-.4	-.4	-.4	-.4	No
R6	March JPA	41.3	-.4	-.4	-.4	-.4	-.4	No
R7		44.5	-.4	-.4	-.4	-.4	-.4	No
R8		42.4	-.4	-.4	-.4	-.4	-.4	No
R9	City of Riverside	-.4	43.8	45.6	45.3	46.1	51.2	No
R10		-.4	45.2	47.0	46.7	47.5	52.6	No
R11	March JPA	53.0	-.4	-.4	-.4	-.4	-.4	No
R12		45.1	-.4	-.4	-.4	-.4	-.4	No
R13		49.3	-.4	-.4	-.4	-.4	-.4	No
R14		40.0	-.4	-.4	-.4	-.4	-.4	No
R15		35.5	-.4	-.4	-.4	-.4	-.4	No

Notes: "Nighttime" = 10:00 p.m. to 7:00 a.m.

- ¹ See Figure 4.10-3 for the receiver and noise source locations.
- ² Estimated Project stationary source noise levels as shown on Table 4.10-22.
- ³ Refer to Table 4.10-10 for applicable thresholds
- ⁴ Standards not applicable

Operational Noise Level Contributions Combined With Ambient

Although the proposed Project is defined as the net change in impacts as compared to the 2003 Approved South Campus, for the purposes of analyzing project operations noise, this noise section evaluates the proposed South Campus Specific Plan compared to the existing ambient noise levels. To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, dB, are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \dots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level contributions to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 4.10-27 and 4.10-28, respectively. As indicated on Tables 4.10-27 and 4.10-28, the Project would generate daytime and nighttime operational noise level increases ranging from 0.0 to 2.7 dBA *Leq* at the nearby receiver locations. Project-related operational noise level contributions would therefore remain below the operational noise level significance criteria presented in Table 4.10-10; consequently, Project operational noise contribution increases at the sensitive receiver locations would be **less than significant**, and no mitigation is required.

Sound Reflection

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

Table 4.10-27. Project Operational Noise Level Contributions (Daytime)

Receiver Location	Total Project Operational Noise Level	Measurement Location	Reference Ambient Noise Level	Combined Project and Ambient	Project Increase ¹	Incremental Threshold ²	Incremental Threshold Exceeded? ²
R1	44.6	L2	73.8	73.8	0.0	1.5	No
R2	44.1	L2	73.8	73.8	0.0	1.5	No
R3	43.1	L3	58.2	58.3	0.1	5.0	No
R4	41.3	L3	58.2	58.3	0.1	5.0	No
R5	43.1	L5	54.4	54.7	0.3	5.0	No
R6	41.5	L5	54.4	54.6	0.2	5.0	No
R7	44.7	L6	49.6	50.8	1.2	5.0	No
R8	42.5	L6	49.6	50.4	0.8	5.0	No
R9	45.9	L9	74.2	74.2	0.0	1.5	No
R10	46.0	L10	65.9	65.9	0.0	1.5	No
R11	53.1	L4	60.7	61.4	0.7	3.0	No
R12	45.9	L2	73.8	73.8	0.0	1.5	No
R13	49.4	L4	60.7	61.0	0.3	3.0	No
R14	40.2	L5	54.4	54.6	0.2	5.0	No
R15	35.7	L5	54.4	54.5	0.1	5.0	No

Source: Appendix J

Notes:

- ¹ The noise level increase expected with the addition of the proposed Project activities.
- ² Significance Criteria as defined in Section 4.10.3, Thresholds of Significance.

Table 4.10-28. Project Operational Noise Level Contributions (Nighttime)

Receiver Location	Total Project Operational Noise Level	Measurement Location	Reference Ambient Noise Levels	Combined Project and Ambient	Project Increase ¹	Incremental Threshold ²	Incremental Threshold Exceeded? ²
R1	44.2	L2	71.6	71.6	0.0	1.5	No
R2	43.0	L2	71.6	71.6	0.0	1.5	No
R3	42.8	L3	53.3	53.7	0.4	5.0	No
R4	41.0	L3	53.3	53.5	0.2	5.0	No
R5	42.7	L5	50.1	50.8	0.7	5.0	No
R6	41.3	L5	50.1	50.6	0.5	5.0	No

Table 4.10-28. Project Operational Noise Level Contributions (Nighttime)

Receiver Location	Total Project Operational Noise Level	Measurement Location	Reference Ambient Noise Levels	Combined Project and Ambient	Project Increase ¹	Incremental Threshold ²	Incremental Threshold Exceeded? ²
R7	44.5	L6	45.1	47.8	2.7	5.0	No
R8	42.4	L6	45.1	47.0	1.9	5.0	No
R9	44.3	L9	70.5	70.5	0.0	1.5	No
R10	45.7	L10	62.4	62.5	0.1	3.0	No
R11	53.0	L4	59.3	60.2	0.9	5.0	No
R12	45.1	L2	71.6	71.6	0.0	1.5	No
R13	49.3	L4	59.3	59.7	0.4	5.0	No
R14	40.0	L5	50.1	50.5	0.4	5.0	No
R15	35.5	L5	50.1	50.2	0.1	5.0	No

Source: Appendix J

Notes:

- ¹ The noise level increase expected with the addition of the proposed Project activities.
- ² Significance Criteria as defined in Section 4.10.3.

As discussed in the 2003 Focused EIR, operational noise level impacts from the 2003 Approved South Campus on noise-sensitive uses in the surrounding area were determined to be potentially significant. Mitigation measures J-3 through J-7 were prescribed to reduce operational impacts to a less-than-significant residual level. The quantification of operational noise for the Project (as described above) concludes that operational noise levels resulting from the Project would be **less than significant**. Consequently, based on more comprehensive analysis, the Project would have fewer operational noise impacts, as compared to the 2003 Approved South Campus. No further mitigation measures are required, although mitigation measures J-3 through J-7 from the 2003 Focused EIR will still be required through the MMRP for the Project to maintain less-than-significant noise impacts.

Construction Noise

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Figure 4.10-5, Construction Noise Source Locations, shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described. The identified resulting construction noise levels later in the discussion include the barrier attenuation provided the existing barriers, as shown in Figure 4.10-5, Construction Noise Source Locations. Appendix J provides the construction noise level calculations.

Construction Noise Standards

To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis employs appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside. Construction noise standards are presented in Section 4.10.2, Relevant Plans, Policies, and Ordinances (summarized in Table 4.10-7).

Construction Noise Reference Levels

Noise generated by the Project construction equipment would include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment, for both the Village West Drive extension and the Meridian South Campus, is expected to occur in the following stages:

Village West Drive Extension

- Grubbing/Land Clearing
- Grading/Excavation
- Drainage/Utilities/Sub grade
- Paving

South Campus Specific Plan

- Site Preparation
- Grading
- Building Construction
- Architectural Coating
- Paving

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver. Table 4.10-29 provides a summary of the construction reference noise level measurements.

Table 4.10-29. Construction Reference Noise Levels

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance		Reference Noise Levels @ 50 Feet ⁹	
			dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}
1	Truck Pass-Bys & Dozer Activity ¹	30	63.6	68.1	59.2	63.7
2	Backhoe Activity ¹	30	68.6	76.4	64.2	72.0
3	Construction Vehicle Maintenance Activities ²	30	71.9	74.8	67.5	70.4
4	Foundation Trenching ²	30	72.6	74.9	68.2	70.5
5	Rough Grading Activities ²	30	77.9	84.8	73.5	80.4
6	Water Truck Pass-By & Backup Alarm ³	30	76.3	82.3	71.9	77.9
7	Concrete Mixer Truck Movements ⁴	50	71.2	73.1	71.2	73.1
8	Concrete Paver Activities ⁴	30	70.0	75.7	65.6	71.3
9	Concrete Mixer Pour & Paving Activities ⁴	30	70.3	76.3	65.9	71.9
10	Concrete Mixer Backup Alarms & Air Brakes ⁴	50	71.6	78.8	71.6	78.8
11	Concrete Mixer Pour Activities ⁴	50	67.7	79.2	67.7	79.2
12	Demolition Activity ⁵	50	67.9	81.6	67.9	81.6

Table 4.10-29. Construction Reference Noise Levels

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance		Reference Noise Levels @ 50 Feet ⁹	
			dBA L_{eq}	dBA L_{max}	dBA L_{eq}	dBA L_{max}
13	Air Compressors ⁶	10	79.2	81.0	65.2	67.0
14	Generator ⁷	50	64.9	67.0	64.9	67.0
15	Crane ⁸	30	66.7	69.6	62.3	65.2

Notes:

- ¹ As measured by Urban Crossroads on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.
- ² As measured by Urban Crossroads on 10/20/15 at a construction site located in Rancho Mission Viejo.
- ³ As measured by Urban Crossroads on 10/30/15 during grading operations in an industrial construction site located in the City of Ontario.
- ⁴ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on July 1, 2015.
- ⁵ As measured by Urban Crossroads on 9/9/16 during the demolition of an existing paved parking lot at 41 Corporate Park in Irvine.
- ⁶ As measured by Urban Crossroads on 9/16/2015 at the Giant RV Parts and Service Center (41150 Juniper Street in the City of Murrieta).
- ⁷ As measured by Urban Crossroads on July 14, 2012, at the Dollar General Store (700 South San Jacinto Avenue in the City of San Jacinto).
- ⁸ As measured by Urban Crossroads on May 18, 2017, at the 260 E. Baker Street in the City of Costa Mesa.
- ⁹ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

Construction Noise Levels – Daytime

The complete construction noise analysis calculations are provided in Appendix J. Tables 4.10-30 and 4.10-31 provide a summary of the daytime noise levels from each stage of construction at each of the sensitive receiver locations in dBA L_{eq} and dBA L_{max} , respectively. Based on the reference construction noise levels, the Project-related daytime construction noise levels when the peak reference noise level is operating at a single point nearest the sensitive receiver location would range from 36 to 64 dBA L_{eq} and 38 to 72 dBA L_{max} . The worst-case combined noise level of all grading equipment during the grading stage of project construction was employed to present a conservative approach. As such, the results of the grading stage is presented as a worst-case construction noise level with all equipment operating simultaneously from a single point during the grading activities. In reality, this would not occur since all the equipment cannot operate from a single point closest to the sensitive receiver locations but is presented herein to provide a conservative analysis.

Table 4.10-30. Daytime Construction Equipment Noise Level Summary (dBA L_{eq})

Receiver Location ¹	Village West Drive Extension (dBA L_{eq})				Construction Stage (dBA L_{eq})					
	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	58.3	58.3	50.0	56.4	52.7	58.3	53.0	56.4	50.0	58.3
R2	57.7	57.7	49.4	55.8	52.1	57.7	52.4	55.8	49.4	57.7
R3	50.2	50.2	41.9	48.3	44.6	50.2	44.9	48.3	41.9	50.2
R4	44.2	44.2	35.9	42.3	38.6	44.2	38.9	42.3	35.9	44.2

Table 4.10-30. Daytime Construction Equipment Noise Level Summary (dBA L_{eq})

Receiver Location ¹	Village West Drive Extension (dBA L _{eq})				Construction Stage (dBA L _{eq})					
	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R5	55.9	55.9	47.6	54.0	50.3	55.9	50.6	54.0	47.6	55.9
R6	44.8	44.8	36.5	42.9	39.2	44.8	39.5	42.9	36.5	44.8
R7	45.7	45.7	37.4	43.8	40.1	45.7	40.4	43.8	37.4	45.7
R8	44.3	44.3	36.0	42.4	38.7	44.3	39.0	42.4	36.0	44.3
R9	61.1	61.1	52.8	59.2	55.5	61.1	55.8	59.2	52.8	61.1
R10	60.5	60.5	52.2	58.6	54.9	60.5	55.2	58.6	52.2	60.5
R11	61.2	61.2	52.9	59.3	55.6	61.2	55.9	59.3	52.9	61.2
R12	60.9	60.9	52.6	59.0	55.3	60.9	55.6	59.0	52.6	60.9
R13	58.1	58.1	49.8	56.2	52.5	58.1	52.8	56.2	49.8	58.1
R14	44.4	44.4	36.1	42.5	38.8	44.4	39.1	42.5	36.1	44.4
R15	64.3	64.3	56.0	62.4	58.7	64.3	59.0	62.4	56.0	64.3

Notes:

- ¹ Noise receiver locations are shown on Figure 4.10-3.
² Estimated construction noise levels during peak operating conditions.

Table 4.10-31. Daytime Construction Equipment Noise Level Summary (dBA L_{max})

Receiver Location ¹	Village West Drive Extension (dBA L _{max})				Construction Stage (dBA L _{max})					
	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	65.2	65.2	56.8	64.0	66.4	65.2	56.8	64.0	51.8	66.4
R2	64.6	64.6	56.2	63.4	65.8	64.6	56.2	63.4	51.2	65.8
R3	57.1	57.1	48.7	55.9	58.3	57.1	48.7	55.9	43.7	58.3
R4	51.1	51.1	42.7	49.9	52.3	51.1	42.7	49.9	37.7	52.3
R5	62.8	62.8	54.4	61.6	64.0	62.8	54.4	61.6	49.4	64.0
R6	51.7	51.7	43.3	50.5	52.9	51.7	43.3	50.5	38.3	52.9
R7	52.6	52.6	44.2	51.4	53.8	52.6	44.2	51.4	39.2	53.8
R8	51.2	51.2	42.8	50.0	52.4	51.2	42.8	50.0	37.8	52.4
R9	68.0	68.0	59.6	66.8	69.2	68.0	59.6	66.8	54.6	69.2
R10	67.4	67.4	59.0	66.2	68.6	67.4	59.0	66.2	54.0	68.6
R11	68.1	68.1	59.7	66.9	69.3	68.1	59.7	66.9	54.7	69.3
R12	67.8	67.8	59.4	66.6	69.0	67.8	59.4	66.6	54.4	69.0
R13	65.0	65.0	56.6	63.8	66.2	65.0	56.6	63.8	51.6	66.2
R14	51.3	51.3	42.9	50.1	52.5	51.3	42.9	50.1	37.9	52.5
R15	71.2	71.2	62.8	70.0	72.4	71.2	62.8	70.0	57.8	72.4

Notes:

- ¹ Noise receiver locations are shown on Figure 4.10-3.
² Estimated construction noise levels during peak operating conditions.

Construction Noise Levels – Nighttime

The complete construction noise analysis calculations are provided in Appendix J. Project construction may include nighttime concrete pour activities. Nighttime concrete pours are typically conducted when construction occurs during the summer months due to the warmer daytime weather conditions which can interfere with the concrete drying process. This construction noise analysis of the potential nighttime concrete pour activities was prepared using reference noise level measurements collected by Urban Crossroads to describe the typical construction activity noise levels during nighttime concrete pour construction activities.

With respect to the regulation of nighttime construction activities, March JPA prohibits construction activities in the overnight period within 500 feet of a residence. The City of Riverside prohibits nighttime construction activities in the overnight period, regardless of the distance to the closest residences that could be affected. The County of Riverside prohibits construction in the overnight period when residences are located within 0.25 miles (1,320 feet) of the construction activity. These prohibitions are intended to avoid annoyance or sleep disturbance caused by construction activities in the particularly sensitive overnight period. However, each jurisdiction maintains noise generation limits that apply to any activity that occurs in the overnight period; these limits are typically lower than daytime limits, and are also designed to avoid annoyance from nighttime noise-generating activities. Consequently, for nighttime construction activities that would normally not be allowed by the general overnight prohibition (due to proximity to residences), the noise levels are compared to the allowable overnight noise level limits at the identified receivers. This approach holds construction noise levels in the overnight period to the same standard as noise from any other source. Compliance with nighttime noise standards is presented following the summary of calculated noise levels from nighttime construction activities.

Table 4.10-32 shows the nighttime pour reference construction noise levels at each of the sensitive receiver locations. Figure 4.10-6, Nighttime Construction Activity Locations, shows the location of the nighttime concrete pour activities, generally around the proposed buildings and truck courts within the Project site, and the distance to each receiver location. Based on the reference nighttime concrete pour reference equipment noise levels, the noise levels at the nearby sensitive receiver locations would range from 36.2 to 59.1 dBA L_{eq} and 43.8 to 66.7 dBA L_{max} .

Table 4.10-32. Nighttime Concrete Pour Equipment Noise Levels

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L_{eq})	Reference Noise Level @ 50 Feet (dBA L_{max})
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Table 4.10-32. Nighttime Concrete Pour Equipment Noise Levels

Reference Construction Activity ¹				Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Calculated Noise Barrier Attenuation (dBA) ⁴	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	284	-15.1	-5.0	51.5	59.1
R2	851	-24.6	-5.0	42.0	49.6
R3	1,646	-30.3	0.0	41.3	48.9
R4	1,404	-29.0	0.0	42.6	50.2
R5	463	-19.3	0.0	52.3	59.9
R6	1,440	-29.2	0.0	42.4	50.0
R7	643	-22.2	-5.0	44.4	52.0
R8	812	-24.2	-5.0	42.4	50.0
R9	648	-22.3	-5.0	44.3	51.9
R10	228	-13.2	-5.0	53.4	61.0
R11	210	-12.5	0.0	59.1	66.7
R12	1,271	-28.1	0.0	43.5	51.1
R13	247	-13.9	0.0	57.7	65.3
R14	1,503	-29.6	0.0	42.0	49.6
R15	2,944	-35.4	0.0	36.2	43.8

Notes:

- ¹ Reference construction noise level measurements taken by Urban Crossroads.
- ² Distance from the nearest point of construction activity (building foundation and truck court) to the nearest receiver.
- ³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
- ⁴ Calculated barrier attenuation from existing barriers in the Project study area (Appendix J).

Construction Noise Levels – Compliance With Standards

The construction noise analysis shows that the highest construction noise levels would occur when construction activities take place at the edge of the Project site. Table 4.10-33 shows the unmitigated peak daytime construction noise levels at the nearby sensitive receiver locations would range from 44.2 to 64.3 dBA L_{eq} and 52.3 to 72.4 dBA L_{max} and would fall below the daytime construction noise level significance thresholds for each jurisdiction at the nearby sensitive receiver locations. Daytime construction noise levels from the Project are therefore **less than significant**, and no mitigation is required.

Table 4.10-33. Daytime Construction Noise Level Compliance With Standards

Receiver Location ¹	Closest Distance to Receiver (Feet)	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
			dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}
R1	161	City of Riverside	58.3	66.4	—	75	—	No
R2	173		57.7	65.8	—	75	—	No
R3	729		50.2	58.3	—	75	—	No

Table 4.10-33. Daytime Construction Noise Level Compliance With Standards

Receiver Location ¹	Closest Distance to Receiver (Feet)	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
			<i>dBA L_{eq}</i>	<i>dBA L_{max}</i>	<i>dBA L_{eq}</i>	<i>dBA L_{max}</i>	<i>dBA L_{eq}</i>	<i>dBA L_{max}</i>
R4	1,452		44.2	52.3	—	75	—	No
R5	378	Riverside County	55.9	64.0	65	—	No	—
R6	1,362	March JPA	44.8	52.9	65	—	No	—
R7	687		45.7	53.8	65	—	No	—
R8	812		44.3	52.4	65	—	No	—
R9	117	City of Riverside	61.1	69.2	—	75	—	No
R10	126		60.5	68.6	—	75	—	No
R11	207	March JPA	61.2	69.3	—	—	—	No
R12	213		60.9	69.0	—	—	—	No
R13	294		58.1	66.2	—	—	—	No
R14	1,422		44.4	52.5	65	—	No	—
R15	81		64.3	72.4	65	—	No	—

Notes:

- ¹ Noise receiver locations are shown on Figure 4.10-3.
- ² Estimated construction noise levels during peak operating conditions, as shown on Tables 4.10-33 and 4.10-34.
- ³ Construction noise standards as shown on Table 4.10-7.
- ⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

Table 4.10-34 shows the unmitigated peak nighttime construction noise levels at the nearby sensitive receiver locations would range from 36.2 to 59.1 *dBA L_{eq}* and 43.8 to 66.7 *dBA L_{max}* and would therefore fall below the nighttime construction noise level significance thresholds for each jurisdiction at the nearby sensitive receiver locations. Receiver location R5 representing the Riverside National Cemetery is shown to exceed the County of Riverside nighttime noise standards. However, this location does not include any noise sensitive receivers that would be impacted during the nighttime hours. Therefore, the construction of the Project would result in a **less-than-significant** noise impact at the nearby sensitive receiver locations during peak nighttime construction activity, and no mitigation is required.

As discussed in the 2003 Focused EIR, construction noise level impacts from the 2003 Approved South Campus on noise-sensitive uses in the surrounding area were determined to be less than significant, based on the assumption of daytime construction only and the presence of mufflers on all construction equipment. Mitigation measure J-2 was prescribed in order to ensure all equipment would have mufflers. The quantification of construction-related noise levels for the proposed Project (as described above) concludes that even nighttime construction noise levels resulting from the Project would be **less than significant**. Consequently, the Project would have comparable construction noise impacts to the 2003 Approved South Campus. Mitigation measure J-2 from the 2003 Focused EIR would be required to ensure construction noise impacts are less than significant. Additionally, to further reduce potential nighttime noise impacts, mitigation measure **MM-NOI-1** is included in the Project. This measure requires that if the proposed project commences construction before the allowed construction commencement hour (7:00 a.m.) or commences construction on a Sunday, unless directed by an inspector or prior permission is obtained, the March JPA can impose the following monetary penalty: \$10,000 for the first violation, \$15,000 for the second violation, and \$20,000 for the third violation.

Table 4.10-34. Nighttime Construction Noise Level Compliance With Standards

Receiver Location ¹	Closest Distance to Receiver (Feet)	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
			dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}
R1	284	City of Riverside	51.5	59.1	—	65	—	No
R2	851		42.0	49.6	—	65	—	No
R3	1,646		41.3	48.9	—	65	—	No
R4	1,404		42.6	50.2	—	65	—	No
R5	463	Riverside County	52.3	59.9	45	—	Yes	—
R6	1,440	March JPA	42.4	50.0	45	—	No	—
R7	643		44.4	52.0	45	—	No	—
R8	812		42.4	50.0	45	—	No	—
R9	648	City of Riverside	44.3	51.9	—	65	—	No
R10	228		53.4	61.0	—	65	—	No
R11	210	March JPA	59.1	66.7	—	—	—	No
R12	1,271		43.5	51.1	—	—	—	No
R13	247		57.7	65.3	-	—	—	No
R14	1,503		42.0	49.6	45	—	No	—
R15	2,944		36.2	43.8	45	—	No	—

Notes:

- ¹ Noise receiver locations are shown on Figure 4.10-3.
- ² Estimated construction noise levels during peak operating conditions, as shown on Tables 4.10-33 and 4.10-34.
- ³ Construction noise standards as shown on Table 4.10-7.
- ⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

Temporary Construction Noise Level Increases

To describe the temporary project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. The difference between the combined Project-construction and ambient noise levels are used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime and nighttime conditions are presented on Tables 4.10-35 and 4.10-36, respectively. A temporary noise level increase of 12 dBA is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases.

As indicated in Table 4.10-35, the Project would contribute unmitigated, worst-case construction noise level increases ranging from approximately 0 to 10 dBA L_{eq} during the daytime hours at the closest sensitive receiver locations. Table 4.10-36 shows the Project would contribute unmitigated, worst-case construction noise level increases approaching 4 dBA L_{eq} during the nighttime hours at the closest sensitive receiver locations. Since the worst-case temporary noise level increases of up to 10 dBA L_{eq} during Project construction would be below the Caltrans *substantial* 12 dBA L_{eq} noise level increase significance threshold, the unmitigated construction noise level increases would be **less-than-significant** temporary noise impacts, and no mitigation is required.

Table 4.10-35. Unmitigated Daytime Temporary Construction Noise Level Increases

Receiver Location ¹	Distance to Receiver (Feet)	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	161	58.3	L2	73.8	73.9	0.1	No
R2	173	57.7	L2	73.8	73.9	0.1	No
R3	729	50.2	L3	58.2	58.8	0.6	No
R4	1,452	44.2	L3	58.2	58.4	0.2	No
R5	378	55.9	L5	54.4	58.2	3.8	No
R6	1,362	44.8	L5	54.4	54.8	0.4	No
R7	687	45.7	L6	49.6	51.1	1.5	No
R8	812	44.3	L6	49.6	50.7	1.1	No
R9	117	61.1	L9	74.2	74.4	0.2	No
R10	126	60.5	L10	65.9	67.0	1.1	No
R11	207	61.2	L4	60.7	63.9	3.2	No
R12	213	60.9	L2	73.8	74.0	0.2	No
R13	294	58.1	L4	60.7	62.6	1.9	No
R14	1,422	44.4	L5	54.4	54.8	0.4	No
R15	81	64.3	L5	54.4	64.7	10.3	No

Notes:

- ¹ Noise receiver locations are shown on Figure 4.10-3.
- ² Peak unmitigated Project construction noise levels as shown on Tables 4.10-31.
- ³ Ambient noise level measurement locations as shown on Figure 4.10-2.
- ⁴ Observed daytime ambient noise levels, refer to Appendix J.
- ⁵ Represents the combined ambient conditions plus the Project construction activities.
- ⁶ The temporary noise level increase expected with the addition of the proposed Project activities.
- ⁷ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.10.3.

Table 4.10-36. Unmitigated Nighttime Temporary Construction Noise Level Increases

Receiver Location ¹	Distance to Receiver (Feet)	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	284	51.5	L2	71.6	71.6	0.0	No
R2	851	42.0	L2	71.6	71.6	0.0	No
R3	1,646	41.3	L3	53.3	53.6	0.3	No
R4	1,404	42.6	L3	53.3	53.7	0.4	No
R5	463	52.3	L5	50.1	54.3	4.2	No
R6	1,440	42.4	L5	50.1	50.8	0.7	No
R7	643	44.4	L6	45.1	47.8	2.7	No
R8	812	42.4	L6	45.1	47.0	1.9	No
R9	648	44.3	L9	70.5	70.5	0.0	No
R10	228	53.4	L10	62.4	62.9	0.5	No
R11	210	59.1	L4	59.3	62.2	2.9	No
R12	1,271	43.5	L2	71.6	71.6	0.0	No
R13	247	57.7	L4	59.3	61.6	2.3	No
R14	1,503	42.0	L5	50.1	50.7	0.6	No

Table 4.10-36. Unmitigated Nighttime Temporary Construction Noise Level Increases

Receiver Location ¹	Distance to Receiver (Feet)	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R15	2,944	36.2	L5	50.1	50.3	0.2	No

Notes:

- 1 Noise receiver locations are shown on Figure 4.10-3.
- 2 Peak unmitigated Project construction noise levels as shown in Table 4.10-31.
- 3 Ambient noise level measurement locations as shown on Figure 4.10-2.
- 4 Observed nighttime ambient noise levels, refer to Appendix J.
- 5 Represents the combined ambient conditions plus the Project construction activities.
- 6 The temporary noise level increase expected with the addition of the proposed Project activities.
- 7 Based on the 12 dBA temporary increase significance criteria as defined in Section 4.10.3.

NOI-2. Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?**Construction Vibration Impacts**

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- **Heavy Construction Equipment:** Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.
- **Trucks:** Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the FTA. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading and paving. Using the vibration source level of construction equipment provided by the FTA, and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 4.10-37 presents the expected Project related vibration levels at the 15 receiver locations.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec (PPV) at 25 feet. At distances ranging from 81 to 1,422 feet from the Project site, construction vibration velocity levels are expected to range from 0.00 to 0.15 in/sec (PPV), as shown on Table 4.10-37. To assess the human perception of vibration levels in PPV, the velocities are converted to RMS vibration levels based on the Caltrans Transportation and Construction Vibration Guidance Manual conversion factor of 0.71 (Caltrans 2019). Table 4.10-37 shows the construction vibration levels in RMS are expected to range from 0.00 to 0.01 in/sec (RMS). Based on the

County of Riverside vibration standard of 0.01 in/sec RMS, the construction-related vibration impacts would be **less than significant**.

Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating at the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with March JPA requirements thereby eliminating potential vibration impacts during the sensitive nighttime hours.

As discussed in the 2003 Focused EIR, construction-related vibration level impacts from the 2003 Approved South Campus on vibration-sensitive land uses in the surrounding area were determined to be less than significant. Based on more comprehensive analysis (as described above), the proposed Project would have **less-than-significant** construction-related vibration impacts. In this regard, Project construction-related vibration impacts would be comparable to the 2003 Approved South Campus and would be less than significant. No mitigation measures are required.

Table 4.10-37. Construction Activity Vibration Levels

Receiver Location	Distance To Const. Activity (Feet)	Receiver PPV Levels (inches per second)					RMS Velocity Levels (in/sec)	Threshold Exceeded?
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration (PPV)		
R1	161	0.000	0.002	0.005	0.005	0.005	0.00	No
R2	173	0.000	0.002	0.004	0.005	0.005	0.00	No
R3	729	0.000	0.000	0.000	0.001	0.001	0.00	No
R4	1,452	0.000	0.000	0.000	0.000	0.000	0.00	No
R5	378	0.000	0.001	0.001	0.002	0.002	0.00	No
R6	1,362	0.000	0.000	0.000	0.000	0.000	0.00	No
R7	687	0.000	0.000	0.001	0.001	0.001	0.00	No
R8	812	0.000	0.000	0.000	0.000	0.000	0.00	No
R9	117	0.000	0.003	0.008	0.009	0.009	0.01	No
R10	126	0.000	0.003	0.007	0.008	0.008	0.01	No
R11	207	0.000	0.001	0.003	0.004	0.004	0.00	No
R12	213	0.000	0.001	0.003	0.004	0.004	0.00	No
R13	294	0.000	0.001	0.002	0.002	0.002	0.00	No
R14	1,422	0.000	0.000	0.000	0.000	0.000	0.00	No
R15	81	0.001	0.006	0.013	0.015	0.015	0.01	No

Source: Appendix J

Operational Vibration Impacts

To assess the potential vibration impacts from truck haul trips associated with operational activities, the County of Riverside threshold for vibration of 0.01 in/sec RMS is used. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. According to the FTA Transit Noise Impact and Vibration Assessment, trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS (unless there are bumps due to frequent potholes in the road). Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the County of Riverside vibration threshold of 0.01 in/sec RMS, and therefore, will be **less than significant**.

As discussed in the 2003 Focused EIR, operational vibration level impacts from the 2003 Approved South Campus on vibration-sensitive land uses in the surrounding area were determined to be less than significant. As described above, the Project would also have **less-than-significant** operational vibration impacts. In this regard, Project operational vibration impacts would be comparable to the 2003 Approved South Campus. No mitigation measures are required.

NOI-3. Would the Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?

The closest airport to the Project site is the March ARB/IPA, which is located approximately 1 mile east of the most eastern portion of the Project site. As previously indicated, the noise contour boundaries of March ARB/IPA are presented on Figure 4.10-1 of this section and show that the Project would be considered a normally acceptable land use since it is located outside of the 60 dBA CNEL contour. Moreover, the March ARB/IPA LUCP indicates that no uses are prohibited in this area except for highly noise-sensitive outdoor nonresidential uses (e.g., sports stadiums, concert halls), and therefore, impacts would be **less than significant**, and no mitigation is required. As discussed in the 2003 Focused EIR, noise exposure levels associated with March ARB/IPA were also determined to be less than significant. In this regard, airport noise exposure impacts of the Project would be comparable to the 2003 Approved South Campus. No additional mitigation measures are required.

NOI-4. Would the Project result in aircraft operations (i.e., aircraft landings and/or takeoffs) at the March Inland Port Airport between 10:00 p.m. and 6:59 a.m. that could expose people within the March Inland Port Airport's vicinity to a significant risk of sleep disturbance due to noise, as based on a single event noise exposure level analysis?

The proposed Project would not result in aircraft operations at the March Inland Port Airport. As discussed in Chapter 3, Project Description, the proposed Project would involve amending the South Campus Specific Plan to shift the mix of uses. The proposed Project also includes Plot Plan approvals for five components of the South Campus buildout none of which result in aircraft operations. As such, **no impacts** to aircraft operations would occur with implementation of the proposed Project.

4.10.5 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce noise impacts to less than significant and will be incorporated into the MMRP for the Project:

Short Term

- J-2** All construction equipment used for construction activities shall be fitted with exhaust muffling and noise control filter devices to reduce noise impacts.

Long Term

- J-3** Information and location of noise sensitive receptors shall be reviewed and updated by March JPA staff to ensure that all sensitive receptors that may be affected by the long-term implications of the proposed Specific Plan are identified. These sensitive receptors shall include the existing schools.

- J-4** Building setbacks and methods of sound attenuation shall be considered and used where appropriate with specific development proposals in the planning area to limit stationary and vehicular long-term noise impacts upon sensitive noise receptors.
- J-6** Industrial and noise sensitive receptors (residential, schools, churches, hospitals, libraries, and senior housing) will be separated sufficiently to reduce the noise impact to sensitive receptors to an insignificant level.
- J-7** Separate residential uses and truck routes so that noise impacts will be contained without unnecessary lengthening truck trips.

With implementation of the above mitigation measures, the Project would not result in any new significant noise impacts; however, to further reduce construction noise impacts, the following additional mitigation measure is incorporated into the Project.

- MM-NOI-1** Unless directed by an inspector or prior permission is obtained, if the proposed Project commences construction before the allowed construction commencement hour (7:00 a.m.) or commences construction on a Sunday, the March Joint Powers Authority can impose the following monetary penalty: \$10,000 for the first violation, \$15,000 for the second violation, and \$20,000 for the third violation.

4.10.6 Level of Significance After Mitigation

No additional mitigation measures beyond those included in the 2003 Focused EIR are required; however, to further reduce noise impacts, MM-NOI-1 is incorporated into the Project. The Project would result in less than significant noise impacts as currently proposed.

4.10.7 Cumulative Effects

Construction noise impacts are highly localized (i.e., these do not generally affect the community noise level at distances beyond 1,500 feet). However, with simultaneous construction activities occurring at two or more project sites in close proximity to one another, the construction noise levels experienced at local receivers could be greater than for construction of each individual project. However, given the large scale of the Project site, and therefore the distribution of equipment across a large area at any given point in time during Project construction, the average construction noise levels at any given residence in proximity to the Project site would not be anticipated to be materially different for Project construction efforts combined with other local projects that could overlap in construction schedule, as compared to the Project by itself.

Non-transportation noise sources (e.g., Project operation) are typically Project-specific and highly localized (i.e., these do not generally affect the community noise level at distances beyond several hundred feet). As other development occurs in the area, noise from different types of uses (e.g., traffic, aircraft, fixed noise sources) would continue to combine, albeit on a localized basis, to cause increases in overall background noise conditions within the area. As a result, such sources do not significantly contribute to cumulative noise impacts at distant locations and are not evaluated on a cumulative level.

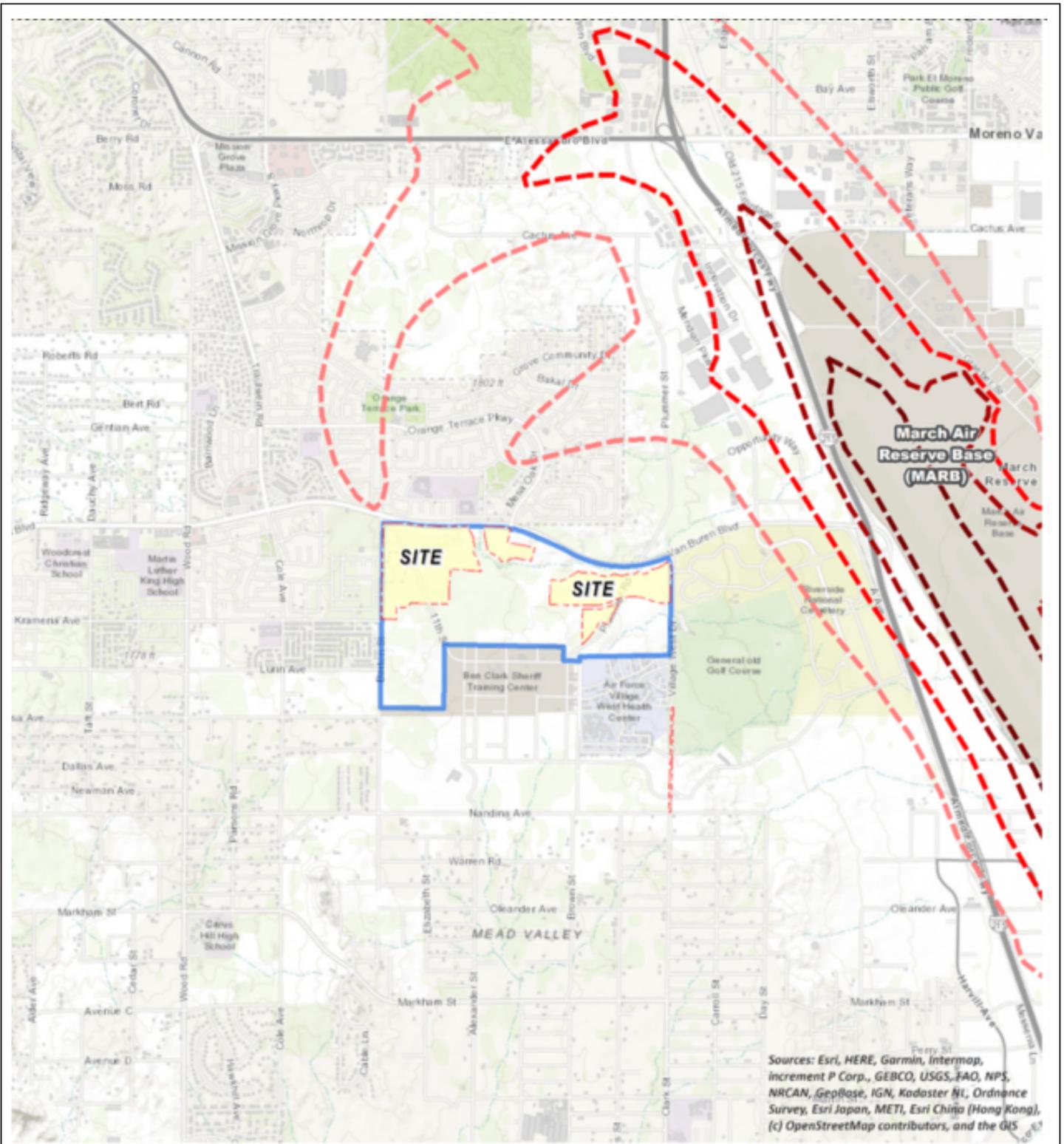
The Project would generate roadway traffic, which would be added to roadway volumes generated by other projects on the assembled cumulative project list. The traffic impact assessment evaluated the resulting roadway volumes

from the proposed Project, in combination with the traffic generated from the cumulative project list. Urban Crossroads evaluated the change in community noise level for existing residences along roadways to which the Project would contribute trips, compared to the noise level from cumulative projects. That cumulative traffic noise analysis concluded the Project would not contribute substantially to any cumulative traffic noise impact.

As discussed in the 2003 Focused EIR, cumulative noise impacts were determined to be less than significant. As described above, the Project would also have **less-than-significant** cumulative noise impacts. In this regard, cumulative noise impacts to which the Project would contribute are comparable to the 2003 Approved South Campus. No additional mitigation measures are required.

4.10.8 References Cited

- Caltrans (California Department of Transportation). 1995. Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report. June 1995. FHWA/CA/TL-95/23.
- Caltrans. 2013. Technical Noise Supplement – A Technical Supplement to the Traffic Noise Analysis Protocol. Sacramento, CA, September 2013.
- Caltrans. 2019. Transportation and Construction Vibration Guidance Manual. September 2019.
- County of Riverside. 2014. Airport Land Use Compatibility Plan. October 2004.
- County of Riverside. 2015. General Plan Noise Element. December 2015.
- DOT (U.S. Department of Transportation, Federal Highway Administration Office of Environment and Planning, Noise and Air Quality Branch). 1978. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
- DOT. 2011. Highway Traffic Noise Analysis and Abatement Policy and Guidance. December 2011.
- EPA (U.S. Environmental Protection Agency Office of Noise Abatement and Control). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. EPA/ONAC 550/9/74-004.
- FICON (Federal Interagency Committee on Noise). 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- March JPA (Joint Powers Authority). 1999. General Plan Noise/Air Quality Element. 1999.
- March JPA. 2010. General Plan Update 2030 Noise/Air Quality Element. March 2010.
- OPR (State of California, Office of Planning and Research). 2018. General Plan Guidelines. 2018.



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS



LEGEND:

- Project Site Boundary
- South Campus Specific Plan

Unmitigated MARB Noise Level Contour Boundaries

- 60 dBA CNEL
- 65 dBA CNEL
- 70 dBA CNEL
- 75 dBA CNEL

Source: Riverside County Airport Land Use Compatibility Plan, Exhibit MA-4

SOURCE: Urban Crossroads, May 2020

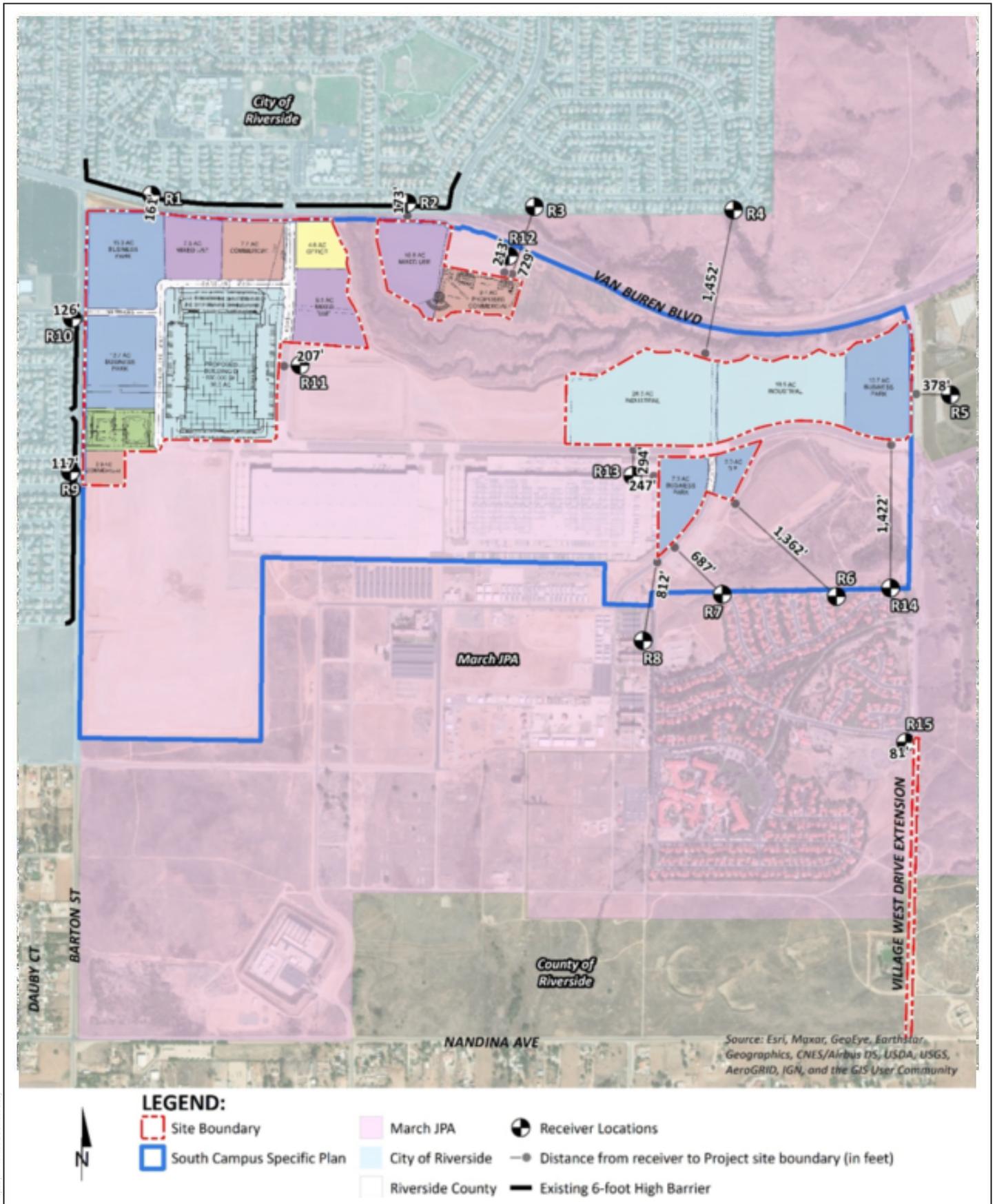
FIGURE 4.10-1

March Air Reserve Base Noise Contours

Meridian South Campus EIR

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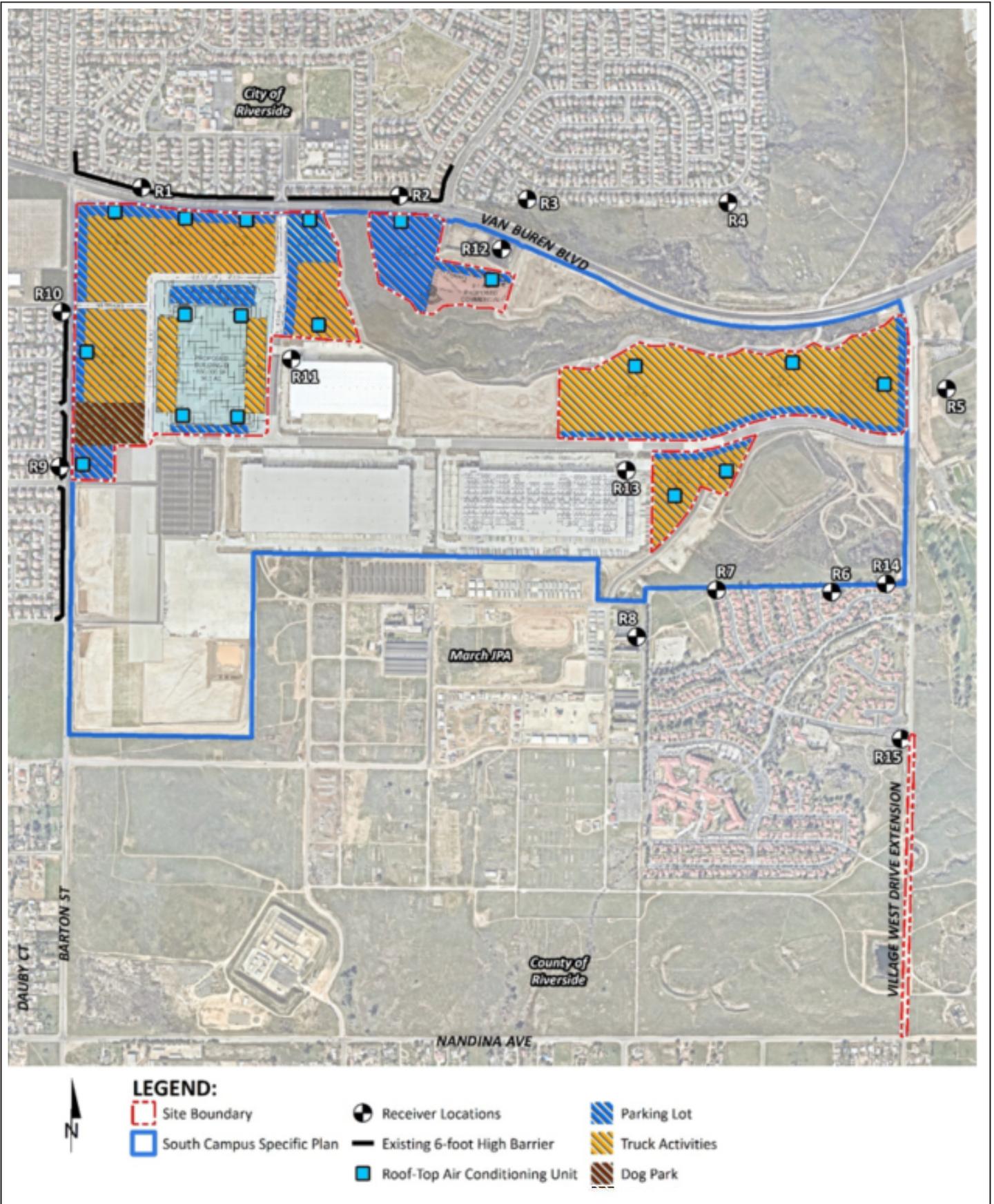
SOURCE: Urban Crossroads, May 2020

FIGURE 4.10-3

Noise Sensitive Receiver Locations

Meridian South Campus EIR

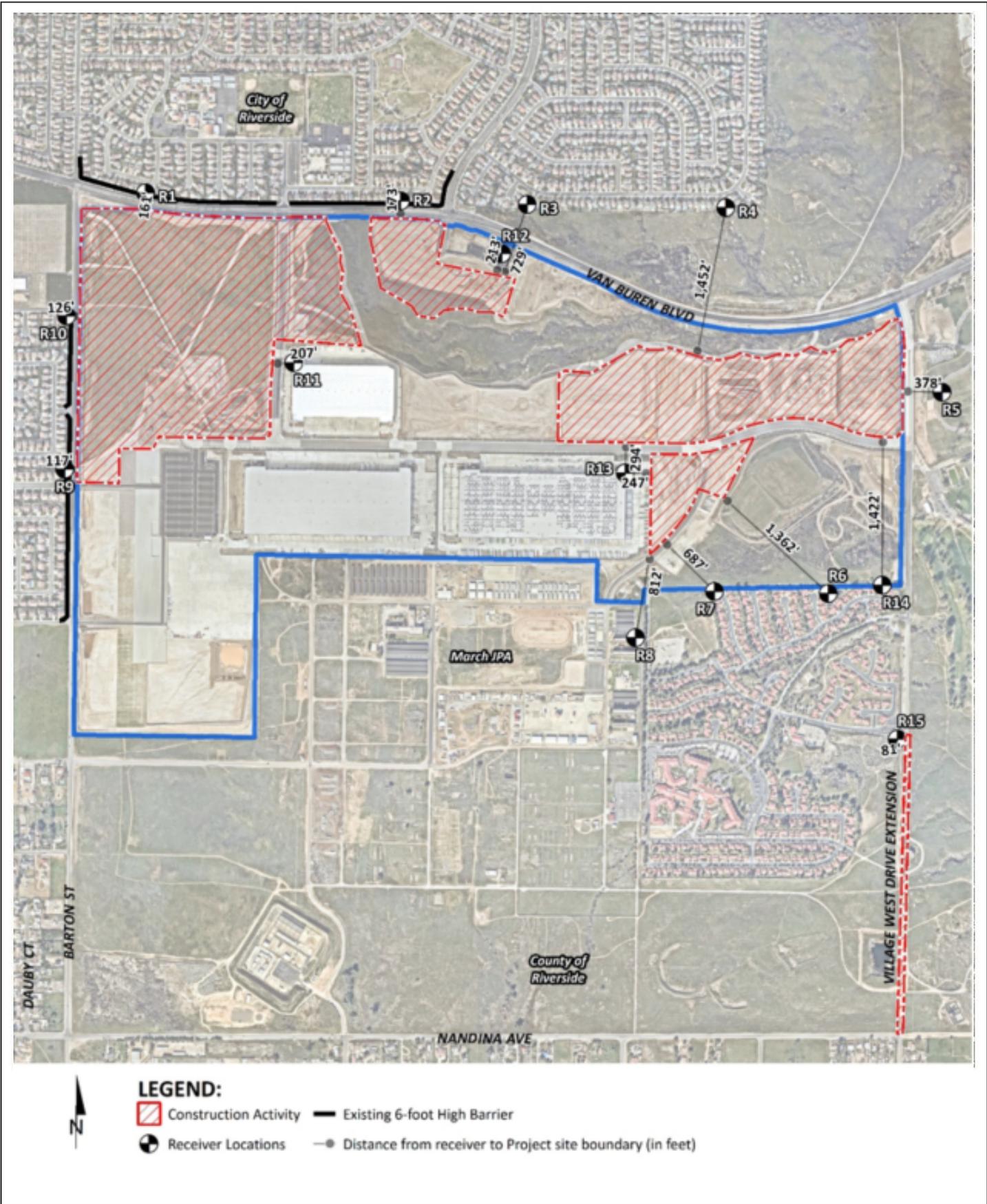
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SOURCE: Urban Crossroads, May 2020

FIGURE 4.10-4
Operational Noise Source Locations
Meridian South Campus EIR

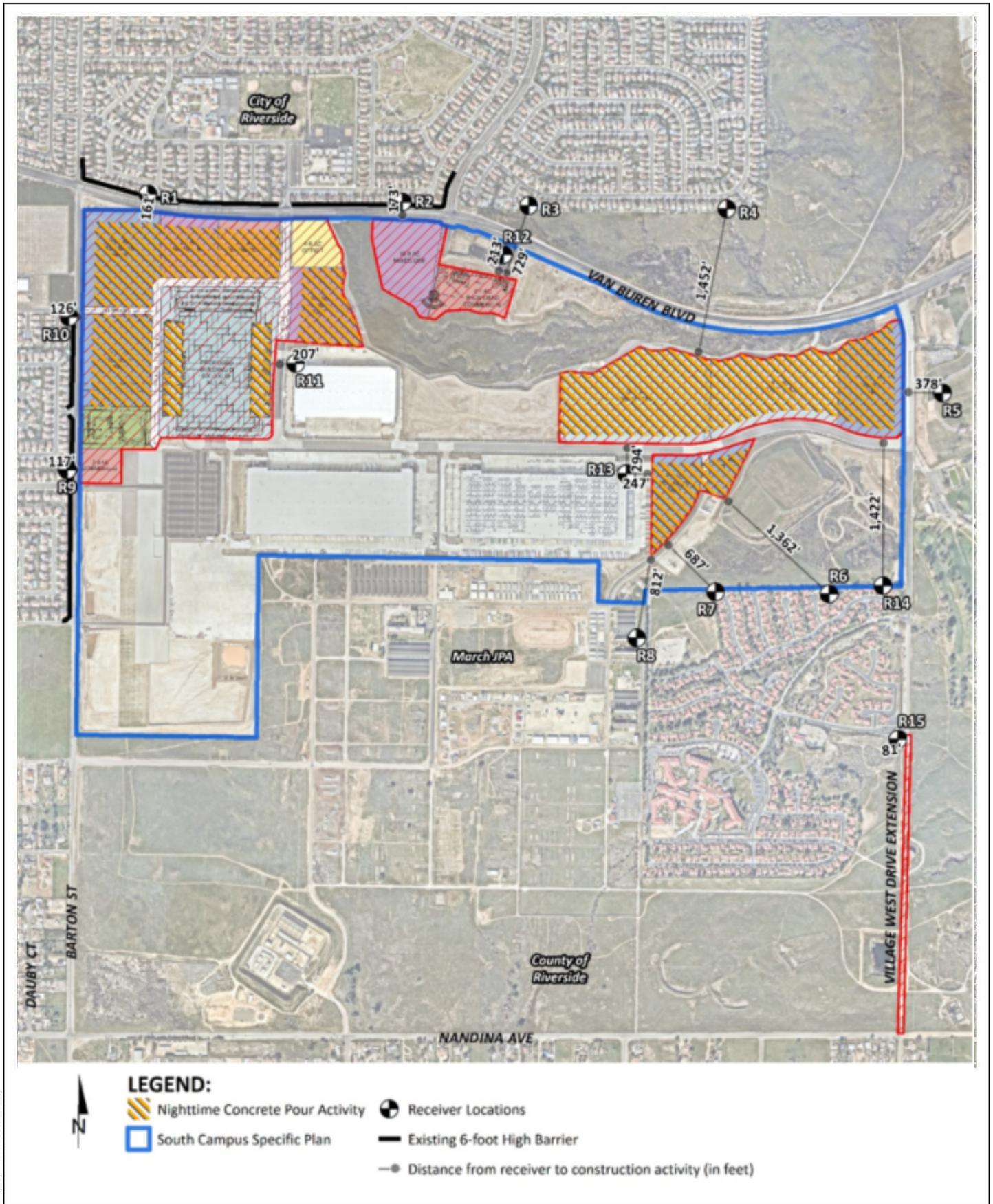
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SOURCE: Urban Crossroads, May 2020

FIGURE 4.10-5
Construction Noise Source Locations
Meridian South Campus EIR

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SOURCE: Urban Crossroads, May 2020

FIGURE 4.10-6
Nighttime Construction Activity Locations
Meridian South Campus EIR

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4.11 Recreation

This section analyzes the potential impacts of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project) related to recreation. During the preparation of the Initial Study, which is included in Appendix A of this Draft Subsequent Environmental Impact Report (SEIR), potential Project impacts adversely affecting existing recreational resources were found to be less than significant; therefore, these impacts are not discussed in this Draft SEIR.

In addition to other documents, the following references were used in the preparation of this section of the Draft SEIR:

- March Joint Power Authority General Plan (March JPA 1999)

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.11.1 Existing Conditions

For purposes of this discussion, the Project is divided into two components: the South Campus Specific Plan area and the Village West Drive Extension.

South Campus Specific Plan

The South Campus Specific Plan area is located within the southwestern portion of the March Joint Power Authority (JPA) jurisdiction. More specifically, the South Campus Specific Plan area is located in the southern portion of the Meridian South Campus Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County. Interstate 215 is located approximately 1 mile east of the South Campus Specific Plan area.

General Plan and Zoning

The existing South Campus Specific Plan land uses include Office, Commercial, Mixed Use, Business Park, Industrial, and Park/Open Space land use designations, which are consistent with March JPA zoning designations. The currently approved South Campus Specific Plan designates 125 acres for Park/Open Space, as shown in Figure 3-4B, Currently Approved South Campus Configuration, in Chapter 3 of this SEIR.

Local and Regional Parks

The March JPA jurisdiction includes the General Old Golf Course (golf course), which is located approximately 370 feet to the east of the Project site. The golf course is an 18-hole course open to the public, located on 314 acres owned by

March JPA. Orange Terrace Community Park, Thundersky Park, and Bergamont Park are located within the City of Riverside approximately 0.5 miles north, 0.16 miles north, and 0.5 miles west of the Project site, respectively.

Open Space Areas

The Specific Plan area currently contains a newly constructed 61.4-acre park and trail system in the eastern portion of the Project site, an 8-acre detention basin, and a 60.4-acre conservation area. Figure 3-2, Existing Conditions, in Chapter 3 of this SEIR shows existing conditions of the Project site and the status of current development within the South Campus.

Village West Drive Extension

The Village West Drive Extension component of the Project is located to the east and south of South Campus, as shown on Figure 3-1. Village West Drive, south of Van Buren Boulevard to Krameria Avenue, is classified as a Modified Secondary Highway. Village West Drive, south of Krameria Avenue to Nandina Drive is classified as an Industrial Collector Street. Improved portions of Village West Drive, terminating at Lemay Drive to the south, are built out to the ultimate cross-section width, according to existing March JPA General Plan roadway classifications. The Village West Drive Extension trends north-south, beginning at Lemay Drive and extending to Nandina Avenue, approximately 0.8 miles to the south. This roadway extension is unpaved with undeveloped properties on either side of the roadway.

4.11.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations related to the provision of recreational facilities that are applicable to the Project.

State

Quimby Act

California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds. The Quimby Act only applies to development of residential subdivisions, and thus the Project would not be subject to the Act.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971, California Public Resources Code Sections 5400 through 5409. Under the Act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation, land, or both, are provided to replace the parkland acquired.

The Act only applies when a public agency both acquires real property that is in use as a public park, and the public agency uses the property for non-park purposes. In this case, no public agency is acquiring the park. Therefore, the Act does not apply. In addition, the proposed Project would not impact any existing land used for park purposes.

Local

March Joint Powers Authority General Plan

Resources Management Element

The Resource Management Element provides for the conservation, development, and use of natural, historical, and cultural resources. The Resource Management Element also details plans and measures for the preservation of open space designed to promote the management of natural resources, outdoor recreation and public health and safety. This Element identifies open space lands to include the golf course, installation restoration program clean-up sites, airfield and aviation related clear zones, riparian and open space habitat areas, and the expansion areas for the Riverside National Cemetery.

Recreational facilities in the March JPA Planning area consist of the golf course, the March Air Field Museum, former recreation and equestrian grounds, and the now-constructed 61.4-acre park and trail system in the South Campus Specific Plan area.

The goals and policies relevant to recreation and the Project from the Resource Management Element are described below (March JPA 1999):

Water Resources

- Policy 1.6:** Promote the use of drought tolerant landscaping in development, and encourage the use of reclaimed water for irrigation in parks, golf courses, and industrial uses, as well as for other urban uses, whenever feasible and where legally permitted.

Earth Resource Conservation and Protection

- Policy 3.1:** Conserve hillsides and rock outcroppings in the planning area through the use of master-planned developments which create a “campus-like” setting, and encourage the creative siting of building areas as a means of retaining natural areas and open -space.

Flora and Fauna Resources

- Policy 5.1:** Where practical, conserve important plant communities and habitats such as riparian areas, wetlands, significant tree stands, and species by using buffers, creative site planning, revegetation and open space easement/dedications.
- Policy 5.2:** Encourage the planning of native species of trees and other drought-tolerant vegetation.
- Policy 5.5:** Where practical, allow development to remove only the minimum natural vegetation and encourage the revegetation of graded areas with native plant species.

Recreational Facilities

- Goal 8:** Develop and maintain recreational facilities as economically feasible, and that meet the needs of the community for recreational activities, relaxation and social interaction.

- Policy 8.1:** Provide active and passive park and recreational facilities, based on reasonable service areas within the planning area, to serve the unmet needs of the community and sub-region.
- Policy 8.2:** Encourage involvement of private investment in the development of recreational facilities, when appropriate, to increase the recreational opportunities of the area.
- Policy 8.3:** Seek out and pursue all forms of federal, state, local, private foundation and endowment support to assist in the development and programming of park and recreation resources in March JPA Planning Area.
- Policy 8.4:** Coordinate with the other recreational programs and agencies in providing regional recreational facilities in the area.

Protect and Provide for Open Space Areas

- Goal 9:** Create a network of open space areas and linkages throughout the Planning Area that serve to preserve natural resources, protect health and safety, contributes to the character of the community, provide active and passive recreational use, as well as visual and physical relief from urban development.
- Policy 9.1:** Encourage a “link” system of open space land to intermix with development providing both visual buffers and relief, as well as preservation and connectivity of the natural environment.
- Policy 9.2:** Seek funding sources for the preservation and maintenance of open space in the March JPA Planning Area.
- Policy 9.3:** Allow recreational uses on designated open space lands.
- Policy 9.4:** Manage passive recreational open spaces to optimize use while avoiding environmental disruption.
- Policy 9.5:** Link open space areas and trails with adjacent regional and local open space and trails networks.
- Policy 9.6:** Establish an open space conservation program that identifies areas of open space retention based upon capital costs, operation and maintenance costs, accessibility, needs, resource preservation, ability to complete or enhance the existing open space linkage system and natural environment.
- Policy 9.7:** As appropriate, designate washes, channels, utility corridors and transportation rights-of-way as major linkages of the open space network.
- Policy 9.8:** Enforce the standards of the military and FAA relative to aviation hazard areas to protect the use of the aviation field, and use of property within its vicinity.
- Policy 9.9:** Support the expansion of the Riverside National Cemetery.

4.11.3 Thresholds of Significance

According to March JPA's 2019 California Environmental Quality Act Guidelines, a significant impact related to recreation would occur if the Project would:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Through the analysis in the Initial Study (see Appendix A), it was determined that the proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Accordingly, this issue is not further analyzed in this SEIR. Based on the remaining threshold, a significant recreational impact from the proposed Project would occur if the Project would:

- REC-1:** Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.11.4 Impacts Analysis

REC-1. *Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

South Campus Specific Plan

Under existing conditions, the South Campus Specific Plan area includes a newly-constructed 61.4-acre park and trail system in the southeast portion of the South Campus Specific Plan area. Additionally, an 8-acre detention basin and a 60.4-acre open space conservation area are located in the northern portion of the South Campus Specific Plan area. When compared with the previously evaluated 2003 Approved South Campus, the proposed Project would include designation of 15.3 additional acres of Parks/Open Space land uses, which includes a Plot Plan approval for a 6.2-acre paseo and dog park area, as shown on Figure 3-3. The remaining 9.1 acres include 3.1 acres of open space south of the existing 0.9-acre substation added to the open space area in the eastern portion of the South Campus Specific Plan area and 6 acres of open space assigned to the existing detention basin. The proposed dog park and paseo would be located on the eastern side of Barton Street across from the Santa Inez Way and Barton Street intersection. The dog park and paseo would extend east to Caroline Way and provide an open space and pedestrian/bicycle paseo connection to Krameria Avenue. The site that is proposed for the dog park and paseo was evaluated in the 2003 Focused EIR for commercial and business park uses.

Construction

Construction activities related to the proposed Project would involve introducing heavy machinery to the Project site for grading, excavation, and development of recreational facilities and amenities associated with the dog park and paseo. The 9.1 acres of additional open space are associated with the existing open space and trail system located in the eastern portion of the South Campus Specific Plan area and with the

existing detention basin; no new construction would be required for these additional 9.1 acres of open space. Impacts associated with Project construction would be temporary and short in duration. Staging of construction equipment and construction activities would be implemented according to March JPA regulations. Any off-site improvements or staging of equipment off site would be required to comply with applicable March JPA regulations. In addition, implementation of the dog park and paseo would be required to comply to the Specific Plan's design guidelines.

As discussed throughout this SEIR, impacts associated with the overall construction of the proposed Project, including the dog park and paseo, could result in potentially significant impacts related to air quality, biological resources, geology and soils, and hydrology and water quality. All other potential construction impacts would be less than significant. However, the construction of the 6.2-acre dog park and paseo does not constitute a substantial component of the identified impacts associated with the overall construction of the proposed Project. Therefore, impacts associated with construction of dog park and paseo are **less than significant**.

Operation

During operation of the proposed Project, the proposed dog park paseo would be available to the public. As discussed throughout this SEIR, impacts associated with the Project's operation, including the Project's proposed dog park and paseo, would result in either no impact or less than significant impacts to aesthetics, biological resources, energy, geology and soils, greenhouse gas emissions, land use and planning, hazards and hazardous materials, noise, tribal cultural resources, utilities and service systems, and wildfire.

Impacts related to air quality and transportation would be potentially significant, as discussed within this SEIR. However, for purposes of this section, the Project's proposed 6.2-acre dog park and paseo is evaluated against the 2003 Approved South Campus's commercial and business park land designations for the same acreage. In addition, the proposed dog park and paseo would be available for passive recreational use and would not generate significant vehicle traffic or result in air emissions associated with vehicle traffic. The dog park and paseo would be passive recreational facilities that provide a buffer between the residences to the west and the South Campus Specific Plan area to the east. As such, operational impacts associated with the proposed dog park and paseo would be **less than significant**.

Village West Drive Extension

The Village West Drive Extension component of the proposed Project does not introduce new residential, or recreation-generating land uses. This component of the proposed Project would improve portions of Village West Drive, which currently terminates at Lemay Drive to the south. The Project would provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. None of these actions would result in the introduction of new residents to the Specific Plan area in need of recreational facilities. As such, the construction and operation of the Village West Drive Extension does not include recreational facilities and would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **No impact** would occur.

4.11.5 Mitigation Measures

Although the construction of the proposed dog park and paseo would result in less-than-significant impacts, as part of the overall Project, the following mitigation measures would be applicable to construction:

- MM-AQ-1 through MM-AQ-4
- MM-BIO-1 through MM-BIO-4
- MM-GEO-1
- MM-HYD-1 and MM-HYD-2

Operational impacts would be less than significant, and no mitigation is required.

4.11.6 Level of Significance After Mitigation

With implementation of mitigation identified above, impacts related to the construction and operation of the proposed dog park and paseo would continue to be **less than significant**.

4.11.7 Cumulative Effects

Table 4-1, Related Projects, in Chapter 4, Environmental Analysis, of this SEIR includes a list of cumulative development proposals within the vicinity of the proposed Project (related projects). Each related project would undergo an evaluation for physical effects to the environment, including impacts to existing recreational facilities and demand for new facilities. None of the related projects identified in Table 4-1 are recreational projects. Furthermore, related projects identified in Table 4-1 would be required to contribute to a fair share contribution of the cost of facilities based on standards such as the minimum parkland-to-population ratio for their respective jurisdictions. Impacts associated with the construction and operation of potential new recreational facilities would be analyzed within each related project's California Environmental Quality Act review. As such, each project would be required to contribute to development impact fee programs, if applicable, or expand or construct new facilities. As discussed above, the proposed Project, including the dog park and paseo, would result in less than significant impacts to recreational facilities. Therefore, the proposed Project, when viewed in context with the cumulative development proposals, is expected to result in **less than significant** cumulative impacts related to recreation.

4.11.8 References Cited

March JPA (Joint Powers Authority). 1999. *General Plan of the March Joint Powers Authority*. Accessed May 2020. https://www.marchjpa.com/documents/docs_forms/general_plan_updt_011718.pdf.

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4.12 Transportation

This section identifies associated regulatory requirements; describes the existing traffic conditions within the Project area; evaluates potential adverse impacts related to conflicts with an applicable program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities; conflicts or inconsistencies with California Environmental Quality Act (CEQA) Guidelines Section 15064.3(b); creates a substantial increase in hazards due to a geometric design feature; lists any applicable Project Design Features (PDFs); and identifies mitigation measures related to implementation of the proposed and Meridian South Campus and Village West Extension Project (Project). During the preparation of the Initial Study, which is included in Appendix A of this Subsequent Environmental Impact Report (SEIR), the proposed Project was found to have no impacts regarding inadequate emergency access; therefore, this topic is not discussed in this Draft SEIR.

The following discussion summarizes the Vehicle Miles Traveled Analysis and Traffic Impact Analysis (TIA), prepared by Urban Crossroads, May 2020 and April 2020, respectively, per requirements established by the March Joint Powers Authority (JPA) CEQA Guidelines (BB&K 2019), March JPA Traffic Impact Study Preparation Guide (March JPA 2011), Governor’s Office of Planning and Research (OPR) Technical Advisory (OPR 2018), Western Riverside Council of Governments (WRCOG) Senate Bill (SB) 743 Implementation Pathway Document Package (WRCOG 2019) and Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (WRCOG 2020), the California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies (December 2002), and the approved traffic study scoping agreement dated March 24, 2020. The complete reports are included as Appendix K of this SEIR. The Meridian South Campus Specific Plan Amendment and Village West Drive Extension – Nandina Avenue Focused Assessment Analysis, dated July 1, 2020, and Response to Comments regarding the South Campus Specific Plan and the Village West Drive Extension Project (SEIR) dated July 2, 2020, are also included in Appendix K.

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved Specific Plan, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project and will be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As described in Chapter 3, Project Description, and Table 3-2, 2003, Current, and Proposed South Campus Land Uses, the Project proposes to reduce the developable acreage compared to the 2003 Approved South Campus. As shown in Table 3-2, the proposed Project would reduce developable acreage by 87.9 acres to 427 acres and increase Park/Open Space by 28.7 acres to 140.3 acres. The proposed Project reduces the developable acreage which changes the trip generation that was analyzed in the 2003 Focused EIR Traffic Circulation and Phasing Study for March Business Center prepared by Kimley-Horn and Associates Inc. in October 2002. A chart of the square footages per land use used for the analysis of the 2003 Approved South Campus is included in Appendix K. The impact to transportation facilities has been assessed by analyzing the net change in trip generation for each component of the Project compared to the trip generation of the 2003 Approved South Campus analyzed in the previous study. The proposed Project includes the following components:

- 388,011 square feet – Office
- 221,394 square feet – Commercial

- 61,336 square feet – Grocery store
- 1,764,180 square feet – Business Park
- 800,000 square feet – High cube warehouse
- 700,000 square feet – High cube cold storage warehouse
- 274,437 square feet – Warehouse
- 6.2 Acres – Dog park

The following uses that are built or entitled, but not yet occupied and operational were also included as part of the proposed Project:

- Amazon (Building A) – 1,000,000 square feet
- Parcel Delivery (Building B) – 1,000,000 square feet
- Parking Lot – 61 acres
- Building C (Warehousing) – 500,000 square feet
- Commercial (Parcel 72) – 14,267 square feet¹
- Electrical Substation – 0.9 acres

The transportation analysis shown in this section presents the level of service (LOS) metric for informational purposes and General Plan consistency analysis and uses the vehicle miles traveled (VMT) metric per CEQA requirements. The LOS-based analysis evaluated the net change in potential impacts from the 2003 Approved South Campus to the proposed Project. For analytical purposes the “without Project” conditions reflect the 2003 Approved South Campus and the “with Project” conditions reflect the proposed net change in trip generation to the proposed Project. The VMT-based analysis for the Project has also been evaluated against existing conditions.

4.12.1 Existing Conditions

This section provides a summary of the existing circulation network, the March JPA General Plan Circulation Network, and a review of existing peak-hour intersection operations and freeway mainline operations and ramp junction analyses.

The proposed Project is located within the southwestern portion of the March JPA jurisdiction, bounded by Van Buren Boulevard to the north, Village West Drive to the east, and Barton Street to the west, in unincorporated Riverside County, California (within the March JPA). Interstate (I) 215 is located approximately 1 mile east of the Project site.

Existing Circulation Network

The Project’s study area includes a total of 47 existing and future intersections as shown in Figure 4.12-1, Study Area. Exhibit 3-1 in the TIA identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

¹ At the time the TIA was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 square feet. However, the actual square footage for Parcel 72 is 14,267 square feet. For the purposes of the TIA, the 15,485 square feet of commercial use results in a higher trip generation (therefore more conservative) as opposed to evaluating the 14,267 square feet of commercial use.

General Plan Transportation Element

The Project site is located within the March JPA (Southwestern Planning Subarea), but the study area includes intersections that share borders with the neighboring jurisdictions of the County of Riverside, City of Riverside, City of Moreno Valley, and Caltrans.

March Joint Powers Authority

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the March JPA General Plan Transportation Element, are described subsequently. The March JPA General Plan Transportation Element (March JPA 1999) roadway classification map and roadway cross-sections are shown on Figure 4.12-2 and Figure 4.12-3, respectively. March JPA Resolution 16-05 amended the General Plan Transportation Element. The roadway system classifications from the Meridian General Plan Amendment are shown on Figure 4.12-4.

County of Riverside, City of Riverside, and City of Moreno Valley

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the County of Riverside General Plan Circulation Element, City of Riverside General Plan Circulation Element, and City of Moreno Valley General Plan Circulation Element are shown on Figures 4.12-5 through 4.12-10.

Truck Routes

The March Business Center truck route map is shown on Figure 4.12-11. I-215, Alessandro Boulevard (west of I-215), Meridian Parkway, Innovation Drive, Opportunity Way, Van Buren Boulevard, Cactus Avenue, Krameria Avenue, Coyote Bush Road, and Village West Drive (between Krameria Avenue and Van Buren Boulevard) are identified as designated truck routes.

Transit Service

The study area within the March JPA and the surrounding Cities of Riverside and Moreno Valley are currently served by the Riverside Transit Authority (RTA), a public transit agency serving various jurisdictions within Riverside County. The existing bus routes provided within the area by RTA are shown on Figure 4.12-12. RTA Route 26 and 27 could potentially serve the Project as it currently operates along Van Buren Boulevard to the north of the Project site. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

The Moreno Valley/March Field Metrolink Station is located on Meridian Parkway approximately 3 miles north of the Project site. The Metrolink Perris Valley Line serves the Riverside area, providing access to the City of Perris, Riverside, Anaheim, and downtown Los Angeles. The Perris Valley Line also provides transfer service to the Riverside and Inland Empire – Orange County Metrolink Lines, and operates from 4:57 a.m. to 2:05 p.m. in the northbound direction and from 8:35 a.m. to 7:20 p.m. in the southbound direction at this station. Weekend and holiday service does not serve the Moreno Valley/March Field Station.

Bicycle and Pedestrian Facilities

Field observations conducted in August 2019 indicate nominal pedestrian and bicycle activity within the study area. Existing pedestrian facilities within the study area are shown on Figure 4.12-13. There are currently Class II bike lanes along Alessandro Boulevard, Cactus Avenue, Meridian Parkway, and Van Buren Boulevard within the study area. Class II bikeways are bike lanes which are established adjacent to traffic lanes and shared the same roadway. Existing sidewalks are currently in place along the Krameria Avenue and Coyote Bush Road within the Project site.

Study Scenarios

The following study scenarios are included in the analysis of traffic conditions in the Project’s TIA:

- **Existing Conditions:** Information for the Existing condition is disclosed to represent the baseline traffic conditions as they existed at the time the analysis was conducted. The existing conditions analysis uses the traffic counts collected in 2019.
- **Existing plus Project Conditions:** This scenario analyzes existing traffic conditions with trips added due to the Project. The Existing plus Project analysis is intended to identify the Project-specific traffic contributions associated solely with the development of the Project based on a comparison of the Existing plus Project Conditions to Existing conditions. For the purposes of the traffic analysis, the net difference in Project trips between the proposed Project and the 2003 Approved South Campus was evaluated for Existing plus Project traffic conditions. Since the net change in vehicle trips results in a reduction (negative volume as shown in Table 4.12-14 Project Trip Generation) during the AM peak hour, only the PM peak hour has been evaluated for Existing plus Project traffic conditions (where the net change reflects an increase over the 2003 Approved South Campus traffic forecasts).
- **Opening Year Cumulative (2024) Conditions:** The Opening Year Cumulative Conditions scenario identifies potential near-term cumulative circulation system deficiencies in year 2024. To account for background traffic growth, an ambient growth factor and traffic associated with other cumulative projects were added to existing traffic volumes. With and without Project conditions were compared to isolate Project related contributions.
- **Horizon Year Traffic (2040) Conditions:** The Horizon Year (buildout year 2040) traffic volume forecasts were derived from the Riverside County Transportation Analysis Model (RivTAM) using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between Existing conditions and Horizon Year conditions. 2003 Approved South Campus traffic volumes were then added to the Horizon Year forecasts to reflect the “without project” conditions. The Horizon Year With Project traffic forecasts were determined by adding the Project traffic to the Horizon Year Without Project traffic forecasts from the RivTAM model, where the Project traffic is the net change between the 2003 Approved South Campus and the proposed Project.

The traffic contributions for the scenarios outlined above are based on weekday AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak period traffic volumes collected in August 2019 in the study area. The weekday AM and PM peak commute hours represent the highest overall hourly volumes in the study area (during the AM and PM peak periods), while the remaining off-peak hours would have lower overall traffic volumes. All four representative agencies (March JPA, cities of Moreno Valley and Riverside, and Riverside County) require that Project traffic contributions be based on traffic conditions during the weekday AM and PM peak hours.

Study Area

A traffic study scoping agreement was reviewed and approved by March JPA staff prior to the preparation of the TIA. The traffic study scoping agreement provided an outline of the Project’s study area, trip generation, trip distribution, and analysis methodology. This agreement is included in the TIA (Appendix K).

Intersections

The 47 study area intersections, shown in Figure 4.12-1 and listed in Table 4.12-1, were selected for analysis based on consultation with March JPA and staff from the cities of Moreno Valley and Riverside and the County of Riverside. In general, the study area includes intersections where the Project is anticipated to contribute 50 or more peak-hour trips. Table 4.12-1 also indicates whether an intersection is part of the Congestion Management Program (CMP), described further in Section 4.12.2, Methodology.

Table 4.12-1. Intersection Analysis Locations

ID	Intersection Location	Jurisdiction
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	Riverside
2	Wood Rd. & Van Buren Bl.	Riverside
3	Wood Rd. & Krameria Av.	Riverside
4	Wood Rd. & Mariposa Av.	County
5	Wood Rd. & Nandina Av.	County
6	Trautwein Rd. & Alessandro Bl.	Riverside
7	Trautwein Rd. & Mission Grove Pkwy.	Riverside
8	Trautwein Rd. & John F. Kennedy Dr.	Riverside
9	Trautwein Rd. & Orange Terrace Pkwy.	Riverside
10	Trautwein Rd./Cole Av. & Van Buren Bl.	Riverside
11	Mission Grove Pkwy. & Alessandro Bl.	Riverside
12	Barton St. & Alessandro Bl.	Riverside/JPA
13	Barton St. & Van Buren Bl.	Riverside/JPA
14	Barton St. & Gless Ranch Rd.	Riverside/JPA
15	Barton St. & Krameria Av.	Riverside/JPA
16	Barton St. & Lurin Av.	Riverside/JPA
17	Barton St. & Nandina Av.	County/JPA
18	Coyote Bush Rd. & Van Buren Bl.	Riverside/JPA
19	Coyote Bush Rd. & Caroline Wy.	JPA
20	Coyote Bush Rd. & Krameria Av.	JPA
21	Orange Terrace Pkwy. & Van Buren Bl.	Riverside/JPA
22	San Gorgonio Dr. & Alessandro Bl.	Riverside/JPA
23	Bundy St. & Krameria Av.	JPA
24	Village West Dr. & Van Buren Bl.	JPA
25	Village West Dr. & Krameria Av.	JPA
26	Village West Dr./Clark St. & Nandina Av.	County/JPA
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.	Riverside/JPA
28	Meridian Pkwy. & Metrolink Station Dwy.	JPA
29	Meridian Pkwy. & Cactus Av.	JPA
30	Meridian Pkwy. & Innovation Dr.	JPA
31	Meridian Pkwy. & Opportunity Wy.	JPA

Table 4.12-1. Intersection Analysis Locations

ID	Intersection Location	Jurisdiction
32	Meridian Pkwy. & Van Buren Bl.	JPA
33	Innovation Dr. & Cactus Av.	JPA
34	Opportunity Wy. & Van Buren Bl.	JPA
35	I-215 SB Ramps & Alessandro Bl.	Caltrans/Riverside/County
36	I-215 SB Ramps & Cactus Av.	Caltrans/JPA/County
37	I-215 SB Ramps & Van Buren Bl.	Caltrans/JPA/County
38	I-215 NB Ramps & Alessandro Bl.	Caltrans/Riverside/County
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.	Caltrans/JPA
40	Van Buren Bl. & I-215 NB Ramps	Caltrans/JPA/County
41	Old 215 Frontage Rd. & Alessandro Bl.	MV/Riverside/County
42	Day St. & Cottonwood Av.	MV
43	Day St. & Alessandro Bl.	MV
44	Elsworth St. & Alessandro Bl.	MV
45	Elsworth St. & Cactus Av.	MV/March JPA
46	Frederick St. & Cactus Av.	MV/March JPA
47	Graham St./Riverside Dr. & Cactus Av.	MV/March JPA

Source: Appendix K

Notes: CMP = Congestion Management Program; JPA = March Joint Powers Authority; MV = Moreno Valley; SB = southbound; NB = northbound

Freeway Mainline Segments

The Project's study area freeway mainline analysis was performed under the Highway Capacity Manual (TRB 2016) methodology for the Basic Freeway Segments using actual vehicle traffic volumes, where heavy trucks were accounted for as a percentage of total traffic. Table 4.12-2 shows the study freeway mainline segments, in each direction of flow, that were analyzed. The study area freeway merge/diverge ramp junction analysis was also performed under the Highway Capacity Manual (TRB 2016) methodology for the freeway merge/diverge ramp locations, and direction of flow, listed below in Table 4.12-2.

Table 4.12-2. Freeway Mainline Segment Analysis Locations

ID	Freeway Facility	Facility Type
1	I-215 – Southbound, North of Alessandro Bl.	Mainline Segment
2	I-215 – Southbound, Off-Ramp at Alessandro Bl.	Ramp Junction
3	I-215 – Southbound, Loop On-Ramp at Alessandro Bl.	Ramp Junction
4	I-215 – Southbound, On-Ramp at Alessandro Bl.	Ramp Junction
5	I-215 – Southbound, Between Alessandro Bl. and Cactus Av.	Mainline Segment
6	I-215 – Southbound, Off-Ramp at Cactus Av.	Ramp Junction
7	I-215 – Southbound, Loop Off-Ramp at Cactus Av.	Ramp Junction
8	I-215 – Southbound, On-Ramp at Cactus Av.	Ramp Junction
9	I-215 – Southbound, Between Cactus Av. and Van Buren Bl.	Mainline Segment
10	I-215 – Southbound, Off-Ramp at Van Buren Bl.	Ramp Junction
11	I-215 – Southbound, On-Ramp at Van Buren Bl.	Ramp Junction
12	I-215 – Southbound, South of Van Buren Bl.	Mainline Segment
13	I-215 – Northbound, South of Van Buren Bl.	Mainline Segment

Table 4.12-2. Freeway Mainline Segment Analysis Locations

ID	Freeway Facility	Facility Type
14	I-215 – Northbound, Off-Ramp at Van Buren Bl.	Ramp Junction
15	I-215 – Northbound, Hook On-Ramp at Van Buren Bl.	Ramp Junction
16	I-215 – Northbound, On-Ramp at Van Buren Bl.	Ramp Junction
17	I-215 – Northbound, Between Van Buren Bl. and Cactus Av.	Mainline Segment
18	I-215 – Northbound, Off-Ramp at Cactus Av.	Ramp Junction
19	I-215 – Northbound, Loop On-Ramp at Cactus Av.	Ramp Junction
20	I-215 – Northbound, On-Ramp at Cactus Av.	Ramp Junction
21	I-215 – Northbound, Between Cactus Av. and Alessandro Bl.	Mainline Segment
22	I-215 – Northbound, Off-Ramp at Alessandro Bl.	Ramp Junction
23	I-215 – Northbound, On-Ramp at Alessandro Bl.	Ramp Junction
24	I-215 – Northbound, North of Alessandro Bl.	Mainline Segment

Source: Appendix K.

Traffic Signal Warrant Analysis

The term “signal warrants” refers to the list of established criteria in the California Manual of Uniform Traffic Control Devices used by Caltrans and other public agencies to quantitatively assess the need for traffic signal installation at an unsignalized intersection. Traffic signal warrants analysis was conducted for all unsignalized intersections under Existing, Opening Year Cumulative (2024) and Horizon Year (2040) traffic conditions.

Existing Conditions Traffic

The analysis results of Existing Conditions are presented below. Traffic operations of roadway facilities are described using the term “level of service” (LOS). Section 4.12.2 describes the analysis methodologies in detail.

Traffic Volumes

As previously mentioned, the existing intersection LOS analysis is based on the weekday AM and PM peak-hour traffic volumes collected in August 2019. Consistent with standard traffic engineering practice, these traffic counts were conducted either on Tuesday, Wednesday, or Thursday due to potential fluctuations in traffic that typically occur on Mondays, Fridays, holidays, or weekends. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes. In addition, nearby schools were in session and operating on normal schedules. The traffic counts include the following vehicle classifications: passenger cars, 2-axle trucks, 3-axle trucks, and 4- or more axle trucks.

To represent the impact of large trucks, buses, and recreational vehicles on traffic flow, truck traffic has been accounted for in the analysis as a percentage of total traffic at the study area intersections. The traffic volumes used in the analysis of intersections, basic freeway segments, and merge/diverge ramp junctions use the actual vehicle traffic flow, and trucks are reflected in the analysis as a percentage of the total traffic flow, and not as passenger-car equivalents.

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-13 of the TIA. Where 24-hour tube count data was not available, Existing ADT volumes were based on factored intersection peak hour counts collected by Urban Crossroads using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.94 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.73%. As such, the above equation using a factor of 12.94 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.73% (i.e., $1/0.0773 = 12.94$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in actual vehicles) are shown on Exhibit 3-14 of the TIA.

Intersection Operations

Existing peak-hour traffic operations have been evaluated for the study area intersections based on the intersection analysis methodology presented in Section 4.12.2. The intersection operations analysis worksheets are provided in Appendix K. The intersection operations analysis results are provided in Table 4.12-3, which indicate that the following study area intersections are currently operating at an unsatisfactory LOS (LOS E or F) during one or both peak hours:

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS E AM and PM peak hours
- Intersection #4: Wood Road/Mariposa Avenue – LOS E AM peak hour
- Intersection #7: Trautwein Road/Mission Grove Parkway - LOS E AM peak hour
- Intersection #17: Barton Street & Nandina Avenue - LOS E AM peak hour
- Intersection #27: Sycamore Canyon Drive/Meridian Parkway/Alessandro Boulevard - LOS F AM peak hour
- Intersection #45: Elsworth Street & Cactus Avenue – LOS E AM peak hour and LOS F PM peak hour

Table 4.12-3. Intersection Analysis for Existing (2019) Conditions

#	Intersection	Traffic Control	Delay* (seconds)		Level of Service		Acceptable LOS	Jurisdiction
			AM	PM	AM	PM		
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	TS	79.6	71.6	E	E	D	Riverside
2	Wood Rd. & Van Buren Bl.	TS	42.7	30.9	D	C	D	Riverside
3	Wood Rd. & Krameria Av.	TS	35.1	14.5	D	B	D	Riverside
4	Wood Rd. & Mariposa Av.	AWS	42.4	13.8	E	B	D	County
5	Wood Rd. & Nandina Av.	CSS	15.3	14.0	C	B	D	County
6	Trautwein Rd. & Alessandro Bl.	TS	32.9	19.8	C	B	D	Riverside
7	Trautwein Rd. & Mission Grove Pkwy.	TS	62.2	37.4	E	D	D	Riverside
8	Trautwein Rd. & John F. Kennedy Dr.	TS	43.1	31.1	D	C	D	Riverside
9	Trautwein Rd. & Orange Terrace Pkwy.	TS	47.4	21.9	D	C	D	Riverside
10	Trautwein Rd./Cole Av. & Van Buren Bl.	TS	32.6	27.7	C	C	D	Riverside
11	Mission Grove Pkwy. & Alessandro Bl.	TS	25.3	25.2	C	C	D	Riverside
12	Barton St. & Alessandro Bl.	TS	29.6	7.0	C	A	D	Riverside/JPA
13	Barton St. & Van Buren Bl.	TS	46.7	30.0	D	C	D	Riverside/JPA
14	Barton St. & Gless Ranch Rd.	CSS	13.4	12.7	B	B	D	Riverside/JPA
15	Barton St. & Krameria Av.	TS	10.0	7.8	A	A	D	Riverside/JPA

Table 4.12-3. Intersection Analysis for Existing (2019) Conditions

#	Intersection	Traffic Control	Delay* (seconds)		Level of Service		Acceptable LOS	Jurisdiction
			AM	PM	AM	PM		
16	Barton St. & Lurin Av.	CSS	17.5	13.9	C	B	D	Riverside/JPA
17	Barton St. & Nandina Av.	AWS	45.2	13.7	E	B	D	County/JPA
18	Coyote Bush Rd. & Van Buren Bl.	TS	19.4	12.6	B	B	D	Riverside/JPA
19	Coyote Bush Rd. & Caroline Wy.	Future Intersection					D	JPA
20	Coyote Bush Rd. & Krameria Av.	AWS	8.8	7.5	A	A	D	JPA
21	Orange Terrace Pkwy. & Van Buren Bl.	TS	10.6	9.2	B	A	D	Riverside/JPA
22	San Gorgonio Dr. & Alessandro Bl.	TS	4.5	5.9	A	A	D	Riverside/JPA
23	Bundy St. & Krameria Av.	AWS	7.9	7.9	A	A	D	JPA
24	Village West Dr. & Van Buren Bl.	TS	10.8	18.0	B	B	D	JPA
25	Village West Dr. & Krameria Av.	TS	3.8	4.3	A	A	D	JPA
26	Village West Dr./Clark St. & Nandina Av.	AWS	12.3	8.6	B	A	D	County/JPA
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.	TS	90.3	30.9	F	C	D	Riverside/JPA
28	Meridian Pkwy. & Metrolink Station Dwy.	TS	5.8	9.2	A	A	D	JPA
29	Meridian Pkwy. & Cactus Av.	TS	27.4	20.7	C	C	D	JPA
30	Meridian Pkwy. & Innovation Dr.	CSS	19.3	19.9	C	C	D	JPA
31	Meridian Pkwy. & Opportunity Wy.	TS	9.4	10.5	A	B	D	JPA
32	Meridian Pkwy. & Van Buren Bl.	TS	13.0	16.8	B	B	D	JPA
33	Innovation Dr. & Cactus Av.	TS	5.6	8.5	A	A	D	JPA
34	Opportunity Wy. & Van Buren Bl.	TS	3.7	3.5	A	A	D	JPA
35	I-215 SB Ramps & Alessandro Bl.	TS	5.5	14.2	A	B	D	Caltrans/Riverside/County
36	I-215 SB Ramps & Cactus Av.	TS	4.5	7.6	A	A	D	Caltrans/JPA/County
37	I-215 SB Ramps & Van Buren Bl.	TS	23.2	15.1	C	B	D	Caltrans/JPA/County
38	I-215 NB Ramps & Alessandro Bl.	TS	20.0	13.1	C	B	D	Caltrans/Riverside/County
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.	TS	32.4	20.0	C	C	D	Caltrans/JPA

Table 4.12-3. Intersection Analysis for Existing (2019) Conditions

#	Intersection	Traffic Control	Delay* (seconds)		Level of Service		Acceptable LOS	Jurisdiction
			AM	PM	AM	PM		
40	Van Buren Bl. & I-215 NB Ramps	TS	9.6	10.6	A	B	D	Caltrans/JPA/County
41	Old 215 Frontage Rd. & Alessandro Bl.	TS	26.1	32.2	C	C	D	MV/Riverside/County
42	Day St. & Cottonwood Av.	TS	24.8	22.0	C	C	D	MV
43	Day St. & Alessandro Bl.	TS	29.0	26.2	C	C	D	MV
44	Elsworth St. & Alessandro Bl.	TS	20.3	22.4	C	C	D	MV
45	Elsworth St. & Cactus Av.	TS	72.7	82.2	E	F	D	MV/JPA
46	Frederick St. & Cactus Av.	TS	23.6	20.3	C	C	D	MV/JPA
47	Graham St./Riverside Dr. & Cactus Av.	TS	46.2	38.9	D	D	D	MV/JPA

Source: Appendix K.

Notes: AWS = All-Way Stop; CSS = Cross-street Stop; TS = Traffic Signal; NB = northbound; SB = southbound; JPA = March Joint Powers Authority; MV = Moreno Valley.

Bold = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).

* Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

Traffic Signal Warrants

Traffic signal warrants for are based on existing peak hour intersection turning volumes and conducted for unsignalized intersections. For Existing traffic conditions, the following unsignalized study area intersections are currently warranted for a traffic signal:

- Intersection #4 Wood Road and Mariposa Avenue
- Intersection #17 Barton Street and Nandina Avenue

The analysis worksheets are provided in Appendix K.

Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at I-215 at Alessandro Boulevard, Cactus Avenue, and Van Buren Boulevard interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 mainline. Queuing analysis findings are presented in Table 4.12-4. Off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 4.12-4, there are no existing queuing issues. Analysis worksheets are provided in Appendix K.

Table 4.12-4. Existing Conditions Peak-Hour Freeway Off-Ramp Queuing

Intersection	Available Stacking		95th Percentile Queue (Feet) ³		Acceptable? ¹	
	Movement	Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Alessandro Bl.	SBL	525	129	146	Yes	Yes
	SBL/R	1,540	110	115	Yes	Yes
	SBR	525	106	109	Yes	Yes
I-215 SB Ramps & Cactus Av.	SBR	1,115	132	312 ²	Yes	Yes
	NBR	1,850	0	0	Yes	Yes
I-215 SB Ramps & Van Buren Bl.	SBL/T	1,510	13	135	Yes	Yes
	SBR	1,450	230	30	Yes	Yes
I-215 NB Ramps & Alessandro Bl.	NBL	450	294	192	Yes	Yes
	NBL/T/R	1,345	314	202	Yes	Yes
	NBR	450	40	77	Yes	Yes
I-215 NB Ramps & Cactus Av.	NBL	145	402 ²	34	Yes ⁴	Yes
	NBT/R	1,650	792 ²	273	Yes	Yes
Van Buren Bl. & I-215 NB Ramps	EBL	1,560	126	68	Yes	Yes
	EBR	580	2	0	Yes	Yes

Source: Appendix K

Notes: NB = northbound; SB = southbound; SBL = southbound left; R = right; SBR = southbound right; NBR = northbound right; T = through; NBL = northbound left; EBL = eastbound left; EBR = eastbound left

- Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.
- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- Maximum queue length for the approach reported.
- Although the 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 mainline.

Basic Freeway Segment Analysis

Existing mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 3-16 in the TIA. As shown on Table 4.12-5, the freeway segments and ramp junctions analyzed for this study were found to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours. However, observations made in the field indicated that the I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F due to the breakdown in vehicle flow. Existing facility analysis worksheets are provided in Appendix K.

Table 4.12-5. Existing Conditions Freeway Segment Analysis

Freeway	Direction	Mainline Segment	Lanes ¹	Density ²		LOS ³	
				AM	PM	AM	PM
I-215	Southbound	North of Alessandro Bl.	3	22.7	25.0	C	C
		Off-Ramp at Alessandro Bl.	3	24.1	26.2	B	B
		Loop On-Ramp at Alessandro Bl.	3	23.3	24.2	C	C
		On-Ramp at Alessandro Bl.	4	15.7	16.2	B	B
		Between Alessandro Bl. and Cactus Av.	4	16.9	17.8	B	B
		Off-Ramp at Cactus Av.	4	17.4	18.3	B	B

Table 4.12-5. Existing Conditions Freeway Segment Analysis

Freeway	Direction	Mainline Segment	Lanes ¹	Density ²		LOS ³	
				AM	PM	AM	PM
		Loop Off-Ramp at Cactus Av.	4	16.0	17.0	B	B
		On-Ramp at Cactus Av.	4	13.8	14.1	B	B
		Between Cactus Av. and Van Buren Bl.	4	16.4	16.7	B	B
		Off-Ramp at Van Buren Bl.	4	16.4	16.7	B	B
		On-Ramp at Van Buren Bl.	4	13.3	15.0	B	B
		South of Van Buren Bl.	4	15.3	20.4	B	C
	Northbound	South of Van Buren Bl.	4	19.2	16.0	C	B
		Off-Ramp at Van Buren Bl.	4	19.2	16.0	C	B
		Hook On-Ramp at Van Buren Bl.	4	14.8	13.6	B	B
		On-Ramp at Van Buren Bl.	4	17.9	16.9	B	B
		Between Van Buren Bl. and Cactus Av.	4	16.7	15.8	B	B
		Off-Ramp at Cactus Av.	4	16.7	15.8	B	B
		Loop On-Ramp at Cactus Av.	3	-4	18.8	F	B
		On-Ramp at Cactus Av.	4	-4	13.0	F	B
		Between Cactus Av. and Alessandro Bl.	4	-4	15.3	F	B
		Off-Ramp at Alessandro Bl.	4	-4	15.3	F	B
		On-Ramp at Alessandro Bl.	3	-4	22.2	F	B
		North of Alessandro Bl.	3	-4	20.2	F	C

Source: Appendix K

Notes:

Bold = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ Observations made in the field indicate that the freeway segments experience traffic congestion due to queuing from downstream bottlenecks.

4.12.2 Methodology

This section summarizes the methodologies used to perform the traffic analyses. The methodologies described are consistent with March JPA traffic study guidelines and March JPA CEQA Guidelines. In December 2018, CEQA Guidelines were updated to include a threshold for evaluating traffic impacts using the VMT methodology. This new methodology is required to be used statewide beginning on July 1, 2020.

Vehicle Miles Traveled

OPR has approved the addition of new Section 15064.3, “Determining the Significance of Transportation Impacts” to the State’s CEQA Guidelines, compliance with which will be required beginning July 1, 2020. The Updated CEQA Guidelines state that “generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts” and define VMT as “the amount and distance of automobile travel attributable to a project.” It should be noted that “automobile” refers to on-road passenger vehicles, specifically cars and light trucks. OPR has clarified in the Technical Advisory and recent informational presentations that heavy-duty truck VMT is not required to be

included in the estimation of a project's VMT Other relevant considerations may include the effects of the project on transit and non-motorized traveled.

To aid in this transition, OPR released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (Technical Advisory). Based on OPR's Technical Advisory, WRCOG prepared a WRCOG SB 743 Implementation Pathway Document Package (March 2019) to assist its member agencies with implementation tools necessary to adopt analysis methodology, impact thresholds and mitigation approaches for VMT. To add to the previous work effort, WRCOG, in February 2020, released its Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (WRCOG Guidelines), which provides specific procedures for complying with the new CEQA requirements for VMT analysis (WRCOG 2020).

March JPA has yet to adopt its own VMT analysis guidelines and thresholds. For the purposes of the proposed Project analysis the recommended VMT analysis methodology and thresholds identified within the Technical Advisory and WRCOG document have been used.

Screening for Land Use Projects

The Technical Advisory and WRCOG guidance suggests that agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing. Consistent with OPR's Technical Advisory and WRCOG guidance, projects that meet the screening thresholds based on their location and project type may be presumed to result in a less-than-significant transportation impact. The Project does not meet any of the screening criteria as explained below:

- **Screening Threshold for Small Projects (110 daily trips or less):** Since the Project generates more than 110 trips per day, it cannot be assumed to cause a less-than-significant transportation impact.
- **Map Based Screening for Residential and Office Projects:** The following map based screening criteria were applied to screen the Project based on the Traffic Analysis Zone the Project site is located within using WRCOG screening tool:²
 - The Project site is not within a Transit Priority Area as it is not located within one-half mile of an existing major transit stop or an existing stop along a high quality transit corridor
 - The Project site is not located within a low VMT generating Traffic Analysis Zone 3,623 based on Total VMT or Home-based Work VMT.
- **Presumption of Less Than Significant Impact for Affordable Residential Development:** The Project does not propose affordable residential units.

Based on the Technical Advisory and WRCOG's screening tool and screening criteria, the Project requires a detailed Project-level VMT analysis. An assessment of the Project's VMT impact under base and cumulative year conditions has been conducted using following methodology.

Methodology for VMT Estimation

As outlined in the Technical Advisory, mixed-use projects such as the proposed Project need to evaluate each component of the Project independently and apply the relevant significance threshold for each Project type (e.g., office, retail). As an alternative, a lead agency may choose to evaluate the Project's dominant use. For the purposes of proposed Project's VMT analysis, the dominant use (i.e., employment uses such as office, business park,

² Available at <http://gis.fehrandpeers.com/WRCOGVMT/>.

industrial, and warehousing) were considered. The Project's proposed retail uses are anticipated to serve the local area thereby shortening trips and reducing VMT, which would result in a less-than-significant impact transportation impact for the Project's retail component. Therefore, the VMT analysis focuses on the employment uses only.

Per OPR's Technical Advisory, when a trip-based model is used to analyze an office project, the focus can be on home-based work trips. Therefore, the analysis for the Project is based on home-based VMT for employees.

For industrial projects such as the proposed Project, model-based approach (tour- or trip- based travel demand models) offer the best methods for assessing VMT and for comparing those assessments to VMT thresholds. Therefore, RivTAM 2012 base year version was used for VMT analysis of the proposed Project. The RivTAM is a trip-based model that has been developed using Southern California Association of Governments (SCAG) Sub-Regional Model Development Tool. Following methods have been used to calculate the Project's VMT using the RivTAM model.

- The Production/Attraction method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study. Productions are land use types that generate trips (e.g., residences) and attractions are land use types that attract trips (e.g., employment). This method is used to calculate the Project's VMT based on trip purpose (i.e., home-based work VMT per employee).
- The Boundary method is the sum of all weekday VMT on a roadway network within a designated boundary. Boundary method VMT includes all trips, including those that do not begin or end in the designated boundary. This VMT method captures the effect of cut-through and/or displaced traffic and is used to evaluate the cumulative VMT to assess the Project's effect on VMT. Total VMT is calculated per service population (i.e., sum of the residents and employees in the region).

Level of Service

Traffic operations of roadway facilities are described using LOS and are provided for informational purposes and general plan consistency requirements. LOS is a qualitative description of traffic flow based on several factors, including speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

Intersection Capacity Analysis

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The March JPA, City of Riverside, City of Moreno Valley, and County of Riverside require signalized and unsignalized intersection operations analysis to be based on the methodology described in the Highway Capacity Manual (HCM).

Signalized Intersections

The March JPA, City of Riverside, City of Moreno Valley, and County of Riverside require signalized intersection operations analysis based on the methodology described in the HCM. Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as provided in Table 4.12-6.

Study area intersections, including freeway ramps, located within the March JPA, City of Riverside, City of Moreno Valley and Caltrans jurisdictions have been analyzed using the software package Synchro (Version 10). Synchro is a traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Common practice for LOS analysis is to use a peak 15-minute rate of flow. Therefore, the peak-hour traffic volumes have been adjusted using a peak-hour factor to reflect peak 15-minute volumes.

Table 4.12-6. Signalized Intersection LOS Thresholds

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F

Source: TRB 2016

Note: V/C = volume to capacity ratio

Per the Caltrans Guide for the Preparation of Traffic Impact Studies, the traffic modeling and signal timing optimization software package Synchro (Version 10) has also been used to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e., I-215 ramps at Alessandro Boulevard, I-215 ramps at Cactus Avenue, I-215 ramps at Van Buren Boulevard). Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network. Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were used for the purposes of this analysis.

Unsignalized Intersections

The March JPA, City of Riverside, City of Moreno Valley, and County of Riverside require the operations of unsignalized intersections be evaluated using the methodology described the HCM. The LOS rating is based on the weighted average control delay expressed in seconds per vehicle, as shown in Table 4.12-7. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

Table 4.12-7. Unsignalized Intersection Level of Service Thresholds

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delay	0 to 10.00	A	F
Short traffic delay	10.01 to 15.00	B	F
Average traffic delay	15.01 to 25.00	C	F
Long traffic delay	25.01 to 35.00	D	F
Very long traffic delay	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded	> 50.00	F	F

Source: TRB 2016

Note: V/C = volume to capacity ratio

Freeway Off-Ramp Queuing Analysis

The study area for this SEIR includes the freeway-to-arterial interchange of I-215 at Alessandro Boulevard, Cactus Avenue, and Van Buren Boulevard off-ramps. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the study area off-ramps to determine potential queuing deficiencies at the freeway ramp intersections on Cactus Avenue. Specifically, the queuing analysis is used to identify any potential queuing and spill-back onto the I-215 mainline from the off-ramps.

Traffic Signal Warrant Analysis

The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This traffic analysis uses the signal warrant criteria presented in the latest edition of the California Manual on Uniform Traffic Control Devices for all unsignalized study area intersections.

Future unsignalized intersections, that currently do not exist, have been assessed regarding the potential need for new traffic signals based on future ADT volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets.

As shown on Table 4.12-8, traffic signal warrant analyses were performed for the following unsignalized study area intersections operating at LOS E or F during the peak weekday conditions wherein the Project is anticipated to contribute the highest trips:

Table 4.12-8. Traffic Signal Warrant Analysis Locations

ID	Intersection Location	Jurisdiction
4	Wood Rd. & Mariposa Av.	County
5	Wood Rd. & Nandina Av.	County
14	Barton St. & Gless Ranch Rd.	Riverside/JPA
16	Barton St. & Lurin Av.	Riverside/JPA
17	Barton St. & Nandina Av.	County/JPA
19	Coyote Bush Rd. & Caroline Wy.	JPA
20	Coyote Bush Rd. & Krameria Av.	JPA

Table 4.12-8. Traffic Signal Warrant Analysis Locations

ID	Intersection Location	Jurisdiction
23	Bundy St. & Krameria Av.	JPA
26	Village West Dr./Clark St. & Nandina Av.	County/JPA
30	Meridian Pkwy. & Innovation Dr.	JPA

Note that a signal warrant defines only one condition (traffic volumes) of several conditions under which the installation of a traffic signal might be warranted. Meeting this threshold does not require that a traffic control signal be installed at a particular location, but, rather, that other traffic factors and conditions be evaluated to determine whether the signal is truly justified. Signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above satisfactory LOS, or vice-versa, operate below satisfactory LOS and not meet a signal warrant.

Freeway Mainline Segment Analysis

Consistent with recent March JPA guidance, past experiences with projects relating to freeway mainline segment analysis, and because impacts to freeway segments dissipate with distance from the point of State Highway System (SHS) entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry is not required.

The freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments have been evaluated based upon peak hour directional volumes. The freeway segment analysis is based on the methodology described in the HCM and performed using HCS7 software. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 4.12-9 illustrates the freeway segment LOS descriptions for each density range used for this analysis.

Table 4.12-9. Description of Freeway Mainline Level of Service

Level of Service	Description	Density Range (pc/mi/ln)
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0–11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1–18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1–26.0
D	Speeds begin to decline slightly and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1–35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1–45.0
F	Breakdown in vehicle flow.	>45.0

Source: HCM 2016.

Note: pc/mi/ln = passenger cars per mile per lane.

The number of lanes for the baseline conditions was obtained from field observations conducted by Urban Crossroads, August 2019. These existing freeway geometrics were used for all analysis scenarios.

I-215 mainline volume data was obtained from the Caltrans Performance Measurement System website for the I-215 segments. The data is from August 2019. In addition, truck traffic, represented as a percentage of total traffic, has been used in an effort to not overstate traffic volumes and peak-hour deficiencies. As such, actual vehicles (as opposed to passenger-car equivalent volumes) have been used for the purposes of the basic freeway segment analysis.

Freeway Merge/Diverge Ramp Junction Analysis

The freeway system in the study area was broken into segments defined by freeway-to-arterial interchange locations, resulting in three existing on- and off-ramp locations. Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis was performed at all ramp locations with respect to the nearest on- or off-ramp at each interchange to be consistent with Caltrans guidance and comments received on similar Projects in the region.

The merge/diverge analysis is based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS7 software. The measures of effectiveness (reported in passenger car/mile/lane) are calculated based on the existing number of travel lanes, number of lanes at the on- and off-ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 4.12-10 provides a summary of the merge/diverge area LOS descriptions for each density range used.

Table 4.12-10. Description of Freeway Merge/Diverge Level of Service

Level of Service	Density Range (pc/mi/ln)
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

Source: TRB 2016

Note: pc/mi/ln = passenger cars per mile per lane.

Project Fair Share Calculation Methodology

In cases where this traffic analysis identifies that the proposed Project would contribute additional traffic volumes to cumulative traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies were identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to total future (Horizon Year) traffic:

$$\text{Project Fair Share \%} = \text{Project Traffic} / \text{2040 Total Traffic}$$

4.12.3 Relevant Plans, Policies, and Ordinances

The following section describes regulations, plans, policies, and ordinances relevant to the study area. These include policies or regulations regarding minimum LOS standards as well as the newly implemented Vehicle Miles Traveled metric for determination of significant impact. State, regional, and local regulations are described. There

are no traffic-specific federal regulations applicable to the Project. A summary of minimum LOS standards for informational purposes is included in Section 4.12.4, Thresholds of Significance.

State

Senate Bill 743

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the CEQA process for several categories of development projects including the development of infill projects in transit priority areas and to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (California Public Resources Code Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of LOS in CEQA documents.

In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, which is often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turn encourages more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative forms of transportation such as biking and walking. SB 743 directed the OPR to develop an alternative metric(s) for analyzing transportation impacts in CEQA document. The alternative shall promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of multimodal transportation system, and providing clean, efficient access to destinations. Under SB 743, it was anticipated that the focus of transportation analysis will shift from vehicle delay to VMT within transit-priority areas (i.e., areas well served by transit).

Pursuant to SB 743, OPR released the draft revised CEQA Guidelines in November 2017, recommending the use of VMT for analyzing transportation impacts. Additionally, OPR released Updates to Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide guidance on VMT analysis. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in screening out projects from VMT analysis and selecting a significance threshold that may be appropriate for their particular jurisdictions. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance ... recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence" (CEQA Guidelines Section 15064.7[c]).

In December 2018, the CEQA Guidelines were updated to add new Section 15064.3, Determining the Significance of Transportation Impacts, that describes specific considerations for evaluating a project's transportation impacts using the VMT methodology. This new methodology is required to be used for projects beginning on July 1, 2020.

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions as follows:

- (1) **Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a

less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

- (2) **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
- (3) **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
- (4) **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

Sustainable Communities Strategies: Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the state's climate action goals to reduce greenhouse gas emissions through coordinated transportation and land use planning with the goal of more sustainable communities. Under the Sustainable Communities Act, the California Air Resources Board sets regional targets for greenhouse gas emissions reductions from passenger vehicle use. In 2010, the California Air Resources Board established these targets for 2020 and 2035 for each region covered by one of the state's metropolitan planning organizations (MPOs). The California Air Resources Board will periodically review and update the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its greenhouse gas emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. California Air Resources Board must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional greenhouse gas targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy to meet the targets. The alternative planning strategy is not a part of the RTP.

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the alternative planning strategy. Developers can get relief from certain CEQA requirements if their new residential and mixed-use Projects are consistent with a region's SCS (or alternative planning strategy) that meets the targets (see California Public Resources Code Sections 21155, 21155.1, 21155.2, 21159.28.).

Caltrans

Caltrans Draft Transportation Impact Study Guide, February 2020, will replace the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Per the 2020 Transportation Impact Study Guide, Caltrans' primary review focus is VMT, replacing LOS as the metric used in CEQA transportation analyses (Caltrans 2020). Caltrans recommends use of OPR's recommended thresholds and guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018) for land use projects. In addition to VMT, the 2020 Transportation Impact Study Guide states that it may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the State Highway System and connections with the State Highway System. It is anticipated the Transportation Impact Study Guide will be adopted in June/July 2020. The mainline and freeway ramp analysis provided in this section and included in Appendix K is consistent with this requirement and is based on Caltrans 2002 Guide.

Based on guidance from Caltrans and specifically guidance from Caltrans District 8, the LOS for operating state highway facilities is based on Measures of Effectiveness identified in the HCM (Caltrans 2002). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing Measures of Effectiveness should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadways segments, and intersections is D. For undeveloped or not densely developed locations, the goal may be to achieve LOS C. For the purposes of this study the LOS standard of D is used. The Caltrans facilities studied provide access to well developed, or quickly developing, areas and therefore it was found that a standard of D is more appropriate. Per Caltrans guidance, at locations that are already operating at deficient LOS (E or F), an operational deficiency occurs if 50 or more peak-hour trips are added (Caltrans 2002).

Regional

Southern California Association of Governments

SCAG develops the RTP, which presents the transportation vision for Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura Counties. SB 375 was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under the law, SCAG is tasked with developing an SCS, an element of the RTP that provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board.

The 2016 RTP/SCS identifies priorities for transportation planning within the Southern California region, sets goals and policies, and identifies performance measures for transportation improvements to ensure that future Projects are consistent with other planning goals for the area (SCAG 2016). The RTIP, also prepared by SCAG based on the RTP, lists all of the regional funded/programmed improvements within the next 7 years. To qualify for CEQA streamlining benefits under SB 375, a project must be consistent with the RTP/SCS.

On May 7, 2020, SCAG's Regional Council adopted Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth

pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians (SCAG 2020).

County of Riverside Congestion Management Program

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California that has an urbanized area with a population over 50,000 (which would include the County of Riverside) to prepare a CMP. Additionally, the passage of Proposition 111 provided additional transportation funding through a \$0.09 per gallon increase in the state gas tax. The Riverside County Transportation Commission was designated as the Congestion Management Agency in 1990, and therefore, prepares the CMP updates.

Although implementation of the CMP was made voluntary by the passage of Assembly Bill 2419, the CMP requirement has been retained in all five urbanized counties within the SCAG region. In addition to their value as a transportation management tool, CMPs have been retained in these counties because of the federal Congestion Management System requirement that applies to all large, urban areas that are not in attainment of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the regional agency (for the County of Riverside, SCAG).

The most recent CMP that was prepared by the Riverside County Transportation Commission was developed in consultation with the county and cities in Riverside County and is an effort to more directly align land use, transportation, and air quality management efforts and to promote reasonable growth management programs that effectively use statewide transportation funds while ensuring that new development pays its fair share of needed transportation improvements (RCTC 2011).

Per the CMP-adopted LOS standard of E, when a CMP facility falls to LOS F, a deficiency plan is required. Preparation of a deficiency plan would be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency would also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including transportation demand management strategies and transit alternatives, and a schedule of mitigating the deficiency. To ensure that the Congestion Management System is appropriately monitored to reduce the occurrence of CMP deficiencies, it is the responsibility of local agencies, when reviewing and approving development proposals, to consider the traffic deficiencies on the Congestion Management System.

Transportation Uniform Mitigation Fee

WRCOG is responsible for establishing and updating the Transportation Uniform Mitigation Fee (TUMF) program. TUMF is a multijurisdictional impact fee program that funds transportation improvements on a regional and sub-regional basis associated with new growth. All new development in each of the participating jurisdictions is subject to TUMF, based on the proposed intensity and type of development. TUMFs are submitted by the applicant and are passed on to WRCOG as the ultimate program administrator. TUMF funds are distributed on a formula basis to the regional, local, and transit components of the program. March JPA participates in the TUMF program.

The TUMF program is administered by WRCOG based upon a regional Nexus Study completed in early 2003 and updated in 2016 to address major changes in right-of-way acquisition and improvement cost factors. TUMF identifies a network of backbone and local roadways that are needed to accommodate growth through 2040. This regional program was put into place to ensure that development pays its fair share and that funding is in place for

construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMFs and other applicable fair-share contributions are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases.

A few of the facilities where the Project is anticipated to be cumulatively contribute to operational deficiencies are planned for improvements through the TUMF Program. The Project Applicant will be subject to the TUMF program and will pay the requisite TUMF at the rates then in effect. The Project Applicant's payment of the requisite TUMF at the rates then in effect pursuant to the TUMF Program will mitigate its contribution to deficiencies to TUMF-funded facilities.

Local

March Joint Powers Authority

Based on the March JPA Traffic Impact Study Preparation Guide (March JPA 2011), all intersections and roadway segments within the March JPA Planning Area shall operate at LOS D or better with limiting circumstances of LOS E to occur. LOS E may also be allowed to the extent that would support transit-oriented development and walkable communities. A lower LOS in transit-oriented development environments encourages people to shift from dependency on single occupancy vehicles to use of public transit and other modes of transportation. This is acceptable in transit-oriented development environments because alternative modes of transportation are readily accessible and are more convenient than in non- transit-oriented development land use environments. LOS E is also acceptable during peak hours at interchange ramp intersections where ramp metering occurs. The Project is not proposed to be a transit-oriented development and neither the Alessandro Boulevard nor Cactus Avenue on-ramps are currently metered; as such, for informational purposes, the minimum LOS is LOS D.

March Joint Powers Authority General Plan

The Transportation Element of the March JPA General Plan includes goals and policies related to transportation. The following goals and polices are from the March JPA General Plan that apply to the Project (March JPA 1999).

Goal 2: Build and maintain a transportation system which capitalizes on the multi-faceted elements of transportation planning and systems, designed to meet the needs of the planning area while minimizing negative effects on air quality, the environment and adjacent land uses and jurisdictions.

Policy 2.1: March JPA shall balance the need for free traffic flow with economic realities and environmental and aesthetic consideration, such that transportation facilities are capable of normal patterns and volume, with tolerance of peak and high level usage with minimal disruption, delays or impacts.

Policy 2.6: FAA standards, military AICUZ, and appropriate Comprehensive Land Use Plan for March Airfield shall be upheld and supported to encourage and realize a safe environment in and around the aviation field.

Policy 2.7: On-street parking shall be de-emphasized throughout the planning area to permit maximum capacity of roadways to be actuated by vehicular and bicycle transportation modes.

- Goal 3:** Develop a transportation system that is safe, convenient, efficient and provides adequate capacity to meet local and regional demands.
- Policy 3.5:** Driveway entrances onto surrounding arterial highways, major and minor arterials streets should be redistricted when practical, and through traffic on interior streets should be minimized.
- Goal 4:** Provide a balanced transportation system that ensures the safe and efficient movement of people and good throughout the planning area, while minimizing the use of land for transportation facilities.
- Policy 4.3:** Arterial roads should carry both local and through traffic and be planned and improved to maintain a Level of Service “D” or better with limiting circumstances of Level of Service “E” to occur.
- Policy 4.4:** Through traffic planning, measures should be implemented to alleviate direct impacts to adjoining jurisdictions which decrease roadway function Level of Service below the jurisdiction’s adopted accepted Level of Service, as appropriate.
- Policy 4.5:** Require the dedication and improvement of arterial roadways prior to the issuance of certificates of occupancy.
- Goal 6:** Establish vehicular access control policies in order to maintain and insure the effectiveness and capacity of arterial roadways.
- Policy 6.1:** To the extent possible, access shall be provided on local or collector streets where the frontage is available on both local and arterials streets.
- Policy 6.2:** Access to an arterial road shall be limited to one point for every 300 feet of frontage or one point for parcels with less than 300 feet of frontage.
- Policy 6.4:** For corner lots, whenever possible, vehicular access points on arterial roadways shall be located a minimum of 300 feet from the centerline of the intersection.
- Policy 8.8:** Require the installation of bus improvements such as bus turnouts, bus stops, and terminals as part of the conditions of development for employment centers and land uses that attract large numbers of persons, where appropriate.
- Goal 9:** Develop measures which will reduce the number of vehicle miles traveled during peak travel periods.
- Goal 10:** Regulate the travel of trucks on March JPA Planning Area streets.
- Policy 10.1:** Establish a truck route system which designates truck commercial vehicle routes and provides adequately sized and designated roadways to meet the needs of trucks and commercial vehicles. This will eliminate truck and commercial vehicle traffic through inappropriate areas of the March JPA Planning Area.
- Goal 12:** Plan for and seek to establish an area-wide system of bicycling trails, with linkages within the planning area and with adjacent jurisdictions, and in compliance with sub-regional plans.

Policy 12.5: Provide adequate right-of-way and improvements for bike lanes in accordance with the Transportation Plan.

Policy 12.7: Require sidewalks on both sides of the all streets. The March JPA encourages alternate designs including parkways and meandering and enhanced paving.

Goal 15: In accordance with state and federal law, promote and provide mobility for the disabled.

Policy 15.1: Require that all development comply with the requirements of the state and federal law for the disabled. Requirements may include ramps at street corners, access to public buildings, traffic signal timing and the like.

City of Riverside

The City of Riverside General Plan states the City of Riverside will strive to maintain LOS D or better on arterial streets wherever possible (City of Riverside 2007). At some key locations, such as City arterial roadways, which are used as freeway bypass by regional through traffic and at heavily traveled freeway intersections, LOS E may be acceptable as determined on a case-by-case basis. These situations may include roadways where capacity expansion is not feasible or would not mitigate the congestion. Locations that may warrant the LOS E standard include portions of Arlington Avenue/Alessandro Boulevard, Van Buren Boulevard throughout the City of Riverside, portions of La Sierra Avenue, and selected freeway interchanges. However, the General Plan does not specify which portions of these roadway segments are acceptable to operate at LOS E. A higher standard, such as LOS C or better, may be adopted for Local and Collector streets in residential areas. The City of Riverside recognizes that along key freeway feeder segments during peak commute hours, LOS F may be expected due to regional travel patterns.

For informational purposes, LOS D was used as the standard as it is consistent with the policies and practices in other cities and the March JPA and it is the highest standard applicable to non-residential areas.

City of Riverside General Plan

The Circulation Element of the City of Riverside General Plan includes goals and policies that apply to the Project related to transportation (City of Riverside 2007).

Policy CCM-2.3: Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials that are used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.

Policy CCM-2.7: Limit driveway and local street access on Arterial Streets to maintain a desired quality of traffic flow. Wherever possible, consolidate driveways and implement access controls during redevelopment of adjacent parcels. Policy CCM-5.7 Work with Riverside County and as a member of the March Joint Powers Authority to ensure adequate circulation within the JPA jurisdictional area and around Riverside National Cemetery.

City of Moreno Valley

The City of Moreno Valley General Plan states that LOS C should be maintained wherever possible and LOS D in the vicinity of State Route 60 and high employment centers. Figure 9-2 of the General Plan indicates which standard should be used for each roadway (City of Moreno Valley 2006). All of the study intersections located in the City of Moreno Valley are on roadways with an LOS D. Therefore, for informational purposes, LOS D is the standard used of intersections in the City of Moreno Valley.

City of Moreno Valley General Plan

The Circulation Element of the City of Moreno Valley General Plan includes goals objectives, and policies related to transportation and traffic that apply to the Project related to transportation and traffic.

- Policy 5.1.1:** Plan access and circulation of each development Project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.
- Policy 5.1.3:** Require adequate off-street parking for all developments.
- Policy 5.1.4:** Driveway placement shall be designed for safety and to enhance circulation wherever possible.
- Policy 5.1.6:** Design new developments to provide opportunity for access and circulation to future adjacent developments.
 - Objective 5.3:** Maintain Level of Service (LOS) “C” on roadway links, wherever possible, and LOS “D” in the vicinity of SR 60 and high employment centers. Figure 9-2 depicts the LOS standards that are applicable to all segments of the General Plan Circulation Element Map.
- Policy 5.3.5:** Ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts. For this purpose, require new developments to participate in Transportation Uniform Mitigation Fee Program (TUMF), the Development Impact Fee Program (DIF) and any other applicable transportation fee programs and benefit assessment districts.
- Policy 5.5.8:** Whenever possible, require private and public land developments to provide on-site and off-site improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development Project shall be undertaken to identify Project impacts to the circulation system. The City may require developers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.
- Policy 5.11.2:** Driveways shall be designed to avoid conflicts with pedestrian and bicycle travel.

County of Riverside General Plan

The Circulation Element of the County of Riverside General Plan includes policies related to traffic that require County facilities to maintain LOS C, except in certain Area Plans and Community Development Areas where LOS D is the standard that should be maintained. Intersections in the study area that fall under County of Riverside jurisdiction are within the Community Development Areas of Mead Valley and Lake Mathews/Woodcrest. These Community Development Areas are required to maintain the LOS standard of D (County of Riverside 2016). As such, for informational purposes, LOS D is used as the standard for intersections located under the jurisdiction of the County.

Policy C 2.1: The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan (Figure C-1) which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non- Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.

LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans. LOS E may be allowed by the Board of Supervisors within designated areas where transit oriented development and walkable communities are proposed.

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a Project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental impacts and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible mitigation measures, make specific findings to support the decision, and adopt a statement of overriding considerations. (Action Item (AI)3)

Policy C 2.2: Require that new development prepare a traffic impact analysis as warranted by the Riverside County Traffic Impact Analysis Preparation Guidelines or as approved by the Director of Transportation. Apply level of service targets to new development per the Riverside County Traffic Impact Analysis Preparation Guidelines to evaluate traffic impacts and identify appropriate mitigation measures for new development. (AI 3)

Policy C 2.3: Traffic studies prepared for development entitlements (tracts, public use permits, conditional use permits, etc.) shall identify Project related traffic impacts and

determine the significance of such impacts in compliance with CEQA and the Riverside County Congestion Management Program Requirements. (AI 3)

- Policy C 2.4:** The direct Project related traffic impacts of new development proposals shall be mitigated via conditions of approval requiring the construction of any improvements identified as necessary to meet level of service targets.
- Policy C 2.5:** The cumulative and indirect traffic impacts of development may be mitigated through the payment of various impact mitigation fees such as County Development Impact Fees, Road and Bridge Benefit District Fees, and Transportation Uniform Mitigation Fees to the extent that these programs provide funding for the improvement of facilities impacted by development.
- Policy C 3.4:** Allow roundabouts or other innovative design solutions such as triple left turn lanes, continuous flow intersections, or other capacity improvements, when a thorough traffic impact assessment has been conducted demonstrating that such an intersection design alternative would manage traffic flow, and improve safety, if it is physically and economically feasible.
- Policy C 3.6:** Require private developers to be primarily responsible for the improvement of streets and highways that serve as access to developing commercial, industrial, and residential areas. These may include road construction or widening, installation of turning lanes and traffic signals, and the improvement of any drainage facility or other auxiliary facility necessary for the safe and efficient movement of traffic or the protection of road facilities.
- Policy C 3.8:** Restrict heavy duty truck through-traffic in residential and community center areas and plan land uses so that trucks do not need to traverse these areas.
- Policy C 3.10:** Require private and public land developments to provide all on-site auxiliary facility improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development Project shall be undertaken to identify Project impacts to the circulation system and its auxiliary facilities. The Transportation Department may require developers and/or subdividers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.
- Policy C 7.1:** Work with incorporated cities to mitigate the cumulative impacts of incorporated and unincorporated development on the transportation system. (AI 2, 49, 50, 53)
- Policy C 7.8:** Collaborate with all incorporated cities and all adjacent counties to implement and integrate right-of-way requirements and improvement standards for General Plan roads that cross jurisdictional boundaries. Detailed procedures have been developed and include the following:
- c. Transition areas at meeting points of roadways designed to differing city and Riverside County standards or differing functional classifications should be

individually designed to facilitate satisfactory operational and safety performance. Further, Riverside County should update the road standards to reflect the intent of this policy and standards agreed upon by the County of Riverside and other local agencies. (AI 4, 50)

4.12.4 Thresholds of Significance

The following significance criteria are based on the March JPA CEQA Guidelines (14 CCR 15000 et seq.), and will be used to determine the significance of potential traffic and circulation impacts. Through the analysis in the Initial Study (see Appendix A), it was determined that the proposed Project would not result in inadequate emergency access. Accordingly, this issue is not further analyzed in this SEIR. Based on the remaining thresholds, impacts to traffic and circulation would be significant if the Project would:

- TRA-1:** Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- TRA-2:** Conflict or be inconsistent with the CEQA Guidelines Section 15064.3, subdivision (b).
- TRA-3:** Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

VMT Impact Thresholds

The updated CEQA Guidelines themselves do not establish a significance threshold and the OPR's Technical Advisory recommends a threshold of significance for residential, office and other land uses. While the recommended threshold for per capita or per employee for residential or office projects, respectively, is 15% below that of existing development, lead agencies can use more location-specific information to develop their own specific threshold for other project/land use types. The proposed Project would be considered a mix of office, business park, industrial, and warehousing uses and as such March JPA could develop its own threshold per OPR guidance. Further, consistency with regional transportation plan is required for all land use projects.

It should be noted that WRCOG SB 743 Implementation Pathway Study provided several options related to VMT thresholds of significance and guidance/substantial evidence related to thresholds of significance. An example of how VMT thresholds could be applied to determine potential VMT impacts for WRCOG member agencies is provided below:

A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project-generated VMT per service population exceeds the lead agency's baseline VMT per service population³
2. The cumulative project-generated VMT per service population exceeds the lead agency's baseline VMT per service population⁴

The project's effect on VMT (i.e., cumulative impact) would be considered significant if it resulted in either of the following conditions to be satisfied:

1. The baseline link-level boundary VMT per service population (City or subregional boundary) to increase under the plus project condition compared to the no project condition

³ For more efficient cities in the WRCOG region, the lead agency could compare itself to the WRCOG regional average instead.

⁴ For more efficient cities in the WRCOG region, the lead agency could compare itself to the WRCOG regional average instead.

- The cumulative link-level boundary VMT per service population (City or subregional boundary) to increase under the plus project condition compared to the no project condition

The WRCOG study also notes that, as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. OPR's Technical Advisory (OPR 2018) recommends an office/industrial project significance threshold of 15% below existing regional VMT per employee.

LOS Standards

LOS was used as the measure of effectiveness for the performance of the circulation system by the agencies with jurisdiction over the Project study area. It is provided for informational purposes only since evaluation of a project's impact under CEQA uses the VMT metric. (See Section 4.12.2 for a detailed description of LOS.) However, the standard varies for each agency. Table 4.12-11 shows the applicable standards for LOS based on the type or location of the intersection or roadway facility. Where more than one agency has jurisdiction over an intersection, the higher standard is used.

Table 4.12-11. LOS Standards by Jurisdiction¹

Type of Roadway	Non-CMP Intersection	CMP Intersection	Applies to Project? ²	Standard Used for Analysis
Caltrans				
All Facilities	D	E	Yes	D
March JPA				
Non-TOD Developments	D	E	Yes	D
TOD Developments	E	E	No	n/a
Ramp Metered Interchanges	E	E	No	n/a
City of Riverside				
Arterials	D	E	Yes	D
Freeway Bypass Roadways	E	E	Yes ³	D
Key Freeway Feeder Segments	F	E	No	n/a
Local and Collector Roads in Residential Areas	C	E	No	n/a
City of Moreno Valley				
Roadways Adjacent to Freeways or Employment Generating Land Uses ⁴	D	E	Yes	D
All other roadways	C	E	No	n/a
County of Riverside				
Outside of Area Plans or Non-Community Development Areas ⁵	C	E	No	n/a
Within Area Plans or Community Development Areas ⁶	D	E	Yes	D
Transit Oriented Development ⁷	D	E	No	n/a

Source: Appendix K

Notes: CMP = Congestion Management Program; TOD = transit-oriented development

¹ Improvements are recommended if Project traffic comprises 2% or more of the total peak-hour traffic at intersections already operating at unsatisfactory LOS.

- 2 States whether there are any intersections or roadways in the Project study area that meet the definition of the land use or context to which the LOS standard applies.
- 3 While some of the arterials listed as freeway bypass roads include roadways in the study area, the more stringent standard of LOS D is used due to lack of specificity of exact locations that may use LOS E and for consistency with other agency policies in the study area.
- 4 Figure 9-2 of the City of Moreno General Plan shows which standard applies to which roadway. All of the study area intersections are located on roadways with a LOS standard of D.
- 5 Specifically, LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non- Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- 6 LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- 7 Requires approval of County Board of Supervisors

Project-Related Deficiencies

Specific Project-related improvements are identified for intersections at which the addition of Project-only trips result in an identifiable degradation in LOS to unsatisfactory LOS from the existing conditions. These improvements would ensure that the Project is consistent with General Plan policies and would be implemented as standard conditions of approval.

March JPA

To determine whether the addition of Project traffic at a study intersection would result in a direct Project-specific traffic deficiency, the Existing Conditions is compared to Existing plus Project Conditions. If the comparison reveals that one of the two following conditions are met, then a direct Project deficiency occurs per the March JPA Traffic Impact Preparation Guide (March JPA 2011):

- A deficiency is deemed to occur if the pre-Project condition is at or better than LOS D (or acceptable LOS) and the Project-generated traffic causes deterioration below acceptable levels (to LOS E or F). OR;
- If the pre-Project condition is already below LOS D (or acceptable LOS), a Project-related deficiency is deemed to occur if the Project contributes more than 2% of the total traffic.

City of Riverside

For the study area intersections that lie within the City of Riverside, to determine whether the addition of Project traffic (as defined through the comparison of Existing traffic conditions to Existing plus Project traffic conditions) at a study intersection would result in a direct Project-specific traffic deficiency, the following will be used:

- When the pre-Project condition is at or better than LOS D (i.e., unsatisfactory LOS), and Project-generated traffic, as measured by 50 or more peak-hour trips, causes deterioration below LOS D or increases to the peak hour delay as defined by Table 4.12-12, a deficiency is deemed to occur.

Table 4.12-12. City of Riverside – Standards

Pre-Project LOS	Project-Related Delay Increase	Improvement
A/B	10.0 Seconds or More	Achieve pre-Project delay or better
C	8.0 Seconds or More	Achieve pre-Project delay or better
D	5.0 Seconds or More	Achieve pre-Project delay or better
E	2.0 Seconds or More	Achieve pre-Project delay or better
F	1.0 Second or More	Achieve pre-Project delay or better

Source: Appendix K

Note: LOS = level of service

City of Moreno Valley

The minimum LOS for the City of Moreno Valley is LOS D for intersections that are adjacent to freeway on/off ramps, and/or adjacent to employment generating land uses. LOS C is applicable to all other intersections. Boundary intersections are assumed to be LOS D.

County of Riverside

For the study area intersections that lie within the County of Riverside, to determine whether the addition of Project traffic (as defined through the comparison of Existing traffic conditions to Existing plus Project traffic conditions) at a study intersection would result in a direct Project-specific traffic deficiency, the following will be used:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and Project-generated traffic, as measured by 50 or more peak-hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

Caltrans Facilities

To determine if the addition of Project traffic to the State Highway System freeway segments under Caltrans jurisdiction would result in a deficiency, both of the following must be found:

- The traffic study finds that the LOS of a segment would degrade from D or better to E or F; and
- The traffic study finds that the Project would exacerbate an already deficient condition by contributing 50 or more peak-hour trips. A segment that is operating at or near capacity is deemed to be deficient.

Cumulative

Cumulative traffic deficiencies are created by a combination of the proposed Project together with other future developments which contribute to the overall traffic conditions. Because the impacts are cumulative, additional improvements to maintain satisfactory LOS operations would be required with or without the Project. A Project's contribution to cumulative traffic conditions can be reduced if the Project contributes its fair share of improvements designed to alleviate its cumulative contribution to the conditions.

4.12.5 Impacts Analysis

TRA-1. Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The study area within the March JPA and the surrounding Cities of Riverside and Moreno Valley are currently served by the RTA, a public transit agency serving various jurisdictions within Riverside County. As discussed in 4.12.1, Existing Conditions, RTA Route 26 and 27 could potentially serve the Project, as it currently operates along Van Buren Boulevard to the north of the Project site. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments, which may lead to either enhanced or reduced service where appropriate. The recently opened Moreno Valley/March Field Metrolink Station is located on Meridian Parkway, approximately 3 miles north of the Project site.

Field observations conducted in August 2019 indicate nominal pedestrian and bicycle activity within the study area. Existing pedestrian facilities within the study area are shown on Figure 4.12-13. There are currently Class II bike lanes along Alessandro Boulevard, Cactus Avenue, Meridian Parkway, and Van Buren Boulevard within the study area. Existing sidewalks are currently in place along the Krameria Avenue and Coyote Bush Road within the Project site.

The Project would not include any off-site improvements that would extend into adjacent roadways or otherwise impede public transit, bicycle, or pedestrian facilities. The Project would not include any improvements that would interfere with the construction of pedestrian or bicycle facilities in the future. As shown in Figure 3-2, Existing Conditions, in Chapter 3, an open space area with a newly constructed park and loop trail system is located southwest of the intersection of Krameria Avenue and Village West Drive. Part of the original South Campus Specific Plan, the loop trail is approximately 4,300 linear feet (0.8 miles), in the eastern portion of a 61.4-acre parcel. Adjacent to the park and loop trail is a parking lot with 25 parking spaces accessed via Village West Drive. The proposed Project will not impact the existing park and loop trail system. Therefore, there are **no impacts** to alternative transportation facilities, and no mitigation measures are required.

Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

The SCAG RTP/SCS establishes regional policies and goals for transportation to improve mobility, promote sustainability, facilitate economic development, and preserve the quality of life for residents in the region (SCAG 2016). On May 7, 2020, SCAG's Regional Council adopted Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS. Lead agencies have the sole discretion in determining a project's consistency with the RTP/SCS. Based on the analysis shown in Tables 4.12-13A and 4.12-13B, the Project is consistent with both the 2016 RTP/SCS and the 2020 Connect SoCal RTP/SCS and there is **no impact**.

Table 4.12-13A. 2016 RTP/SCS Consistency Analysis

No	Goal	Consistency
G-1	Align the plan investments and policies with improving regional economic development and competitiveness.	Consistent: The Project would provide employment and economic stimulation.
G-2	Maximize mobility and accessibility for all people and goods in the region.	Consistent: The Project includes roadway improvements that take into consideration all modes of transportation. New roadways and improved existing roadways will provide improved mobility and accessibility to regional destinations.
G-3	Ensure travel safety and reliability for all people and goods in the region.	Consistent: The Project's transportation facilities are planned with state-of-the-practice standards and considers safety of all new facilities. The March JPA coordinates with transit providers with regard to safety and reliability, but does not have direct authority over transit facilities.
G-4	Preserve and ensure a sustainable regional transportation system.	Consistent: The March JPA coordinates with regional transit providers, other jurisdictions and Caltrans to provide sustainable options for transportation.
G-5	Maximize the productivity of our transportation system.	Not Applicable: Transportation Systems Management and Intelligent Transportation Systems are implemented by SCAG and Transportation Demand Management is implemented within the March JPA on a Project level basis if or when appropriate.
G-6	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	Consistent: The Project includes improvements to the circulation system for bicyclists and pedestrians that will help improve mobility options for active modes of travel.
G-7	Actively encourage and create incentives for energy efficiency, where possible.	Consistent: In addition to state and federal incentives, the SEIR includes MM-AQ-4, which includes energy saving strategies. (See Section 4.2, Air Quality, for more detail.)
G-8	Encourage land use and growth patterns that facilitate transit and active transportation.	Consistent: The Project will locate employment near residential areas and includes a mix of uses thereby providing opportunities for employees to reside close to work. The Project includes street designs that call for bicycle and pedestrian facilities encouraging people to use these forms of transportation from nearby residences.
G-9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Not Applicable: The regional transportation system is managed by regional agencies and Caltrans. However, the March JPA coordinates with these agencies on safety and security where applicable.

Table 4.12-13B. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Proposed Project Consistency
Encourage regional economic prosperity and global competitiveness.	Consistent. The Project provide more local jobs to achieve a more favorable jobs-housing balance and providing annual economic contribution to the Riverside County region.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	Not Applicable. The Project would not inhibit SCAG from strengthening the regional transportation network for goods movement.

Table 4.12-13B. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Proposed Project Consistency
Enhance the preservation, security, and resilience of the regional transportation system.	Not Applicable. The Project would not inhibit SCAG from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	Not Applicable. The Project would not inhibit SCAG from increasing person and goods movement and travel choices within the transportation system.
Reduce greenhouse gas emissions and improve air quality.	Consistent. The Project would create a much-needed job center, which would reduce the existing jobs/housing imbalance and reduce traffic congestion, pollution, and fossil fuel dependence.
Support healthy and equitable communities.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Consistent. The Project would provide local jobs to achieve a more favorable jobs-housing balance, reducing traffic congestion, pollution, and fossil fuel dependence.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	Not Applicable. The Project would not inhibit SCAG from leveraging technology for the transportation system.
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Not Applicable. The Project would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	Not Applicable. The Project would not inhibit SCAG from promoting conservation of natural and agricultural lands and restoration of habitats.

Source: SCAG 2020.

In considering whether the proposed Project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, it is necessary to analyze the Project's potential effects relative to the operational and General Plan consistency used by the March JPA and the cities or agencies that have jurisdiction over each of the study intersections, as discussed in Section 4.12.4. However, in accordance with CEQA Guidelines Section 15064.3(a), level of service is not used as a metric to identify transportation impacts under CEQA. Therefore, the proposed Project transportation impacts related to the March JPA and other agencies' General Plans would be less than significant.

General Plan Consistency Analysis – Project Traffic and Operational Analysis

The proposed Project's consistency with the March JPA General Plan Transportation Element is also discussed in Section 4.9.4, and consistency findings are summarized in Table 4.9-4. The proposed Project is determined to be consistent with the applicable goal (Goal 4) and policies (except Policy 4.3) of the March JPA General Plan.

Under Policy 4.3, March JPA strives to:

- Policy 4.3:** Arterial roads should carry both local and through traffic and be planned and improved to maintain a Level of Service "D" or better with limiting circumstances of Level of Service "E" to occur.

The following analysis of operational deficiencies based on LOS is included in this SEIR for informational purposes since LOS policy was determined to no longer be applicable as a transportation impact under CEQA per SB 743. Improvement measures are included that would reduce and/or avoid LOS based traffic deficiencies. Improvement measures are provided in Section 4.12.6, Project Design Features, Improvement Measures and Mitigation Measures.

Trip Generation

Trip generation represents the amount of traffic which is both attracted to and produced by a development. The building square footages were derived based on the acreages and maximum floor-area-ratios used in March JPA. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual, 10th Edition, 2017. To accurately reflect the impact that heavy trucks would have on the street system, Project trips have been further broken down between passenger cars and trucks for each of the peak hours and weekday daily trip generation. As noted, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle mix. Total vehicle mix percentages were also obtained from the Institute of Transportation Engineers (ITE) Trip Generation manual in conjunction with the South Coast Air Quality Management District recommended truck mix, by axle type.

For the Business Park use, a blended rate has been used based on the ITE description for Business Park that the average mix is 20% to 30% office/commercial and 70% to 80% industrial/warehousing. As such, 30% of the business park area has been designated as office related uses, while the remaining 70% of the business park area has been allocated to warehousing uses. For office and commercial uses, a truck percentage of 2% has been used to provide a conservative analysis. For industrial portions of the business park, a truck percentage of 13% has been used based on average truck percentage for industrial park in ITE Trip Generation Handbook, 3rd Edition (2017).

Employees of the office use may also visit other uses on-site, such as the retail uses. In other words, trips may be made between individual retail and office uses on-site and can be made either by walking or using internal roadways without using external streets. As such, a maximum 10% internal capture reduction was applied to recognize the interactions that would occur between the various complementary land uses. As the Project is proposed to include shopping center and grocery store uses, pass-by percentages have been obtained from the ITE Trip Generation Handbook (ITE 2017).

As shown on Table 4.12-14, the proposed Project is anticipated to generate a net total of 3,284 trip-ends per day with -493 AM peak-hour trips and 159 PM peak-hour trips (actual vehicles as opposed to passenger-car equivalent) compared to the 2003 Approved South Campus trip generation.

Table 4.12-14. Proposed Project Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Vacant Land Uses									
Office	70.132	TSF							
Office (75% of Mixed Use)	317.879	TSF							
Office Passenger Cars (98%)			331	53	384	65	338	403	3,874
Office Truck Trips (2%)			7	1	8	1	7	8	80
<i>Office Subtotal</i>	<i>388.011</i>	<i>TSF</i>	<i>338</i>	<i>54</i>	<i>392</i>	<i>66</i>	<i>345</i>	<i>411</i>	<i>3,954</i>
Commercial Retail	115.434	TSF							
Commercial Retail (25% of Mixed Use)	105.960	TSF							
<i>Commercial Retail Subtotal</i>	<i>221.394</i>	<i>TSF</i>	<i>164</i>	<i>100</i>	<i>264</i>	<i>469</i>	<i>509</i>	<i>978</i>	<i>10,322</i>
Pass-by Reduction (AM: 0%, PM/Daily: 34%) ³			0	0	0	-159	-159	-318	-3,510
Commercial (Grocery Store)	61.336	TSF	145	89	234	277	266	543	5,562
Pass-by Reduction (AM: 0%, PM/Daily: 36%) ³			0	0	0	-96	-96	-192	-2,004
Commercial Passenger Cars (98%)			303	185	488	481	510	991	10,162
Commercial Truck Trips (2%)			6	4	10	10	10	20	208
<i>Commercial Subtotal</i>	<i>282.730</i>	<i>TSF</i>	<i>309</i>	<i>189</i>	<i>498</i>	<i>491</i>	<i>520</i>	<i>1,011</i>	<i>10,370</i>
Business Park	1,764.180	TSF							
Office (30% of Business Park)	529.254	TSF	450	74	524	90	466	556	5,342
Office Passenger Cars (98%)			441	73	514	88	457	545	5,234
Office Truck Trips (2%)			9	1	10	2	9	11	108
Warehouse (70% of Business Park)	1,234.926	TSF	133	40	173	47	128	175	1,998
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			92	28	120	37	100	137	1,262
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			41	12	53	10	28	38	736
<i>Business Park Subtotal</i>	<i>1,764.180</i>	<i>TSF</i>	<i>583</i>	<i>114</i>	<i>697</i>	<i>137</i>	<i>594</i>	<i>731</i>	<i>7,340</i>
Industrial	1,774.437	TSF							
Warehousing	274.437	TSF							
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			31	9	40	13	34	47	302
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			14	4	18	3	10	13	178
<i>Warehousing Subtotal</i>			<i>45</i>	<i>13</i>	<i>58</i>	<i>16</i>	<i>44</i>	<i>60</i>	<i>480</i>
High-Cube Cold Storage Warehouse	700.000	TSF							

Table 4.12-14. Proposed Project Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Cold Storage Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			41	12	53	18	48	66	1,000
Cold Storage Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			18	6	24	5	13	18	584
High-Cube Cold Storage Warehouse Subtotal			59	18	77	23	61	84	1,584
High-Cube Transload Short-Term Warehouse (Building D)	800.000	TSF							
High-Cube Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			34	10	44	17	45	63	706
High-Cube Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			15	5	20	5	13	17	414
<i>High-Cube Warehousing Subtotal</i>			49	15	64	22	58	80	1,120
<i>Industrial Subtotal</i>	1,774.437	TSF	153	46	199	61	163	224	3,184
Dog Park & Paseo	6.200	AC	0	0	0	13	10	23	94
Vacant Land Uses Passenger Car Trips			1,273	370	1,643	732	1,542	2,275	22,634
Vacant Land Uses Truck Trips			110	33	143	36	90	125	2,308
Vacant Land Uses Total Trips ²			1,383	403	1,786	768	1,632	2,400	24,942
Built/Entitled Land Uses									
LGB6 (Building A) ⁴	1,000.000	TSF							
LGB6 (Building A) Passenger Cars			222	87	309	127	235	362	2,306
LGB6 (Building A) Truck Trips			57	22	79	33	60	93	592
LGB6 (Building A) Subtotal			279	109	388	160	295	455	2,898
Parcel Delivery Site (Building B + Parking Lot) ⁵	1,000.000	TSF							
Parcel Delivery Site (Building B + Parking Lot) Passenger Cars			341	132	473	221	410	631	2,952
Parcel Delivery Site (Building B + Parking Lot) Truck Trips			151	59	210	61	113	174	1,720
<i>Parcel Delivery Site (Building B + Parking Lot) Subtotal</i>			492	191	683	282	523	805	4,672
Commercial (Parcel 72) ⁶	15.485	TSF	65	56	121	66	71	137	1,534
Commercial Passenger Cars (98%)			64	55	119	65	70	135	1,502
Commercial Truck Trips (2%)			1	1	2	1	1	2	32
Warehousing (Building C) ⁶	500.000	TSF							
Warehousing (Building C) Passenger Cars			46	14	60	20	54	74	550
Warehousing (Building C) Truck Trips			21	6	27	5	15	20	320
<i>Warehousing (Building C) Subtotal</i>			67	20	87	25	69	94	870
Built/Entitled Passenger Car Trips			673	288	961	433	769	1,202	7,310
Built/Entitled Truck Trips			230	88	318	100	189	289	2,664
Built/Entitled Total Trips²			903	376	1,279	533	958	1,491	9,974
Vacant + Built/Entitled Passenger Car Trips			1,946	658	2,604	1,165	2,311	3,477	29,944

Table 4.12-14. Proposed Project Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Vacant + Built/Entitled Truck Trips			340	121	461	136	279	414	4,972
<i>Vacant + Built/Entitled Subtotal Trips²</i>			2,286	779	3,065	1,301	2,590	3,891	34,916
Vacant + Built/Entitled Passenger Car Trips (With 10% Internal Trip Reduction)			1,751	592	2,344	1,049	2,080	3,129	26,950
Vacant + Built/Entitled Truck Trips (With 10% Internal Trip Reduction)			306	109	415	122	251	374	4,475
<i>Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction)</i>			2,057	701	2,759	1,171	2,331	3,503	31,424
Previous EIR Ph. III Trips			2,965	648	3,613	808	2,907	3,715	31,267
Previous EIR Ph. III Passenger Car Trips (92.6%) (With 10% Internal Trip Reduction)			2,471	540	3,011	673	2,423	3,096	26,058
Previous EIR Ph. III Truck Trips (7.4%) (With 10% Internal Trip Reduction)			197	43	240	54	194	248	2,082
<i>Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)</i>			2,668	583	3,251	727	2,617	3,344	28,140
Proposed Project Net Passenger Car Trips ⁷			-720	52	-667	376	-343	33	892
Proposed Project Net Truck Trips ⁷			109	66	175	68	57	126	2,393
Proposed Project Net Trip Generation⁷			-611	118	-493	444	-286	159	3,284

Source: Appendix K

Notes:

- ¹ AC = acres; TSF = thousand square feet
- ² Total Trips (Actual Vehicles) = Passenger Cars + Truck Trips (Actual Trucks).
- ³ Pass-by reduction percentage consistent with ITE Trip Generation Handbook, 3rd Edition (2017)
- ⁴ Source: Urban Crossroads 2017
- ⁵ Source: VRPA Technologies 2017
- ⁶ Source: Urban Crossroads 2018
- ⁷ Proposed Project = Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction) - Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)

Trip Distribution

The trip distribution for the 2003 Approved South Campus trips has been used from the 2003 Focused EIR Traffic Study. The 2003 Focused EIR Traffic Study used the same trip distribution for both near-term and horizon year traffic conditions.

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the Project site, the location of surrounding land uses, and the proximity to the regional freeway system. The passenger car trip distribution was derived based on a select-zone run from the RivTAM model modified to include the extension of Village West Drive to Nandina Avenue. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the March JPA, City of Riverside, City of Moreno Valley, and Caltrans. The Project has constructed vertical single post type truck barriers on Village West Drive and Coyote Bush Road with overhead signs to prevent trucks from making a left turn on Van Buren Boulevard.

Given these differences, separate trip distributions were generated for both passenger cars and truck trips. Exhibits 4-1 and 4-2 in Appendix K illustrate the trip distribution patterns for passenger cars in Existing plus Project/Opening Year (near-term) and Horizon Year, respectively. Exhibit 4-3 in Appendix K illustrates the truck trip distribution patterns.

Modal Split

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling has not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are conservative in that these alternative travel modes would reduce the forecasted traffic volumes (non-truck trips only or employee trips).

Trip Assignment

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified traffic generation and trip distribution patterns, ADT and peak hour intersection turning movement volumes are shown on the following exhibits in the TIA:

- 2003 Approved South Campus – Exhibits 4-4 and 4-5
- Proposed Project (Near-Term) – Exhibits 4-6 and 4-7
- Proposed Project (Horizon Year) – Exhibits 4-8 and 4-9

Existing plus Project Traffic Conditions

This section discusses the traffic analysis for Existing plus Project Conditions and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for Existing plus Project Conditions are consistent with those shown in Exhibit 3-1 in the TIA, with the exception of Project driveways and those facilities assumed to be constructed by the Project to provide site access (e.g., intersection and roadway improvements at the Project's frontage and driveways) and extension of Village West Drive south to Nandina Avenue.

Traffic Volumes

To derive traffic volumes for the Existing plus Project scenario, Project traffic is added to the existing traffic volumes. Exhibits 5-1 and 5-2 in the TIA show the resulting ADT and peak-hour volumes, respectively.

Intersection Operations

Peak-hour traffic operations were evaluated for the study area intersections based on the analysis methodologies presented in Section 4.12.2. The intersection analysis results are summarized in Table 4.12-15, which indicates that two study area intersections that currently operate with unsatisfactory LOS in the existing condition are forecast to continue to operate with unsatisfactory LOS in the Existing plus

Project condition. The AM peak hour operations are anticipated to improve due to negative net change in Project AM trips and have not been analyzed under Existing plus Project conditions.

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS E PM peak hour – Project causes less than 2.0 seconds of delay during the PM peak hours (City of Riverside)
- Intersection #45: Elsworth Street/Cactus Avenue – LOS E PM peak hour – Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA); and, addition of less than 50 or peak-hour trips to LOS E-F (City of Moreno Valley)

The proposed Project is not anticipated to result in a deficiency in operating conditions at the above intersections. As shown in Section 4.12.6, the Project will address operational deficiencies through voluntary fair-share payments for any improvements measures required to improve the LOS at intersections.

Improvement Measures identified in Section 4.12.6 would improve operating conditions at the following intersections:

- Overlook Parkway-Canyon Crest Drive/Alessandro Boulevard (Intersection #1)
- Elsworth Street/Cactus Avenue (Intersection #45)

Additionally, the Project would construct improvements at intersections that are adjacent to the site or provide access to it:

- Barton Street/Van Buren Boulevard (Intersection #13)
- Barton Street/Gless Ranch Road (Intersection #14)
- Barton Street/Krameria Avenue (Intersection #15)
- Barton Street/Lurin Avenue (Intersection #16)
- Coyote Bush Road/Van Buren Boulevard (Intersection #18)
- Coyote Bush Road/Caroline Way (Intersection #19)
- Bundy Street/Krameria Avenue (Intersection #23)

Table 4.12-15. Existing plus Project Intersection Analysis

#	Intersection	Traffic Control ²	Existing (2019)				Existing plus Project				Acceptable LOS	Jurisdiction
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			
			AM	PM	AM	PM	AM ³	PM	AM ³	PM		
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	TS	79.6	71.6	E	E	--	71.7	--	E	D	Riverside
2	Wood Rd. & Van Buren Bl.	TS	42.7	30.9	D	C	--	31.9	--	C	D	Riverside
3	Wood Rd. & Krameria Av.	TS	35.1	14.5	D	B	--	14.6	--	B	D	Riverside
4	Wood Rd. & Mariposa Av.	AWS	42.4	13.8	E	B	--	13.8	--	B	D	County
5	Wood Rd. & Nandina Av.	CSS	15.3	14.0	C	B	--	14.1	--	B	D	County
6	Trautwein Rd. & Alessandro Bl.	TS	32.9	19.8	C	B	--	19.4	--	B	D	Riverside
7	Trautwein Rd. & Mission Grove Pkwy.	TS	62.2	37.4	E	D	--	37.4	--	D	D	Riverside
8	Trautwein Rd. & John F. Kennedy Dr.	TS	43.1	31.1	D	C	--	31.7	--	C	D	Riverside
9	Trautwein Rd. & Orange Terrace Pkwy.	TS	47.4	21.9	D	C	--	21.9	--	C	D	Riverside
10	Trautwein Rd./Cole Av. & Van Buren Bl.	TS	32.6	27.7	C	C	--	29.1	--	C	D	Riverside
11	Mission Grove Pkwy. & Alessandro Bl.	TS	25.3	25.2	C	C	--	25.0	--	C	D	Riverside
12	Barton St. & Alessandro Bl.	TS	29.6	7.0	C	A	--	7.1	--	A	D	Riverside/JPA
13	Barton St. & Van Buren Bl.	TS	46.7	30.0	D	C	--	50.6	--	D	D	Riverside/JPA
14	Barton St. & Gless Ranch Rd.	CSS	13.4	12.7	B	B	--	16.7	--	C	D	Riverside/JPA
15	Barton St. & Krameria Av.	TS	10.0	7.8	A	A	--	9.2	--	A	D	Riverside/JPA
16	Barton St. & Lurin Av.	CSS	17.5	13.9	C	B	--	13.5	--	B	D	Riverside/JPA
17	Barton St. & Nandina Av.	AWS	45.2	13.7	E	B	--	13.5	--	B	D	County/JPA
18	Coyote Bush Rd. & Van Buren Bl.	TS	19.4	12.6	B	B	--	12.1	--	B	D	Riverside/JPA
19	Coyote Bush Rd. & Caroline Wy.	--/CSS	Future Intersection				--	0.0	--	A	D	JPA
20	Coyote Bush Rd. & Krameria Av.	AWS	8.8	7.5	A	A	--	8.4	--	A	D	JPA
21	Orange Terrace Pkwy. & Van Buren Bl.	TS	10.6	9.2	B	A	--	18.7	--	B	D	Riverside/JPA
22	San Gorgonio Dr. & Alessandro Bl.	TS	4.5	5.9	A	A	--	5.9	--	A	D	Riverside/JPA
23	Bundy St. & Krameria Av.	AWS	7.9	7.9	A	A	--	9.1	--	A	D	JPA
24	Village West Dr. & Van Buren Bl.	TS	10.8	18.0	B	B	--	18.9	--	B	D	JPA
25	Village West Dr. & Krameria Av.	TS	3.8	4.3	A	A	--	4.3	--	A	D	JPA
26	Village West Dr./Clark St. & Nandina Av.	AWS	12.3	8.6	B	A	--	8.7	--	A	D	County/JPA

Table 4.12-15. Existing plus Project Intersection Analysis

#	Intersection	Traffic Control ²	Existing (2019)				Existing plus Project				Acceptable LOS	Jurisdiction
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			
			AM	PM	AM	PM	AM ³	PM	AM ³	PM		
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.	TS	90.3	30.9	F	C	--	30.9	--	C	D	Riverside/JPA
28	Meridian Pkwy. & Metrolink Station Dwy.	TS	5.8	9.2	A	A	--	9.3	--	A	D	JPA
29	Meridian Pkwy. & Cactus Av.	TS	27.4	20.7	C	C	--	22.0	--	C	D	JPA
30	Meridian Pkwy. & Innovation Dr.	CSS	19.3	19.9	C	C	--	19.4	--	C	D	JPA
31	Meridian Pkwy. & Opportunity Wy.	TS	9.4	10.5	A	B	--	11.1	--	B	D	JPA
32	Meridian Pkwy. & Van Buren Bl.	TS	13.0	16.8	B	B	--	17.1	--	B	D	JPA
33	Innovation Dr. & Cactus Av.	TS	5.6	8.5	A	A	--	8.5	--	A	D	JPA
34	Opportunity Wy. & Van Buren Bl.	TS	3.7	3.5	A	A	--	4.7	--	A	D	JPA
35	I-215 SB Ramps & Alessandro Bl.	TS	5.5	14.2	A	B	--	14.3	--	B	D	Caltrans/Riverside/County
36	I-215 SB Ramps & Cactus Av.	TS	4.5	7.6	A	A	--	7.7	--	A	D	Caltrans/JPA/County
37	I-215 SB Ramps & Van Buren Bl.	TS	23.2	15.1	C	B	--	14.5	--	B	D	Caltrans/JPA/County
38	I-215 NB Ramps & Alessandro Bl.	TS	20.0	13.1	C	B	--	13.3	--	B	D	Caltrans/Riverside/County
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.	TS	32.4	20.0	C	C	--	20.9	--	C	D	Caltrans/JPA
40	Van Buren Bl. & I-215 NB Ramps	TS	9.6	10.6	A	B	--	17.9	--	B	D	Caltrans/JPA/County
41	Old 215 Frontage Rd. & Alessandro Bl.	TS	26.1	32.2	C	C	--	27.6	--	C	D	MV/Riverside/County
42	Day St. & Cottonwood Av.	TS	24.8	22.0	C	C	--	24.8	--	C	D	MV
43	Day St. & Alessandro Bl.	TS	29.0	26.2	C	C	--	28.9	--	C	D	MV
44	Elsworth St. & Alessandro Bl.	TS	20.3	22.4	C	C	--	20.4	--	C	D	MV
45	Elsworth St. & Cactus Av.	TS	72.7	82.2	E	F	--	71.0	--	E	D	MV/JPA
46	Frederick St. & Cactus Av.	TS	23.6	20.3	C	C	--	23.5	--	C	D	MV/JPA
47	Graham St./Riverside Dr. & Cactus Av.	TS	46.2	38.9	D	D	--	47.0	--	D	D	MV/JPA

Source: Appendix K

Notes:

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS)

- ¹ Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
- ² AWS = All-Way Stop; CSS = Cross-street Stop; TS = Traffic Signal

Traffic Signal Warrants Analysis

Traffic signal warrants are conducted for unsignalized intersections. For Existing plus Project traffic conditions, there are no additional unsignalized study area intersections that are anticipated to meet a traffic signal warrant, in addition to the intersection identified previously under Existing (2019) traffic conditions. The analysis worksheets are provided in Appendix K.

Freeway Segment Analysis

A freeway mainline segment analysis was conducted for the Existing plus Project condition per the HCM methodology. Freeway mainline directional volumes for the Existing plus Project weekday AM and PM peak hours are shown in Exhibit 5-4 in the TIA. Analysis worksheets are provided in Appendix K. The study area freeway mainline segments are forecast to continue to operate with satisfactory LOS during the peak hours in Existing plus Project condition. However, observations made in the field indicated that the I-215 southbound mainline experiences significant traffic congestion in the AM peak hour, and the I-215 northbound mainline experiences significant traffic congestion in both the AM and PM peak hours due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F, and because the Project would add more than 50 peak-hour trips to those segments that are anticipated to continue to operate at unacceptable LOS, therefore the Project would contribute to operational deficiency of the I-215 segments.

As shown previously on Table 4.12-16 and consistent with Existing traffic conditions, the I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the March JPA (or other neighboring jurisdictions) on SHS roadway segments. The WRCOG TUMF Program identifies this interchange, inclusive of on/off-ramps as a transportation mitigation project on the Regional System of Highways and Arterials. However, there are also no known near-term planned improvements along I-215. As such, no improvements have been recommended.

Table 4.12-16. Existing plus Project Freeway Segment Analysis

Freeway	Direction	Mainline Segment or Ramp Junction	Lanes ¹	Existing (2019)				Existing plus Project			
				Density ²		Level of Service ³		Density ²		Level of Service ³	
				AM	PM	AM	PM	AM ⁴	PM	AM ⁴	PM
I-215	Southbound	North of Alessandro Bl.	3	22.7	25.0	C	C	--	26.2	--	D
		Off-Ramp at Alessandro Bl.	3	24.1	26.2	B	B	--	19.9	--	B
		Loop On-Ramp at Alessandro Bl.	3	23.3	24.2	C	C	--	21.8	--	C
		On-Ramp at Alessandro Bl.	4	15.7	16.2	B	B	--	16.9	--	B
		Between Alessandro Bl. and Cactus Av.	4	16.9	17.8	B	B	--	18.5	--	C
		Off-Ramp at Cactus Av.	4	17.4	18.3	B	B	--	14.4	--	B
		Loop Off-Ramp at Cactus Av.	4	16.0	17.0	B	B	--	17.7	--	B
		On-Ramp at Cactus Av.	4	13.8	14.1	B	B	--	14.8	--	B
		Between Cactus Av. and Van Buren Bl.	4	16.4	16.7	B	B	--	17.4	--	B
		Off-Ramp at Van Buren Bl.	4	16.4	16.7	B	B	--	17.4	--	B
		On-Ramp at Van Buren Bl.	4	13.3	15.0	B	B	--	15.0	--	B
	South of Van Buren Bl.	4	15.3	20.4	B	C	--	20.1	--	C	
	Northbound	South of Van Buren Bl.	4	19.2	16.0	C	B	--	16.4	--	B
		Off-Ramp at Van Buren Bl.	4	19.2	16.0	C	B	--	16.4	--	B
		Hook On-Ramp at Van Buren Bl.	4	14.8	13.6	B	B	--	13.6	--	B
		On-Ramp at Van Buren Bl.	4	17.9	16.9	B	B	--	11.6	--	B
		Between Van Buren Bl. and Cactus Av.	4	16.7	15.8	B	B	--	15.7	--	B
		Off-Ramp at Cactus Av.	4	16.7	15.8	B	B	--	14.9	--	B
		Loop On-Ramp at Cactus Av.	3	-4	18.8	F	B	--	13.0	--	B
		On-Ramp at Cactus Av.	4	-4	13.0	F	B	--	15.3	--	B
Between Cactus Av. and Alessandro Bl.		4	-4	15.3	F	B	--	15.3	--	B	
Off-Ramp at Alessandro Bl.	4	-4	15.3	F	B	--	15.3	--	B		
On-Ramp at Alessandro Bl.	3	-4	22.2	F	B	--	20.1	--	C		
North of Alessandro Bl.	3	-4	20.2	F	C	--	20.3	--	C		

Source: Appendix K

Notes:

Bold = LOS does not meet the applicable jurisdictional requirements (i.e., unsatisfactory LOS).

- 1 NB = Northbound; SB = Southbound
- 2 Density is measured by passenger cars per mile per lane (pc/mi/ln).
- 3 Number of lanes are in the specified direction and is based on existing conditions.
- 4 Observations made in the field indicate that the freeway segments experience traffic congestion during the peak hours due to queuing from downstream bottlenecks Opening Year Cumulative (2024) with Project Conditions.

The Opening Year Cumulative condition analyses identifies potential near-term cumulative circulation system deficiencies in year 2024, without and with the proposed Project. To account for background traffic growth, an ambient growth factor and traffic associated with other cumulative projects were added to existing traffic volumes. Without and with Project conditions were compared to isolate potential Project contributions to the study area intersection operations, freeway mainline operations, and traffic signal warrant analyses.

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative Conditions are consistent with existing lane configurations and traffic controls, with the exception of Project driveways and those facilities assumed to be constructed by the Project to provide site access (e.g., intersection and roadway improvements along the Project's frontage). These Project-specific improvements are only included in the with-Project conditions.

Additionally, driveways and those facilities assumed to be constructed by cumulative development projects to provide site access are also assumed to be in place for the Opening Year Cumulative condition (e.g., intersection and roadway improvements along the cumulative developments' frontages and driveways).

Also, extension of Village West Drive south to Nandina Avenue was assumed to be constructed.

Traffic Volumes

Opening year traffic forecasts are calculated based upon 5 years of background (ambient) growth at 2% per year to account for regional traffic growth between 2019 (existing conditions) and 2024 (opening year). The total ambient growth is 10.41% for 2024 traffic conditions (compounded growth of 2.0% per year over 5 years). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staffs from the Cities of Riverside and Moreno Valley, and the County of Riverside to include related cumulative projects in their respective jurisdictions.

Figure 4-1, Cumulative Projects, in Chapter 4, Environmental Analysis, of this SEIR shows a comprehensive cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-1, Related Projects, in Chapter 4 of this SEIR. All cumulative projects were considered and reviewed to determine which projects would likely contribute measurable traffic (i.e., 50 or more peak-hour trips) to study area intersections. The determination was made based on anticipated trip generation and potential travel patterns. The traffic generated by individual cumulative projects has been manually added to the study area network to generate Opening Year Cumulative (2024) forecasts for those cumulative projects that were anticipated to contribute measurable traffic to a study area intersection. Opening Year Cumulative without Project development ADT and peak-hour intersection turning movement volumes are shown in Figures 6-1 and 6-2 in Appendix K, respectively. Opening Year Cumulative with Project daily and peak-hour traffic volumes are shown in Figures 6-3 and 6-4 in Appendix K, respectively.

Intersection Operations

An intersection LOS analysis was conducted for the study intersections to evaluate their operations under Opening Year Cumulative conditions. The analysis worksheets are included in Appendix K. As shown in Table 4.12-17, a majority of the study area intersections are anticipated to operate with satisfactory LOS in the Opening Year Cumulative (without Project) condition, with the exception of the following intersections:

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS F AM and PM peak hours
- Intersection #2: Wood Road & Van Buren Boulevard – LOS E AM peak hour
- Intersection #4: Wood Road/Mariposa Avenue – LOS F AM peak hour
- Intersection #6: Wood Road/Nandina Avenue – LOS E AM peak hour
- Intersection #7: Trautwein Road/Mission Grove Parkway - LOS F AM peak hour and LOS E PM peak hour
- Intersection #8: Trautwein Road & John F. Kennedy Drive – LOS E AM and PM peak hour
- Intersection #9: Trautwein Road/Orange Terrace Parkway – LOS E AM peak hour
- Intersection #10: Trautwein Road.-Cole Avenue/Van Buren Boulevard – LOS E AM peak hour
- Intersection #13: Barton Street/Van Buren Boulevard - LOS F AM peak hour and LOS E PM peak hour
- Intersection #14: Barton Street/Gless Ranch Road – LOS F AM and PM peak hour
- Intersection #16: Barton Street/Lurin Avenue - LOS F AM and PM peak hour
- Intersection #17: Barton Street/Nandina Avenue - LOS F AM and PM peak hour
- Intersection #23: Bundy Street/Krameria Avenue - LOS E AM and LOS F PM peak hour
- Intersection #27: Sycamore Canyon Drive/Meridian Parkway/Alessandro Boulevard - LOS F AM peak hour
- Intersection #32: Meridian Parkway/Van Buren Boulevard – LOS F AM and PM peak hour
- Intersection #37: I-215 Southbound Ramps & Van Buren Boulevard – LOS F AM and PM peak hour
- Intersection #39: Old 215 Frontage Rd./I-215 Northbound Ramps & Cactus Avenue - LOS F AM and PM peak hour
- Intersection #45: Elsworth Street/Cactus Avenue – LOS F AM and PM peak hour

For the Opening Year plus Project, as shown in Table 4.12-17, the proposed Project is anticipated to result in operational deficiencies at the following intersections:

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS F AM and PM peak hours – Project causes less than 2.0 seconds of delay during the AM and PM peak hours (City of Riverside)
- Intersection #2: Wood Road/Van Buren Boulevard – LOS E AM peak hour- Project causes less than 2 seconds of delay during the AM peak hour at LOS E.
- Intersection #4: Wood Road/Mariposa Avenue – LOS F AM peak hour – Project adds less than 50 peak-hour trips to the intersection (County of Riverside)
- Intersection #6: Wood Road/Nandina Avenue – LOS E AM peak hour – Project causes less than 2.0 seconds of delay at LOS E (City of Riverside)
- Intersection #7: Trautwein Road/Mission Grove Parkway - LOS F AM peak hour and LOS E PM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM peak hour and less than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside)

- Intersection #8: Trautwein Road/John F. Kennedy Drive – LOS E AM and PM peak hour - Project causes less than 2.0 seconds of delay at LOS E during the AM and PM peak hour (City of Riverside)
- Intersection #9: Trautwein Road/Orange Terrace Parkway – LOS E AM peak hour - Project causes less than 2.0 seconds of delay at LOS E during the AM peak hour (City of Riverside)
- Intersection #10: Trautwein Road.-Cole Avenue/Van Buren Boulevard – LOS E AM peak hour -Project causes less than 2.0 seconds of delay at LOS E during the AM peak hour (City of Riverside)
- Intersection #13: Barton Street/Van Buren Boulevard - LOS F AM peak hour and LOS E PM peak hour - Project causes more than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- Intersection #14: Barton Street/Gless Ranch Road – LOS F AM and PM peak hour - Project causes more than 1.0 second of delay at LOS F during the PM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- Intersection #16: Barton Street/Lurin Avenue - LOS F AM and PM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM and PM peak hour (City of Riverside); the Project adds more 2% of total peak-hour traffic at LOS E-F (March JPA);
- Intersection #17: Barton Street/Nandina Avenue - LOS F AM and PM peak hour – Project adds less than 50 peak hours during the peak hour (County of Riverside) and adds less than 2% to total peak-hour traffic at LOS E-F (March JPA)
- ***Intersection #23: Bundy Street/Krameria Avenue - LOS E AM and LOS F PM peak hour Project adds 2% or more to the total peak-hour traffic at LOS E-F (March JPA) in PM peak hours.***
- Intersection #27: Sycamore Canyon Drive/Meridian Parkway/Alessandro Boulevard - LOS F AM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM peak hour (City of Riverside); the Project less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- ***Intersection #32 : Meridian Parkway/Van Buren Boulevard – LOS F AM and PM peak hour - the Project adds more 2% or more of total peak-hour traffic at LOS E-F (March JPA);***
- ***Intersection #37: I-215 Southbound Ramps & Van Buren Boulevard – LOS F AM and PM peak hour – Project adds 2% or more of total peak-hour traffic at LOS E-F (March JPA) during PM peak hour; and, addition of 50 or more peak-hour trips to LOS E-F (County of Riverside and Caltrans) during PM peak hour.***
- Intersection #39 : Old 215 Frontage Rd./I-215 Northbound Ramps & Cactus Avenue - LOS F AM and PM peak hour - Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA); and, addition of less than 50 peak-hour trips to LOS E-F (Caltrans) in both peak hours.
- Intersection #45: Elsworth Street/Cactus Avenue – LOS F AM and PM peak hour – Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA); and, addition of less than 50 or peak-hour trips to LOS E-F (City of Moreno Valley).

The Project would contribute to operational deficiencies for its respective jurisdiction at Intersections #23, #32 and #37 per LOS methodology (as shown in bold, italicized text). However, under the updated CEQA guidelines, LOS cannot be used to determine significance of transportation impact. Therefore, measures which improve LOS at the above intersections have been described as Improvement Measures in Section 4.12.6. As shown in Section 4.12.6, the Project will address operational deficiencies through voluntary fair-share payments for any measures necessary to improve the LOS at those intersections.

Improvement Measures identified in Section 4.12.6 would improve operating conditions at the following intersections:

- Wood Road/Van Buren Boulevard (Intersection #2)
- Barton Street/Nandina Avenue (Intersection #17)
- Sycamore Canyon Drive/Meridian Parkway & Alessandro Boulevard (Intersection #27)
- I-215 SB Ramps/Van Buren Boulevard (Intersection #37)
- Old 215 Frontage Road/I-215 NB Ramps & Cactus Avenue (Intersection #39)
- Elsworth Street/Cactus Avenue (Intersection #45)

Additionally, the Project would construct improvements at intersections that are adjacent to the site or provide access to it:

- Barton Street/Van Buren Boulevard (Intersection #13)
- Barton Street/Gless Ranch Road (Intersection #14)
- Barton Street/Krameria Avenue (Intersection #15)
- Barton Street/Lurin Avenue (Intersection #16)
- Coyote Bush Road/Van Buren Boulevard (Intersection #18)
- Coyote Bush Road/Caroline Way (Intersection #19)
- Bundy Street/Krameria Avenue (Intersection #23)

Table 4.12-17. Opening Year Cumulative (2024) Peak Hour Intersection Analysis

#	Intersection	Without Project				With Project				Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution	
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service			AM	PM	AM	PM	AM	PM
		AM	PM	AM	PM	AM	PM	AM	PM							
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	144.3	166.9	F	F	142.5	166.9	F	F	Riverside	--	--	-1.8	0.0	--	--
2	Wood Rd. & Van Buren Bl.	75.9	44.9	E	D	71.4	47.4	E	D	Riverside	--	--	-4.5	2.5	--	--
4	Wood Rd. & Mariposa Av.	70.2	16.5	F	C	67.4	16.5	F	C	County	--	--	--	--	24	32
6	Trautwein Rd. & Alessandro Bl.	55.8	34.3	E	C	56.2	35.2	E	D	Riverside	--	--	0.4	0.9	--	--
7	Trautwein Rd. & Mission Grove Pkwy.	103.7	72.7	F	E	104.2	73.8	F	E	Riverside	--	--	0.5	1.1	--	--
8	Trautwein Rd. & John F. Kennedy Dr.	77.9	65.4	E	E	78.6	67.2	E	E	Riverside	--	--	0.7	1.8	--	--
9	Trautwein Rd. & Orange Terrace Pkwy.	70.2	27.6	E	C	71.5	27.7	E	C	Riverside	--	--	1.3	0.1	--	--
10	Trautwein Rd./Cole Av. & Van Buren Bl.	75.6	49.3	E	D	58.9	52.7	E	D	Riverside	--	--	-16.7	3.4	--	--
13	Barton St. & Van Buren Bl.	93.6	72.3	F	E	90.2	78.7	F	E	Riverside/ JPA	-4.3%	0.3%	-3.4	6.4	-219	12
14	Barton St. & Gless Ranch Rd.	664.7	578.0	F	F	542.0	593.1	F	F	Riverside/ JPA	-2.7%	0.2%	-122.7	15.1	-53	3
16	Barton St. & Lurin Av.	68.6	74.2	F	F	59.9	73.1	F	F	Riverside/ JPA	-2.1%	0.2%	-8.7	-1.1	-32	3

Table 4.12-17. Opening Year Cumulative (2024) Peak Hour Intersection Analysis

#	Intersection	Without Project				With Project				Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution	
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service			AM	PM	AM	PM	AM	PM
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	AM	PM
17	Barton St. & Nandina Av.	229.1	126.4	F	F	220.2	123.6	F	F	County/JPA	-1.1%	0.2%	--	--	-18	3
23	Bundy St. & Krameria Av.	38.2	50.2	E	F	14.8	52.7	B	F	JPA	-4.8%	7.0%	--	--	--	--
27	Sycamore Canyon Dr./ Meridian Pkwy. & Alessandro Bl.	112.9	49.8	F	D	111.9	50.0	F	D	Riverside/JPA	-0.5%	0.0%	-1.0	0.2	-32	3
32	Meridian Pkwy. & Van Buren Bl.	108.0	128.5	F	F	94.6	120.3	F	F	JPA	-2.9%	1.7%	--	--	-213	144
37	I-215 SB Ramps & Van Buren Bl.	133.3	219.4	F	F	117.8	261.5	F	F	Caltrans/JPA/County	-3.0%	2.3%	--	--	-159	141
39	Old 215 Frontage Rd./ I-215 NB Ramps & Cactus Av.	163.8	90.5	F	F	157.2	92.9	F	F	Caltrans/JPA	-0.7%	0.1%	--	--	-41	6
45	Elsworth St. & Cactus Av.	170.1	217.6	F	F	165.7	215.6	F	F	MV/JPA	-0.8%	0.1%	--	--	-41	7

Source: Appendix K

Notes:

BOLD = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).

-- = Not applicable for this jurisdiction

Traffic Signal Warrants Analysis

Traffic signal warrants were prepared for the only unsignalized intersection in the study area for Opening Year Cumulative (2024) traffic conditions. Based on the warrant analysis, the following unsignalized study area intersections are warranted for a traffic signal:

- Intersection #14: Barton Street/Gless Ranch Road
- Intersection #16: Barton Street/Lurin Avenue
- Intersection #26: Village West Drive-Clark Street/Nandina Avenue

The analysis worksheets are provided in Appendix K.

Freeway Segments Analysis

Opening Year Cumulative mainline directional volumes for the weekday AM and PM peak hours, without and with, the proposed Project are shown in Exhibits 6-7 and 6-8 in Appendix K, respectively. As shown in Table 4.12-18 one additional freeway segment analyzed for this study is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours under Opening Year Cumulative (2024) Without Project traffic conditions. However, observations made in the field indicated that the I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F due to a breakdown in vehicle flow. However, observations made in the field indicated that the I-215 southbound mainline experiences significant traffic congestion in the AM peak hour, and the I-215 northbound mainline experiences significant traffic congestion in both the AM and PM peak hours due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F.

Table 4.12-18. Opening Year Cumulative (2024) Freeway Segment Analysis

Freeway	Direction	Mainline Segment or Ramp Junction	Lanes ¹	Without Project				With Project			
				Density ²		Level of Service ³		Density ²		Level of Service ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	Southbound	North of Alessandro Bl.	3	38.1	38.2	E	E	38.8	39.6	E	E
		Off-Ramp at Alessandro Bl.	3	25.6	25.6	C	C	25.8	26.1	C	C
		Loop On-Ramp at Alessandro Bl.	3	28.5	27.5	D	C	28.2	28.5	D	D
		On-Ramp at Alessandro Bl.	4	22.3	21.6	C	C	22.1	22.4	C	C
		Between Alessandro Bl. and Cactus Av.	4	24.1	24.3	C	C	24.2	24.9	C	C
		Off-Ramp at Cactus Av.	4	20.0	19.7	B	B	20.1	20.3	C	C
		Loop Off-Ramp at Cactus Av.	4	23.3	23.3	C	C	22.6	24.0	C	C
		On-Ramp at Cactus Av.	4	22.8	18.9	C	C	19.3	19.6	C	C
		Between Cactus Av. and Van Buren Bl.	4	19.3	23.2	C	C	22.5	23.9	C	C
		Off-Ramp at Van Buren Bl.	4	22.9	23.2	C	C	22.5	23.9	C	C
	On-Ramp at Van Buren Bl.	4	15.2	17.8	B	B	15.2	17.8	B	B	
	South of Van Buren Bl.	4	18.0	27.7	C	D	18.2	27.7	C	D	
	Northbound	South of Van Buren Bl.	4	25.4	19.5	C	C	25.0	19.9	D	C
		Off-Ramp at Van Buren Bl.	4	25.7	19.5	C	C	25.0	19.9	D	C
		Hook On-Ramp at Van Buren Bl.	4	17.3	15.5	B	B	17.3	15.5	B	B
		On-Ramp at Van Buren Bl.	4	16.4	20.0	B	B	16.8	20.0	B	B
		Between Van Buren Bl. and Cactus Av.	4	20.8	22.9	C	C	21.1	22.9	C	C
		Off-Ramp at Cactus Av.	4	20.8	22.9	C	C	21.1	22.9	B	C
		Loop On-Ramp at Cactus Av.	3	-4	25.2	F	C	-4	25.2	F	C
		On-Ramp at Cactus Av.	4	-4	20.1	F	C	-4	20.1	F	C
Between Cactus Av. and Alessandro Bl.		4	-4	24.7	F	C	-4	24.8	F	C	
Off-Ramp at Alessandro Bl.		4	-4	24.7	F	C	-4	24.8	F	C	
On-Ramp at Alessandro Bl.	3	-4	31.5	F	D	-4	31.6	F	D		
North of Alessandro Bl.	3	-4	37.8	F	E	-4	37.7	F	E		

Source: Appendix K

Notes:

* **BOLD** = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ Observations made in the field indicate that the freeway segments experience traffic congestion due to queuing from downstream bottlenecks.

However, no additional freeway segments and ramp junctions are anticipated to operate at an unacceptable LOS with implementation of the proposed Project.

The I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the March JPA (or other neighboring jurisdictions) on SHS roadway segments. The WRCOG TUMF Program identifies this interchange, inclusive of on/off-ramps as a transportation mitigation project on the Regional System of Highways and Arterials. However, there are also no known near-term planned improvements along I-215. As such, no improvements have been recommended.

Horizon Year (2040) with Project Traffic Conditions

This section discusses the methods used to develop the Horizon Year, without and with Project, traffic conditions and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

Roadway Improvements

The study area lane configurations and traffic controls assumed to be in place for the Horizon Year conditions are consistent with existing conditions, with the exception of Project driveways and other intersection and roadway improvements along the Project's frontage and driveways. Additionally, driveways and those facilities assumed to be constructed by cumulative development projects to provide site access are also assumed to be in place for the Horizon Year conditions (e.g., intersection and roadway improvements along the cumulative development's frontage and driveways). Other connections assumed include the extension of Village West Drive south to Nandina Avenue.

Traffic Volumes

The Horizon Year (2040) without Project traffic conditions were derived from RivTAM using accepted procedures for model forecast refinement and smoothing.

The Horizon Year Without and With Project traffic conditions analyses will be used to determine if improvements funded through regional transportation mitigation fee programs, such as the TUMF and Development Impact Fee programs, or other approved funding mechanisms can accommodate the long-range cumulative traffic at the target LOS identified in the March JPA General Plan. If the "funded" improvements can provide the target LOS, then the Project's payment into TUMF and/or Development Impact Fee will be considered as long-range cumulative mitigation through the conditions of approval. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-TUMF facilities) are identified as such.

Exhibits 7-1 and 7-2 in Appendix K show the ADT and intersection volumes, respectively for Horizon Year traffic conditions without the Project. The Horizon Year (2040) with Project traffic forecasts were determined by adding the Project traffic to the Horizon Year (2040) without Project traffic forecasts from the RivTAM model. Exhibits 7-3 and 7-4 in Appendix K show the ADT and intersection volumes, respectively, for Horizon Year (2040) Conditions with the Project.

Intersection Operations

An intersection LOS analysis was conducted for the study intersections to evaluate their operations under Horizon Year (2040) conditions. The analysis worksheets are included in Appendix K. As shown in Table 4.12-19, a majority of the study area intersections are anticipated to operate with satisfactory LOS in the Opening Year Cumulative (without Project) condition, with the exception of the following:

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS F AM and PM peak hours
- Intersection #2: Wood Road & Van Buren Boulevard – LOS F AM and PM peak hours
- Intersection #3: Wood Road/Krameria Avenue – LOS E AM peak hours
- Intersection #4: Wood Road/Mariposa Avenue – LOS F AM peak hour
- Intersection #5: Wood Road/Nandina Avenue – LOS F AM and PM peak hour
- Intersection #6: Wood Road/Nandina Avenue – LOS E AM peak hour
- Intersection #7: Trautwein Road/Mission Grove Parkway - LOS F AM and PM peak hour
- Intersection #8: Trautwein Road & John F. Kennedy Drive – LOS F AM and PM peak hour
- Intersection #9: Trautwein Road/Orange Terrace Parkway – LOS F AM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM peak hour (City of Riverside)
- Intersection #10: Trautwein Road.-Cole Avenue/Van Buren Boulevard – LOS F AM and LOS E PM peak hour
- Intersection #11: Mission Grove Parkway/Alexandro Boulevard – LOS F AM and LOS E PM peak hour
- Intersection #12: Barton Street/Alexandro Boulevard – LOS F AM and LOS E PM peak hour
- Intersection #13: Barton Street/Van Buren Boulevard - LOS F AM and PM peak hour
- Intersection #14: Barton Street/Gless Ranch Road – LOS F AM and PM peak hour
- Intersection #16: Barton Street/Lurin Avenue - LOS F AM and PM peak hour
- Intersection #17: Barton Street/Nandina Avenue - LOS F AM and PM peak hour
- Intersection #23: Bundy Street/Krameria Avenue - LOS E AM and LOS F PM peak hour
- Intersection #27: Sycamore Canyon Drive/Meridian Parkway/Alessandro Boulevard - LOS F AM peak hour
- Intersection #32: Meridian Parkway/Van Buren Boulevard – LOS F AM and PM peak hour
- Intersection #37: I-215 Southbound Ramps & Van Buren Boulevard – LOS F AM and PM peak hour
- Intersection #39: Old 215 Frontage Rd./I-215 Northbound Ramps & Cactus Avenue - LOS F AM and PM peak hour
- Intersection #45: Elsworth Street/Cactus Avenue – LOS F AM and PM peak hour

For the Horizon Year (2040) plus Project, as shown in Table 4.12-18 and Figure 4.12-14, the proposed Project is anticipated to result in operational deficiencies at the following intersections:

- Intersection #1: Overlook Parkway – Canyon Crest Drive/Alessandro Boulevard – LOS F AM and PM peak hours – Project causes less than 2.0 seconds of delay during the AM and PM peak hours (City of Riverside)
- Intersection #2: Wood Road & Van Buren Boulevard – LOS F AM and PM peak hours- Project causes less than 2 seconds of delay during the AM and PM peak hours at LOS E (City of Riverside)
- Intersection #3: Wood Road/Krameria Avenue – LOS E AM peak hours- Project causes less than 2.0 seconds of delay at LOS E (City of Riverside)
- Intersection #4: Wood Road/Mariposa Avenue – LOS F AM peak hour – Project adds less than 50 peak-hour trips to the intersection (County of Riverside)

- Intersection #5: Wood Road/Nandina Avenue – LOS F AM and PM peak hour – Project adds less than 50 peak-hour trips to the intersection (County of Riverside)
- Intersection #6: Wood Road/Nandina Avenue – LOS E AM peak hour – Project causes less than 2.0 seconds of delay at LOS E (City of Riverside)
- Intersection #7: Trautwein Road/Mission Grove Parkway - LOS F AM and PM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM and PM peak hour (City of Riverside)
- Intersection #8: Trautwein Road & John F. Kennedy Drive – LOS F AM and PM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM and PM peak hour (City of Riverside)
- Intersection #9: Trautwein Road/Orange Terrace Parkway – LOS F AM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM peak hour (City of Riverside)
- Intersection #10: Trautwein Road.-Cole Avenue/Van Buren Boulevard – LOS F AM and LOS E PM peak hour -Project causes less than 1.0 second of delay at LOS F and less than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside)
- Intersection #11: Mission Grove Parkway/Alexandro Boulevard – LOS F AM and LOS E PM peak hour - Project causes less than 1.0 second of delay at LOS F and less than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside)
- Intersection #12: Barton Street/Alexandro Boulevard – LOS F AM and LOS E PM peak hour -Project causes less than 1.0 second of delay at LOS F and less than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- **Intersection #13: Barton Street/Van Buren Boulevard - LOS F AM and PM peak hour - Project causes more than 2.0 seconds of delay at LOS E during the PM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);**
- **Intersection #14: Barton Street/Gless Ranch Road – LOS F AM and PM peak hour - Project causes more than 1.0 second of delay at LOS F during the AM and PM peak hour (City of Riverside); the Project adds more than 2% of total peak-hour traffic at LOS E-F (March JPA);**
- Intersection #16: Barton Street/Lurin Avenue - LOS F AM and PM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM and PM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- Intersection #17: Barton Street/Nandina Avenue - LOS F AM and PM peak hour – Project adds less than 50 peak hours during the peak hour (County of Riverside) and adds less than 2% to total peak-hour traffic at LOS E-F (March JPA)
- **Intersection #23: Bundy Street/Krameria Avenue - LOS E AM and LOS F PM peak hour Project adds 2% or more to the total peak-hour traffic at LOS E-F (March JPA) in PM peak hours.**
- Intersection #27: Sycamore Canyon Drive/Meridian Parkway/Alessandro Boulevard - LOS F AM peak hour - Project causes less than 1.0 second of delay at LOS F during the AM peak hour (City of Riverside); the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);
- **Intersection #32: Meridian Parkway/Van Buren Boulevard – LOS F AM and PM peak hour - the Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA);**
- **Intersection #37: I-215 Southbound Ramps & Van Buren Boulevard – LOS F AM and PM peak hour – Project added 2% or more of total peak-hour traffic at LOS E-F (March JPA) during PM peak hour; and, adds 50 or more peak-hour trips to LOS E-F (County of Riverside and Caltrans) during PM peak hour.**

- Intersection #39 : Old 215 Frontage Rd./I-215 Northbound Ramps & Cactus Avenue - LOS F AM and PM peak hour - Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA); and, addition of less than 50 peak-hour trips to LOS E-F (Caltrans) in both peak hours.
- Intersection #45: Elsworth Street/Cactus Avenue – LOS F AM and PM peak hour – Project adds less than 2% of total peak-hour traffic at LOS E-F (March JPA); and, addition of less than 50 or peak-hour trips to LOS E-F (City of Moreno Valley).

The Project would contribute to operational deficiencies for its respective jurisdiction at Intersections #13, #14, #23, #32, and #37 per LOS methodology (as indicated in bold, italicized text). However, under the updated CEQA Guidelines, LOS cannot be used to determine significance of transportation impact. Therefore, measures which improve LOS at the above intersections have been described as Improvement Measures in Section 4.12.6. As shown in Section 4.12.6, the Project will address operational deficiencies through voluntary fair-share payments for any measures necessary to improve the LOS at those intersections.

Improvement Measures identified in Section 4.12.6 would improve operating conditions at the following intersections:

- Wood Road/Van Buren Boulevard (Intersection #2)
- Wood Road/Krameria Avenue (Intersection #3)
- Wood Road/Nandina Avenue (Intersection #5)
- Mission Grove Parkway/Alessandro Boulevard (Intersection #11)
- Barton Street/Alessandro Boulevard (Intersection #12)
- Village West Drive/Clark Street & Nandina Avenue (Intersection #26)
- Sycamore Canyon Drive/Meridian Parkway & Alessandro Boulevard (Intersection #27)
- Old 215 Frontage Road/I-215 NB Ramps & Cactus Avenue (Intersection #39)
- Old 215 Frontage Road/Alessandro Boulevard (Intersection #41)
- Day Street/Cottonwood Avenue (Intersection #42)
- Day Street/Alessandro Boulevard (Intersection #43)
- Elsworth Street/Alessandro Boulevard (Intersection #44)
- Graham Street/Riverside Drive/Cactus Avenue (Intersection #47)

Additionally, the Project would construct improvements at intersections that are adjacent to the site or provide access to it:

- Barton Street/Van Buren Boulevard (Intersection #13)
- Barton Street/Gless Ranch Road (Intersection #14)
- Barton Street/Krameria Avenue (Intersection #15)
- Barton Street/Lurin Avenue (Intersection #16)
- Coyote Bush Road/Van Buren Boulevard (Intersection #18)
- Coyote Bush Road/Caroline Way (Intersection #19)
- Bundy Street/Krameria Avenue (Intersection #23)

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Table 4.12-19. Horizon Year (2040) Peak Hour Intersection Analysis

#	Intersection	Horizon Year				Horizon Year With Project				Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution	
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service			AM	PM	AM	PM	AM	PM
		AM	PM	AM	PM	AM	PM	AM	PM							
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	344.8	371.0	F	F	344.0	371.2	F	F	Riverside	--	--	-0.8	0.2	--	--
2	Wood Rd. & Van Buren Bl.	115.5	91.5	F	F	108.3	91.8	F	F	Riverside	--	--	-7.2	0.3	--	--
3	Wood Rd. & Krameria Av.	71.0	16.0	E	B	70.1	16.0	E	B	Riverside	--	--	-0.9	0.0	--	--
4	Wood Rd. & Mariposa Av.	116.0	29.1	F	D	112.5	29.4	F	D	County	--	--	--	--	-6	1
5	Wood Rd. & Nandina Av.	76.1	1023.6	F	F	73.7	1031.0	F	F	County	--	--	--	--	-6	1
6	Trautwein Rd. & Alessandro Bl.	71.1	51.6	E	D	71.4	51.9	E	D	Riverside	--	--	0.3	0.3	--	--
7	Trautwein Rd. & Mission Grove Pkwy.	105.3	96.6	F	F	106.0	97.0	F	F	Riverside	--	--	0.7	0.4	--	--
8	Trautwein Rd. & John F. Kennedy Dr.	100.9	97.2	F	F	101.4	98.1	F	F	Riverside	--	--	0.5	0.9	--	--
9	Trautwein Rd. & Orange Terrace Pkwy.	122.5	36.6	F	D	123.3	36.8	F	D	Riverside	--	--	0.8	0.2	--	--
10	Trautwein Rd./Cole Av. & Van Buren Bl.	99.6	73.7	F	E	78.9	74.5	E	E	Riverside	--	--	-20.7	0.8	--	--
11	Mission Grove Pkwy. & Alessandro Bl.	123.1	74.6	F	E	121.8	73.8	F	E	Riverside	--	--	-1.3	-0.8	--	--
12	Barton St. & Alessandro Bl.	96.1	73.2	F	E	83.4	74.1	F	E	Riverside/JPA	-0.2%	0.0%	-12.7	0.9	-12	2
13	Barton St. & Van Buren Bl.	131.3	104.1	F	F	135.3	104.2	F	F	Riverside/JPA	-3.4%	0.2%	4.0	0.1	-219	12
14	Barton St. & Gless Ranch Rd.	5250.1	3980.5	F	F	3957.1	4146.4	F	F	Riverside/JPA	-2.0%	0.1%	-1293.0	165.9	-53	3
16	Barton St. & Lurin Av.	330.3	525.3	E	F	286.6	501.3	F	F	Riverside/JPA	-1.5%	0.5%	-43.7	-24.0	-32	3
17	Barton St. & Nandina Av.	559.1	427.9	F	F	551.4	428.3	F	F	County/JPA	-0.8%	0.1%	--	--	-18	3
18	Coyote Bush Rd. & Van Buren Bl.	55.3	46.4	E	D	54.9	49.5	D	D	Riverside/JPA	N/A	N/A	N/A	N/A	N/A	N/A
21	Orange Terrace Pkwy. & Van Buren Bl.	61.4	33.8	E	C	51.7	46.9	D	D	Riverside/JPA	N/A	N/A	N/A	N/A	N/A	N/A
23	Bundy St. & Krameria Av.	42.1	55.8	E	F	15.8	58.2	C	F	JPA	-4.7%	6.8%	--	--	-63	103
26	Village West Dr./Clark St. & Nandina Av.	77.0	15.7	F	C	113.6	23.6	F	C	County/JPA	-2.8%	14.3%	--	--	-33	2
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.	160.7	112.9	F	F	159.9	112.9	F	F	Riverside/JPA	-0.4%	0.0%	-0.8	0.0	-32	3
29	Meridian Pkwy. & Cactus Av.	55.6	60.9	E	E	54.2	54.5	D	D	JPA	N/A	N/A	--	--	N/A	N/A
32	Meridian Pkwy. & Van Buren Bl.	134.0	175.7	F	F	122.9	175.7	F	F	JPA	-2.5%	1.6%	--	--	-193	144
37	I-215 SB Ramps & Van Buren Bl.	125.9	255.4	F	F	125.9	247.0	F	F	Caltrans/JPA/County	-2.3%	1.9%	--	--	-139	140
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.	284.0	193.7	F	F	276.7	196.6	F	F	Caltrans/JPA	-0.6%	0.1%	--	--	-41	6
40	Van Buren Bl. & I-215 NB Ramps	135.9	24.4	F	C	122.0	30.7	F	C	Caltrans/JPA/County	-1.1%	0.9%	--	--	-51	43
41	Old 215 Frontage Rd. & Alessandro Bl.	89.2	62.9	F	E	86.0	62.4	F	E	MV/Riverside/County	-1.0%	0.0%	-3.2	-0.5	-46	2
42	Day St. & Cottonwood Av.	66.8	103.9	E	F	67.0	102.6	E	F	MV	--	--	--	--	-19	2
43	Day St. & Alessandro Bl.	79.2	75.3	E	E	75.8	74.5	E	E	MV	--	--	--	--	-47	2
44	Elsworth St. & Alessandro Bl.	33.1	56.4	C	E	32.9	56.2	C	E	MV	--	--	--	--	-26	2
45	Elsworth St. & Cactus Av.	212.5	249.3	F	F	208.8	247.7	F	F	MV/JPA	-0.7%	0.1%	--	--	-41	7
47	Graham St./Riverside Dr. & Cactus Av.	63.8	59.1	E	E	60.4	58.8	E	E	MV/JPA	-0.5%	0.1%	--	--	-27	7

Source: Appendix K

Notes:

- * **BOLD** = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).
- = Not applicable for this jurisdiction

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Traffic Signal Warrants Analysis

Traffic signal warrants were prepared for the only unsignalized intersection in the study area for Horizon Year (2040) traffic conditions. Based on the warrant analysis, the following unsignalized study area intersection is warranted for a traffic signal:

- Intersection #5 Wood Road/Nandina Avenue

The analysis worksheets are provided in Appendix K.

Freeway Segments Analysis

Horizon Year (2040) mainline directional volumes for the weekday AM and PM peak hours, without and with, the proposed Project are shown in Exhibits 7-7 and 7-8 in Appendix K, respectively. As shown in Table 4.12-20 all 16 freeway segments and ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours under Horizon Year (2040) Without Project traffic conditions. However, observations made in the field indicated that the I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks. Where applicable, the freeway mainline is assumed to operate at LOS F due to a breakdown in vehicle flow.

However, no additional freeway segments and ramp junctions are anticipated to operate at an unacceptable LOS with implementation of the proposed Project.

The Project is anticipated to have a cumulatively contribution to the identified freeway mainline segments and merge/diverge ramp junctions, however, no improvement measures have been identified as no other improvements beyond those planned by the I-215 North Project have been evaluated. Neither Caltrans or the State have adopted a fee program that can ensure that locally contributed impact fees will be tied to improvements to freeway mainlines, and only Caltrans has the jurisdiction over mainline improvements. Because Caltrans has exclusive control over state highway improvements, ensuring that fair share contributions to mainline improvements are actually part of a program tied to implementation is within the jurisdiction of Caltrans.

Table 4.12-20. Horizon Year Traffic Conditions Freeway Segment Analysis

Freeway	Direction	Mainline Segment or Ramp Junction	Lanes ¹	Without Project				With Project			
				Density ²		Level of Service ³		Density ²		Level of Service ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	Southbound	North of Alessandro Bl.	3	38.8	-.5	E	F	42.5	-.5	E	F
		Off-Ramp at Alessandro Bl.	3	25.8	-.5	C	F	27.8	-.5	C	F
		Loop On-Ramp at Alessandro Bl.	3	28.2	-.5	D	F	29.7	-.5	D	F
		On-Ramp at Alessandro Bl.	4	22.1	-.5	C	F	23.4	-.5	C	F
		Between Alessandro Bl. and Cactus Av.	4	24.2	21.1	C	C	25.5	26.9	C	D
		Off-Ramp at Cactus Av.	4	20.1	21.1	C	C	21.0	21.8	C	C
		Loop Off-Ramp at Cactus Av.	4	22.6	15.5	C	B	24.3	28.6	C	D
		On-Ramp at Cactus Av.	4	19.3	13.6	C	B	20.5	27.4	C	D
		Between Cactus Av. and Van Buren Bl.	4	22.5	16.2	C	B	24.3	26.0	C	C
		Off-Ramp at Van Buren Bl.	4	22.5	16.2	C	B	24.3	27.1	C	D
		On-Ramp at Van Buren Bl.	4	15.2	16.1	B	B	16.6	30.5	B	D
	South of Van Buren Bl.	4	18.2	16.9	C	B	19.7	27.3	C	D	
	Northbound	South of Van Buren Bl.	4	-.5	19.9	F	C	-.5	35.6	F	E
		Off-Ramp at Van Buren Bl.	4	-.5	19.9	F	C	-.5	32.8	F	D
		Hook On-Ramp at Van Buren Bl.	4	-.5	15.5	F	B	-.5	29.8	F	D
		On-Ramp at Van Buren Bl.	4	-.5	20.0	F	B	-.5	30.3	F	F
		Between Van Buren Bl. and Cactus Av.	4	-.5	22.9	F	C	-.5	61.7	F	F
		Off-Ramp at Cactus Av.	4	-.5	22.9	F	C	-.5	71.7	F	F
		Loop On-Ramp at Cactus Av.	3	-.4	25.2	F	D	-.4	40.8	F	F
		On-Ramp at Cactus Av.	4	-.4	20.1	F	C	-.4	59.5	F	F
Between Cactus Av. and Alessandro Bl.		4	-.4	24.8	F	C	-.4	73.0	F	F	
Off-Ramp at Alessandro Bl.	4	-.4	24.8	F	C	-.4	80.1	F	F		
On-Ramp at Alessandro Bl.	3	-.4	31.6	F	D	-.4	32.2	F	F		
North of Alessandro Bl.	3	-.4	37.7	F	E	-.4	38.8	F	F		

Source: Appendix K

Notes:

* **BOLD** = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ Observations made in the field indicate that the freeway segments experience traffic congestion due to queuing from downstream bottlenecks.

⁵ Due to oversaturated conditions (per HCS7), LOS results may be unreliable. As such, the LOS is assumed to be F.

Construction Traffic

Traffic operations during the proposed construction phase of the Project may potentially result in short-term traffic deficiencies related to construction employees, export of materials, and import of construction materials. It is anticipated that the following construction-related activities would generate traffic and may potentially result in temporary construction-related traffic deficiencies:

- Construction employee commutes;
- Import of construction materials and soils; and
- Transport and use of heavy construction equipment.

To minimize the impact of construction activities, the Project applicant would be required to develop and implement a March JPA-approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access the Project site during off-peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. With the incorporation of **PDF-TRAF-1**, short term construction impacts would be **less than significant**.

TRA-2. Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3(b) focuses on newly adopted criteria (VMT) adopted pursuant to SB 743 for determining the significance of transportation impacts. As discussed above in sub-section 4.12.2, Relevant Plans, Policies and Ordinances, pursuant to SB 743, the focus of transportation analysis changes from vehicle delay to VMT. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. As stated in CEQA Guidelines Section 15064.3(c), the provisions of Section 15064.3 shall apply statewide on July 1, 2020.

The March JPA has yet to adopt its own VMT analysis guidelines and thresholds. For the purposes of this SEIR, the recommended VMT analysis methodology and thresholds identified within the OPR's Technical Advisory and WRCOG guidelines have been used. The VMT analysis memorandum prepared by Urban Crossroads is included in Appendix K.

As shown in the analysis below, the Project would be inconsistent with CEQA Guidelines Section 15064.3(b) and therefore, impacts would be **significant and unavoidable**.

Project VMT

The calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle. RivTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The WRCOG Guidelines identifies RivTAM as the appropriate tool for conducting VMT analysis for land use projects in Riverside County.

Project VMT has been calculated using the most current version of RivTAM. Adjustments in socio-economic data (i.e., employment) have been made to the appropriate traffic analysis zone within the RivTAM model to reflect the Project's proposed land uses (i.e., office and warehouse). Table 4.12-21 summarizes the employment estimates for the Project. It should be noted that the employment estimates were provided by the Project team and are consistent with those used by the Project's Water Supply Assessment and SEIR.

Table 4.12-21. Employment Estimates

Land Use	Quantity (in square feet)	Estimated Employees ¹
Office	917,265	497
Warehouse	3,009,363	1,777

Source: Appendix K

Note:

¹ Estimated Employees from South Campus Specific Plan Amendment Water Supply Assessment and Draft Supplemental Environmental Impact Report (April 2020).

Adjustments to employment for the Project’s Traffic Analysis Zone were made to both the RivTAM base year model (2012) and the cumulative year model (2040). Project-generated home-based work (HBW) VMT was then calculated for both the base year model (2012) and cumulative year model (2040) and linear interpolation was used to determine the Project’s baseline (2019) HBW VMT. The HBW VMT is then normalized by dividing by the number of Project employees. As shown in Table 4.12-22, the Project baseline HBW VMT per employee is 15.76.

Table 4.12-22. Project HBW VMT per Employee

	Project
Employment	2,274
HBW VMT	35,838
HBW VMT/Employee ¹	15.76

Source: Appendix K

Note:

¹ HBW VMT/Employee is a measure of all auto trips between home and work, and does not include heavy duty truck trips or freight, which is consistent with OPR guidance.

The Project as defined in the SEIR is the net change in impacts between the 2003 Approved South Campus and the proposed Project’s shift in land uses. However, since a VMT analysis was not done in 2003, this VMT information is based on the land use employment information of the revised Specific Plan.

Regional VMT

WRCOG provides VMT calculations for base model year (2012) and cumulative model year (2040) for each of its member agencies and for the WRCOG region. Urban Crossroads has obtained this data from WRCOG and has used linear interpolation to calculate the WRCOG region wide HBW VMT per employee for baseline (2019) conditions, which is 13.13. OPR has recommended a threshold of 15% below the existing regional VMT but neither the March JPA nor WRCOG has adopted this approach.

Project Level VMT Assessment

Table 4.12-23 illustrates the comparison between Project-generated HBW VMT per employee to the existing (2019) regional (WRCOG) HBW VMT per employee. As shown, the Project would exceed the current regional (WRCOG) HBW VMT per employee by 20.03%. As such, the Project’s impact based on VMT is **potentially significant**.

Table 4.12-23. Project VMT per Employee Comparison

	Project	Existing Regional Average	15% below Existing Regional Average (per OPR guidance) ¹
HBW VMT/Employee	15.76	13.13	11.16
Difference w/Project		+2.63	+4.60
Percent Change		20.03%	41.20%

Source: Appendix K

Note:

¹ Provided for informational purposes only.

The Project's HBW VMT per employee exceeds the existing regional (WRCOG) VMT per employee.

Even with implementation of feasible Transportation Demand Management (TDM) measures (as summarized in Section 4.12.6), the Project's VMT cannot be reduced to levels that would be less than significant. Additionally, the efficacy of TDM measures and reduction of VMT impacts below thresholds cannot be assured. Therefore, Project's impact would be **significant and unavoidable**.

TRA-3. Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The March Business Center designated truck route map is shown on Figure 4.12-11. I-215, Alessandro Boulevard (west of I-215), Meridian Parkway, Innovation Drive, Opportunity Way, Van Buren Boulevard, Cactus Avenue, Krameria Avenue, Coyote Bush Road, and Village West Drive (between Krameria Avenue and Van Buren Boulevard) are identified as designated truck routes. Mitigation Measure B-12 from the 2003 Focused EIR requires that Signage shall be provided at the Van Buren Boulevard intersections with Coyote Bush Road and Orange Terrace to discourage truck traffic on residential streets in the Orangecrest Development. Furthermore, the March JPA, as a responsible party, shall encourage the City of Riverside and Riverside County to review and consider appropriate legislation to eliminate or curtail truck traffic, exempting local deliveries, on Alessandro Boulevard and Van Buren Boulevard west of the March Business Center Development. To further ensure the effectiveness of this measure, mitigation measure **MM-TRA-2** is included as part of this Project to enforce compliance with following the established truck routes. MM-TRA-2 requires that trucks in violation of the identified truck route found turning left from Coyote Bush Road onto Van Buren Boulevard will be subject to monetary fines that the March JPA can impose a penalty of \$2,000 for the first violation, \$5,000 for the second violation, and \$10,000 for the third violation.

As shown on Exhibit 4-3 in Appendix K, 100% of truck trips are anticipated to use Van Buren Boulevard, and distributed to the east toward I-215. Approximately 70% of the trucks would travel northbound and 30% of the trucks would travel southbound along I-215. Van Buren Boulevard, near the Project site and I-215 are designated truck routes, and these roadways have been identified by March JPA as being designed to adequately support tractor trailer traffic. As the majority of truck traffic will be distributed along these roadways, the introduction of Project-related truck trips would not be considered an incompatible use.

Further, in response to Riverside County Transportation Department's comments during the scoping period regarding use of the unpaved section of Nandina Avenue east of Village West Drive/Clark Street by Project-related trips, a focused assessment of that segment was conducted by Urban Crossroads. The results of the Meridian South Campus Specific Plan Amendment and Village West Drive Extension – Nandina Avenue Focused Assessment Analysis, dated July 1, 2020, and Response to Comments regarding the South

Campus Specific Plan and the Village West Drive Extension Project (SEIR), dated July 2, 2020, are summarized below and included in Appendix K.

The Project would not add truck trips to the Village West Drive Extension, since the roadway segment south of Krameria Avenue is not part of a designated March JPA truck route. All trucks would be mandated to turn left at the Village West Drive/Van Buren Boulevard intersection and use the I-215 freeway to travel north or south of the Project site. The Village West Drive Extension would provide a safe and improved route for the Westmont Village retirement living community residents to access community features to the south and for residents south of Nandina Avenue to access the General Old Golf Course and Riverside National Cemetery. Additionally, this extension would improve the connectivity of the region's circulation system, which would enhance the safety of the entire community in times of emergency. Additionally, the Project applicant is seeking an easement from the United States Department of Veterans Administration to complete the Village West Drive Extension to the standards of a two-lane road with a bike lane and median.

Nandina Avenue is currently an unimproved dirt roadway between the Village West Drive/Clark Street intersection extending easterly to Decker Road within unincorporated Riverside County. The dirt roadway provides local access to private property fronting the south side of Nandina Avenue for approximately 2,600 linear feet immediately east of Village West Drive/Clark Street to the future extension of Day Street. Further to the east, Nandina Avenue between the future extension of Day Street and Decker Road consists mainly of uneven dirt trails and rocky terrain. During periods of heavy rain in the winter months, this section of uneven terrain can become impassible without high vehicle clearance and 4-wheel drive capability. Therefore, most local traffic tends to use other east-west paved roadway connections such as Markham Street during these times. Based on the equation identified in the TIA used to estimate daily traffic on study area roadway segments, the existing peak-hour volumes of 12 AM peak-hour trips and 8 PM peak-hour trips result in approximately 104 vehicles per day on Nandina Avenue, east of Village West Drive/Clark Street. As shown in the focused assessment, the Project would add 1% (i.e., 270 average daily trips) of passenger car traffic that would travel easterly on Nandina Avenue when it is assumed as a paved roadway under Horizon Year (2040) conditions. As the Project is anticipated to contribute no vehicular traffic to Nandina Avenue east of Village West Drive/Clark Street for near-term conditions and fewer than 50 peak-hour trips for Horizon Year (2040) conditions, analysis of Nandina Avenue or intersections located along Nandina Avenue to the east was not included in the TIA. Under Horizon Year (2040) conditions, the 1% Project traffic (i.e., 270 average daily trips) would contribute to nominal traffic growth (2.48% of net new traffic) toward the future paved extension of Nandina Avenue, east of Village West Drive/Clark Street. The Project would contribute toward implementation of interim roadway improvement to the standards of a two-lane Industrial Collector between Village West Drive/Clark Street and Decker Road. As such, the Project's fair share contribution would be approximately \$57,377 (i.e., 2.48% of \$2,313,600), which is estimated to be the cost of grading, paving, curb and gutter improvements, sidewalk improvements, culverts, and the installation of streetlights for an Industrial Collector. Alternately, in the interim condition, appropriate signage could be installed to discourage use of the unimproved portions of Nandina Avenue.

All roadway improvements required as a result of the Project, whether located on or off site, would be designed and constructed in accordance with all applicable local, state, and federal roadway standards and practices. The Project driveways intersections along Van Buren Boulevard, Barton Street, Village West Drive, Coyote Bush Road, Krameria Avenue and Bundy Street have been analyzed as intersections and will be improved and designed per local standards to accommodate Project traffic.

Implementation of these improvements would be overseen by the lead agency and their qualified traffic engineers and are detailed in Section 4.12.6.

Additionally, as part of this Project and consistent with mitigation measure **MM-TRA-3**, to address potential excessive roadway speeds on Van Buren Boulevard, the proposed project shall install two display signs (one in each direction) on Van Buren Boulevard which that flash a drivers speed and flash “slow down” to drivers who are exceeding the allowed speed.

This approach would ensure compliance with any and all applicable roadway design requirements. As such, no hazardous design features would be part of the Project’s roadway improvements. Therefore, impacts associated with hazardous design features or incompatible uses in conjunction with the implementation of improvements would be **less than significant**.

Freeway Analysis Off-Ramp Queuing

Existing plus Project

A queuing analysis was performed for the off-ramps at I-215 at Alessandro Boulevard, Cactus Avenue, and Van Buren Boulevard interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 mainline. As shown on Table 4.12-24 and consistent with Existing traffic conditions, the anticipated vehicle queues would be accommodated by the turning lane’s available storage length. There are no queuing issues anticipated for Existing plus Project traffic conditions.

Opening Year plus Project

As shown on Table 4.12-25 and consistent with Opening Year (2024) traffic conditions the anticipated vehicle queues would be accommodated by the turning lane’s available storage length. There are no queuing issues anticipated for Opening Year (2024) plus Project traffic conditions.

Horizon Year plus Project

As shown on Table 4.12-26 and consistent with Horizon Year (2040) traffic conditions the anticipated vehicle queues would be accommodated by the turning lane’s available storage length. There are no queuing issues anticipated for Horizon Year (2040) plus Project traffic conditions. The analysis worksheets for all the above traffic conditions off-ramp queuing analysis are provided in Appendix K.

Table 4.12-24. Existing plus Project Peak-Hour Freeway Off-Ramp Queuing

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				Existing plus Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour ⁵	PM Peak Hour	AM	PM
I-215 SB Ramps & Alessandro Bl.	SBL	525	129	146	Yes	Yes	--	149	--	Yes
	SBL/R	1,540	110	115	Yes	Yes	--	115	--	Yes
	SBR	525	106	109	Yes	Yes	--	109	--	Yes
I-215 SB Ramps & Cactus Av.	SBR	1,115	132	312 ²	Yes	Yes	--	326 ²	--	Yes
	NBR	1,850	0	0	Yes	Yes	--	0	--	Yes
I-215 SB Ramps & Van Buren Bl.	SBL/T	1,510	13	135	Yes	Yes	--	128	--	Yes
	SBR	1,450	230	30	Yes	Yes	--	35	--	Yes
I-215 NB Ramps & Alessandro Bl.	NBL	450	294	192	Yes	Yes	--	192	--	Yes
	NBL/T/R	1,345	314	202	Yes	Yes	--	200	--	Yes
	NBR	450	40	77	Yes	Yes	--	65	--	Yes
I-215 NB Ramps & Cactus Av.	NBL	145	402 ²	34	Yes ⁴	Yes	--	35	--	Yes
	NBT/R	1,650	792 ²	273	Yes	Yes	--	266	--	Yes
Van Buren Bl. & I-215 NB Ramps	EBL	1,560	126	68	Yes	Yes	--	135	--	Yes
	EBR	580	2	0	Yes	Yes	--	0	--	Yes

Source: Appendix K

Notes:

- ¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.
- ² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- ³ Maximum queue length for the approach reported.
- ⁴ Although the 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 mainline.
- ⁵ The net change in Project AM trips is negative. As such, the AM peak hour is not analyzed for E+P traffic conditions.

Table 4.12-25. Opening Year Cumulative (2024) with Project Peak-Hour Freeway Off-Ramp Queuing

Intersection	Movement	Available Stacking Distance (Feet)	Without Project				With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Alessandro Bl.	SBL	525	222 ²	202	Yes	Yes	222 ²	202	Yes	Yes
	SBL/R	1,540	232 ²	190	Yes	Yes	232 ²	190	Yes	Yes
	SBR	525	206 ²	180	Yes	Yes	206 ²	180	Yes	Yes
I-215 SB Ramps & Cactus Av.	SBR	1,115	160	39	Yes	Yes	160	42	Yes	Yes
	NBR	1,850	40	663 ²	Yes	Yes	40	663 ²	Yes	Yes
I-215 SB Ramps & Van Buren Bl.	SBL/T	1,510	247	857 ²	Yes	Yes	247	690 ²	Yes	Yes
	SBR	1,450	714 ²	116	Yes	Yes	651 ²	0	Yes	Yes
I-215 NB Ramps & Alessandro Bl.	NBL	450	442 ²	224 ²	Yes	Yes	429 ²	216 ²	Yes	Yes
	NBL/T/R	1,345	483 ²	240 ²	Yes	Yes	473 ²	246 ²	Yes	Yes
	NBR	450	78	91	Yes	Yes	78	80	Yes	Yes
I-215 NB Ramps & Cactus Av.	NBL	145	673 ²	98	Yes ⁴	Yes	673 ²	98	Yes ⁴	Yes
	NBT/R	1,650	798 ²	392 ²	Yes	Yes	802 ²	385 ²	Yes	Yes
Van Buren Bl. & I-215 NB Ramps	EBL	1,560	643 ²	119	Yes	Yes	592 ²	148	Yes	Yes
	EBR	580	32	53	Yes	Yes	32	56	Yes	Yes

Source: Appendix K.

Notes:

- ¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.
- ² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- ³ Maximum queue length for the approach reported.
- ⁴ Although the 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 mainline.

Table 4.12-26. Horizon Year (2040) with Project Peak-Hour Freeway Off-Ramp Queuing

Intersection	Movement	Available Stacking Distance (Feet)	Without Project				With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Alessandro Bl.	SBL	525	251 ²	264	Yes	Yes	251 ²	264	Yes	Yes
	SBL/R	1,540	259 ²	242	Yes	Yes	259 ²	242	Yes	Yes
	SBR	525	246 ²	211	Yes	Yes	246 ²	211	Yes	Yes
I-215 SB Ramps & Cactus Av.	SBR	1,115	176	69	Yes	Yes	176	72	Yes	Yes
	NBR	1,850	154 ²	809 ²	Yes	Yes	154 ²	809 ²	Yes	Yes
I-215 SB Ramps & Van Buren Bl.	SBL/T	1,510	360 ²	895 ²	Yes	Yes	361 ²	895 ²	Yes	Yes
	SBR	1,450	886 ²	480 ²	Yes	Yes	785 ²	615 ²	Yes	Yes
I-215 NB Ramps & Alessandro Bl.	NBL	450	514 ²	268 ²	Yes ⁴	Yes	514 ²	262 ²	Yes ⁴	Yes
	NBL/T/R	1,345	543 ²	281 ²	Yes	Yes	543 ²	283 ²	Yes	Yes
	NBR	450	128	94	Yes	Yes	131	82	Yes	Yes
I-215 NB Ramps & Cactus Av.	NBL	145	787 ²	116	Yes ⁴	Yes	787 ²	116	Yes ⁴	Yes
	NBT/R	1,650	995 ²	591 ²	Yes	Yes	996 ²	570 ²	Yes	Yes
Van Buren Bl. & I-215 NB Ramps	EBL	1,560	1,270 ²	177	Yes	Yes	1,219 ²	199	Yes	Yes
	EBR	580	38	62	Yes	Yes	38	59	Yes	Yes

Source: Appendix K

Notes:

- ¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.
- ² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- ³ Maximum queue length for the approach reported
- ⁴ Although the 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 mainline.

4.12.6 Project Design Feature, Improvement Measures, and Mitigation Measures

Project Design Feature

The following Project Design Feature is intended to reduce construction-related impacts.

PDF-TRA-1 Construction Traffic Management Plan: Prior to the issuance of building permits, the Project applicant would be required to develop and implement a March JPA-approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access the Project site during off-peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses.

Improvement Measures

The recommended on-site and site-adjacent roadway measures to reduce operational-related deficiencies for the Project are provided below. These improvement measures would be imposed as Conditions of Approval as part of the Project approval. Construction of on-site and site-adjacent improvements shall occur in conjunction with adjacent Project development activity, or as needed for Project access purposes. The improvement measures are organized by the scenario in which the contribution to an operational deficiency occurs: Existing, Cumulative or Horizon Year (Table 4.12-27, Table 4.12-28, and Table 4.12-29) and would be implemented by paying into TUMF or project's fair-share contribution, to be determined by the lead jurisdiction.

On-Site Access and Driveways

Barton Street is a north-south oriented roadway located along the Project's western boundary. Construct Barton Street at its ultimate half-section width as a Secondary Arterial (112-foot right-of-way) between the Project's northern boundary and Project's southern boundary consistent with the March JPA General Plan Transportation Element.

Van Buren Boulevard is an east-west oriented roadway located along the Project's northern boundary. Construct Van Buren Boulevard at its ultimate half-section width as an Arterial Highway/Urban Highway (120-foot right-of-way) between the Project's western boundary and Project's eastern boundary consistent with the March JPA General Plan Transportation Element.

Village West Drive is a north-south oriented roadway located along the Project's eastern boundary. The improved portions of Village West Drive currently terminate at Lemay Drive to the south. Construct the extension of Village West Drive to provide a connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The improved Village West Drive would include one through lane in each direction of travel, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway. The total roadway width would be 54 feet, and the length of the extension is expected to be 4,330 linear feet.

Since **Coyote Bush Road**, **Village West Drive**, and **Krameria Avenue** are built out to their ultimate cross-sections according to the March JPA and City of Moreno Valley General Plans, there are no roadway widening recommendations along these roadways. However, additional curb, gutter, and sidewalk improvements are recommended, as needed for site access along the Project's frontage consistent with March JPA standards.

Barton Street/Van Buren Boulevard (Intersection #13) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Add an eastbound through lane and right turn lane
- Modify the traffic signal to implement overlap phasing for the northbound and eastbound right-turn lanes
- Add a second northbound left-turn lane
- Add a second westbound left-turn lane

Barton Street/Gless Ranch Road (Intersection #14) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Install a traffic signal
- Add a southbound left-turn lane
- Add a westbound shared left-through-right turn lane

Barton Street/Krameria Avenue (Intersection #15) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Add a westbound shared left-through-right turn lane

Barton Street/Lurin Avenue (Intersection #16) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Install a traffic signal
- Construct a northbound left-turn lane and shared through-right turn lane
- Construct a southbound left-turn lane
- Construct a westbound shared left-through-right turn lane

Coyote Bush Road/Van Buren Boulevard (Intersection #18) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Construct a westbound right-turn lane.

Coyote Bush Road/Caroline Way (Intersection #19) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Add a northbound left-turn lane
- Add a southbound left-turn lane
- Install a stop control on the eastbound approach and a shared left-through-right turn lane
- Install a stop control on the westbound approach and a shared left-through-right turn lane

Bundy Street/Krameria Avenue (Intersection #23) – Prior to issuance of first certificate of occupancy, the following improvements necessary to accommodate site access would be constructed by the Project:

- Install a traffic signal
- Add a southbound shared left-through-right turn lane
- Add an eastbound left-turn lane

At the intersections of **Coyote Bush Road/Krameria Avenue (Intersection #20)** and **Village West Drive/Krameria Avenue (Intersection #25)**, no improvements are recommended; the existing traffic control and intersection geometrics should be maintained. However, at the **Village West Drive/Krameria Avenue (Intersection #25)**, as a Condition of Approval, the applicant would post standard truck route signage on Krameria Avenue indicating that truck traffic is not permitted to turn right onto Village West Drive. A copy of the truck route sign is included in the Response to Comments regarding the South Campus Specific Plan and Village West Drive Extension Project SEIR in Appendix K.

Similarly, no additional improvements are necessary beyond those improvements planned by the Van Buren Boulevard Phase III roadway widening improvement Project at the intersections of **Orange Terrace Parkway/Van Buren Boulevard (Intersection #21)** and **Village West Drive/Van Buren Boulevard (Intersection #24)**. The Van Buren Boulevard Phase III roadway widening improvement project is currently underway.

Summary of Improvements and Fair Share Contributions

Prior to the issuance of building permits, the Project applicant shall participate in the WRCOG TUMF programs by paying the requisite fees at the time of building permit. Improvements may be eligible for a fee credit or reimbursement through the program where appropriate.

Existing Conditions

Intersections

Overlook Parkway-Canyon Crest Drive/Alessandro Boulevard (Intersection #1) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Restripe the southbound shared left-through lane as a 3rd left-turn lane and the southbound right-turn lane as a shared through-right turn lane
- Modify the traffic signal to implement protected left turn phasing on the NB and SB approaches

Elsworth Street/Cactus Avenue (Intersection #45) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Modify the traffic signal to implement protected left turn phasing on the northbound and southbound approaches

Freeway Facilities

Consistent with existing traffic conditions, the I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks under Existing plus Project conditions. Where applicable, the freeway mainline is assumed to operate at LOS F. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the March JPA (or other neighboring

jurisdictions) on SHS roadway segments. The WRCOG TUMF Program identifies this interchange, inclusive of on/off-ramps as a transportation mitigation project on the Regional System of Highways and Arterials. However, there are also no known near-term planned improvements along I-215. As such, no improvements have been recommended.

Off-Ramp Queues

There are no peak hour queuing contributions anticipated at the I-215 at Cactus Avenue interchange and no improvements have been recommended.

Opening Year Conditions

Wood Road/Van Buren Boulevard (Intersection #2) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a northbound right-turn lane
- Modify the traffic signal to implement overlap phasing on the northbound and westbound approaches

Barton Street/Nandina Avenue (Intersection #17) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Install a traffic signal
- Add a northbound left-turn lane
- Add a southbound left-turn lane

Sycamore Canyon Drive/Meridian Parkway & Alessandro Boulevard (Intersection #27) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Modify the traffic signal to implement overlap phasing on the southbound, eastbound, and westbound right-turn lane

I-215 SB Ramps/Van Buren Boulevard (Intersection #37) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a third westbound through lane

Old 215 Frontage Road/I-215 NB Ramps & Cactus Avenue (Intersection #39) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a third eastbound through lane
- Add a third westbound through lane

Elsworth Street/Cactus Avenue (Intersection #45) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second northbound left-turn lane
- Add a fourth eastbound through lane
- Add a fourth westbound through lane

Freeway Facilities

The I-215 Northbound mainline experiences significant traffic congestion in the AM peak hour due to queuing from downstream bottlenecks under Opening Year plus Project conditions. Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the March JPA (or other neighboring jurisdictions) on SHS roadway segments. The WRCOG TUMF Program identifies this interchange, inclusive of on/off-ramps as a transportation mitigation project on the Regional System of Highways and Arterials. However, there are also no known near-term planned improvements along I-215. As such, no improvements have been recommended.

Off-Ramp Queues

There are no peak hour queuing contributions anticipated at the I-215 at Cactus Avenue interchange and no improvements have been recommended.

Horizon Year Conditions

Wood Road/Van Buren Boulevard (Intersection #2) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second southbound left-turn lane

Wood Road/Krameria Avenue (Intersection #3) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second northbound through lane

Wood Road/Nandina Avenue (Intersection #5) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Install a traffic signal

Mission Grove Parkway/Alessandro Boulevard (Intersection #11) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Modify the traffic signal to implement overlap phasing on the NB and EB approaches

Barton Street/Alessandro Boulevard (Intersection #12) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a northbound left-turn lane
- Add a southbound left-turn lane

Village West Drive/Clark Street & Nandina Avenue (Intersection #26) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Install a traffic signal
- Add a northbound left-turn lane
- Add a southbound left-turn lane

Sycamore Canyon Drive/Meridian Parkway & Alessandro Boulevard (Intersection #27) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second eastbound left-turn lane

Old 215 Frontage Road/I-215 NB Ramps & Cactus Avenue (Intersection #39) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second northbound left-turn lane
- Add a second northbound through lane
- Add first and second southbound right-turn lanes
- Add second eastbound left-turn lane
- Add eastbound right-turn lane
- Add fourth westbound through lane
- Add westbound right-turn lane
- Modify the traffic signal to implement overlap phasing on the southbound right-turn lane

Old 215 Frontage Road/Alessandro Boulevard (Intersection #41) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a third eastbound through lane
- Add a third westbound through lane

Day Street/Cottonwood Avenue (Intersection #42) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second northbound through lane

Day Street/Alessandro Boulevard (Intersection #43) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a third westbound through lane

Elsworth Street/Alessandro Boulevard (Intersection #44) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second northbound left-turn lane

Graham Street/Riverside Drive/Cactus Avenue (Intersection #47) - The Project applicant has agreed to pay its fair share toward the following improvements:

- Add a second eastbound left-turn lane

Freeway Facilities

The Project Study Report/Project Development Support in Riverside County on I-215 and State Route 60 between Nuevo Road (I-215) and I-215/State Route 60 Junction and Box Springs Road (I-215) and Day Street (State Route 60) (prepared by Caltrans in April 2008), also known as the I-215 North Project, includes the construction of a high-occupancy-vehicle lane in each direction of I-215 between Nuevo Road and Box Springs Road within the existing median. According to the Riverside County Transportation Commission and Caltrans websites, the I-215 North Project is a longer-term project, as priority has been given to the southern and central projects along the I-215 corridor.

Caltrans typically assumes a reduction of 14% to the freeway mainline through volumes in this region to account for vehicles using the high-occupancy-vehicle lanes. The reduction to the I-215 mainline volumes has been applied to account for the proposed high-occupancy-vehicle lanes. The analysis has been performed assuming the same number of mixed-flow lanes and on and off-ramp configurations as existing baseline conditions at I-215 and Alessandro Boulevard interchange.

With the addition of the improvements identified above, the following the I-215 mainline segments and ramp junctions are anticipated to improve operations, but will still continue to operate at an unacceptable LOS during the peak hours (Table 4.12-28):

- I-215 Southbound, North of Alessandro Bl.
- I-215 Southbound, Off-Ramp at Alessandro Bl.
- I-215 Southbound, Loop-On at Alessandro Bl.
- I-215 Southbound, On-Ramp at Alessandro Bl.
- I-215 Northbound, South of Van Buren Bl.
- I-215 Northbound, Off-Ramp at Van Buren Bl.
- I-215 Northbound, Hook On-Ramp at Van Buren Bl.
- I-215 Northbound, On-Ramp at Van Buren Bl.
- I-215 Northbound, Between Van Buren Bl. and Cactus Av.
- I-215 Northbound, Off-Ramp at Alessandro Bl.
- I-215 Northbound, On-Ramp at Alessandro Bl.
- I-215 Northbound, North of Alessandro Bl.

Off-Ramp Queues

There are no peak hour queuing contributions anticipated at the I-215 at Cactus Avenue interchange. However, the off-ramps at I-215/Cactus Avenue has been improved to achieve acceptable LOS for Horizon Year (2040) With Project traffic conditions. These improvements are not required to achieve acceptable off-ramp queues.

Roadway Segment

Nandina Avenue is an east-west-oriented roadway located along the Project's southern boundary. The Project would contribute towards implementation of interim roadway improvement to the standards of a two-lane Industrial Collector between Village West Drive/Clark Street and Decker Road. As such, the Project's fair share contribution would be approximately \$57,377 (i.e., 2.48% of \$2,313,600), which is estimated to be the cost of grading, paving, curb and gutter improvements, sidewalk improvements, culverts, and the installation of streetlights for an Industrial Collector.

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Table 4.12-27. Intersection Analysis for Horizon Year (2040) Conditions with Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.																	
	Without Improvements	TS	1	2	d	2	1	1	1	3	0	1	3	1>	344.0	371.2	F	F
	With Improvements ^{6,7}	TS	1	2	d	<u>3</u>	1	<u>0</u>	1	3	0	1	3	1>	307.0	340.6	F	F
2	Wood Rd. & Van Buren Bl.																	
	Without Improvements	TS	2	2	0	1	2	0	1	2	1>	2	2	1	108.3	91.8	F	F
	With Improvements	TS	2	2	<u>1></u>	<u>2</u>	2	0	1	2	1>	2	2	<u>1></u>	83.5	68.5	F	E
3	Wood Rd. & Krameria Av.																	
	Without Improvements	TS	1	1	0	1	2	0	1	1	0	0	1	1>	70.1	16.0	E	B
	With Improvements	TS	1	<u>2</u>	0	1	2	0	1	1	0	0	1	1>	38.2	15.4	D	B
4	Wood Rd. & Mariposa Av.																	
	Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	112.5	29.4	F	D
	With Improvements	<u>TS</u>	0	1	0	0	1	0	0	1	0	0	1	0	15.6	7.3	B	A
5	Wood Rd. & Nandina Av.																	
	Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	73.7	1031.0	F	F
	With Improvements	<u>TS</u>	0	1	0	0	1	0	0	1	0	0	1	0	8.9	27.0	A	C
6	Trautwein Rd. & Alessandro Bl.																	
	Without Improvements	TS	2	1	0	0	0	0	0	3	0	2	3	0	71.4	51.9	E	D
	With Improvements ⁷	TS	2	1	0	0	0	0	0	3	0	2	3	0	Not Applicable ⁷			
7	Trautwein Rd. & Mission Grove Pkwy.																	
	Without Improvements	TS	1	2	1>	1	2	1	1	1	0	2	1	1	106.0	97.0	F	F
	With Improvements ⁷	TS	1	2	1>	1	2	1	1	1	0	2	1	1	Not Applicable ⁷			
8	Trautwein Rd. & John F. Kennedy Dr.																	
	Without Improvements	TS	1	2	1	1	2	1>	2	1	1	1	1	0	101.4	98.1	F	F
	With Improvements ⁷	TS	1	2	1	1	2	1>	2	1	1	1	1	0	Not Applicable ⁷			
9	Trautwein Rd. & Orange Terrace Pkwy.																	
	Without Improvements	TS	1	2	1	2	2	1	1	1	0	1	1	2>	123.3	36.8	F	D
	With Improvements ⁷	TS	1	2	1	2	2	1	1	1	0	1	1	2>	Not Applicable ⁷			
10	Trautwein Rd./Cole Av. & Van Buren Bl.																	
	Without Improvements	TS	1	2	0	2	2	1>	2	2	1>	1	3	1>	78.9	74.5	E	E
	With Improvements	TS	1	2	0	2	2	1>	2	<u>3</u>	1>	1	3	1>	36.7	45.6	D	D
11	Mission Grove Pkwy. & Alessandro Bl.																	
	Without Improvements	TS	2	1	1	1	2	0	1	3	1	2	3	d	121.8	73.8	F	E
	With Improvements	TS	2	1	<u>1></u>	1	2	0	1	3	<u>1></u>	2	3	d	96.5	55.4	F	E
12	Barton St. & Alessandro Bl.																	
	Without Improvements	TS	0	1	d	0	1	d	1	3	0	1	3	0	83.4	74.1	F	E
	With Improvements	TS	<u>1</u>	1	<u>0</u>	<u>1</u>	1	<u>0</u>	1	3	0	1	3	0	21.5	28.3	C	C

Table 4.12-27. Intersection Analysis for Horizon Year (2040) Conditions with Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
13	Barton St. & Van Buren Bl.																	
	Without Improvements	TS	2	1	1>	1	1	0	1	3	1	2	3	0	135.3	104.2	F	F
	With Improvements	TS	2	1	1>	1	1	0	1	3	1>	2	3	0	121.0	96.7	F	E
14	Barton St. & Gless Ranch Rd.																	
	Without Improvements	CSS	1	2	0	1	1	1	0	1	0	0	1	0	3957.1	4146.4	F	F
	With Improvements	TS	1	2	0	1	1	1	0	1	0	0	1	0	41.2	41.6	D	D
16	Barton St. & Lurin Av																	
	Without Improvements	CSS	1	1	0	1	1	1	0	1	0	0	1	0	286.6	501.3	F	F
	With Improvements	TS	1	2	0	1	1	1	0	1	0	0	1	0	14.4	10.4	B	B
17	Barton St. & Nandina Av.																	
	Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	551.4	428.3	F	F
	With Improvements	TS	1	1	0	1	1	0	0	1	0	0	1	0	37.5	14.0	D	B
23	Bundy St. & Krameria Av																	
	Without Improvements	AWS	1	1	0	0	1	0	1	2	0	1	2	0	15.8	58.2	C	F
	With Improvements	TS	1	1	0	0	1	0	1	2	0	1	2	0	6.6	7.5	A	A
26	Village West Dr./Clark St. & Nandina Av.																	
	Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	113.6	23.6	F	C
	With Improvements	TS	1	1	0	1	1	0	0	1	0	0	1	0	20.2	18.3	C	B
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.																	
	Without Improvements	TS	2	2	2>	2	2	1	1	3	1	2	3	1	159.9	112.9	F	F
	With Improvements ^{6,7}	TS	2	2	2>	2	2	1>	2	3	1>	2	3	1>	128.5	86.6	F	E
32	Meridian Pkwy. & Van Buren Bl.																	
	Without Improvements	TS	0	2	0	2	1	1>>	2	4	d	1	4	1	122.9	175.7	F	F
	With Improvements ⁷	TS	0	2	0	2	1	1>>	2	4	d	1	4	1	Not Applicable ⁷			
37	I-215 SB Ramps & Van Buren Bl.																	
	Without Improvements	TS	0	0	0	0	1	2>	0	3	2	1	2	0	125.9	247.0	F	F
	With Improvements	TS	0	0	0	0	1	2>	0	3	2	1	3	0	69.9	48.3	E	D
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.																	
	Without Improvements	TS	1	1	1>>	1	1	0	1	2	0	0	2	0	276.7	196.6	F	F
	With Improvements ⁴	TS	2	2	1>>	1	1	2>	2	3	1	0	4	1	49.2	42.7	D	D
40	Van Buren Bl. & I-215 NB Ramps																	
	Without Improvements	TS	0	2	0	0	2	2>	2	0	1	0	0	0	122.0	30.7	F	C
	With Improvements ⁷	TS	0	2	0	0	2	2>	2	0	1	0	0	0	Not Applicable ⁷			
41	Old 215 Frontage Rd. & Alessandro Bl.																	
	Without Improvements	TS	2	2	1	1	2	1	2	2	d	1	2	1	86.0	62.4	F	E
	With Improvements	TS	2	2	1	1	2	1	2	3	d	1	3	1	40.8	37.4	D	D

Table 4.12-27. Intersection Analysis for Horizon Year (2040) Conditions with Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
42	Day St. & Cottonwood Av																	
	Without Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	1>	67.0	102.6	E	F
	With Improvements	TS	1	2	0	1	1	0	1	1	0	1	1	1>	31.5	35.9	C	D
43	Day St. & Alessandro Bl.																	
	Without Improvements	TS	1	1	d	1	1	0	1	3	d	1	2	1	75.8	74.5	E	E
	With Improvements	TS	1	1	d	1	1	0	1	3	d	1	3	1	38.7	45.3	D	D
44	Elsworth St. & Alessandro Bl.																	
	Without Improvements	TS	1	1	1	1	1	1	1	3	d	1	3	0	32.9	56.2	C	E
	With Improvements	TS	2	1	1	1	1	1	1	3	d	1	3	0	26.5	34.4	C	C
45	Elsworth St. & Cactus Av.																	
	Without Improvements	TS	1	1	0	1	1	1>	1	3	1>>	1	3	1	208.8	247.7	F	F
	With Improvements ⁵	TS	2	1	0	1	1	1>	1	4	1>>	1	4	1	40.1	48.7	D	D
47	Graham St./Riverside Dr. & Cactus Av.																	
	Without Improvements	TS	2	2	0	1	2	1	1	3	1	1	3	0	60.4	58.8	E	E
	With Improvements	TS	2	2	0	1	2	1	2	3	1	1	3	0	47.6	51.7	D	D

Notes:

- * **BOLD** = LOS does not meet the applicable jurisdictional standard (i.e., unacceptable LOS).
- ¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right-turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right-turn lane; **1** = Improvement
- ² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
- ³ AWS = All-Way Stop; CSS = Cross-street Stop; TS = Traffic Signal
- ⁴ Recommended improvements consist of modifying the traffic signal to implement protected left turn phasing on the northbound, southbound, and eastbound approaches.
- ⁵ Recommended improvements consist of modifying the traffic signal to implement protected left turn phasing on the northbound and southbound approaches.
- ⁶ As the deficiencies are caused by minimum green times necessary for pedestrian crossing time, there are no feasible physical improvements to bring the vehicular LOS to acceptable levels without the removal of crosswalks. The deficiency exists only when a pedestrian call occurs during the peak hour and nominal pedestrian and bicycle activity was observed at both these intersections (also validated by peak hour count data).
- ⁷ The roadway improvements have been built up to the ultimate width of the intersection as designated in the General Plan. Based on recent comments and the jurisdiction's traffic study guidelines, infeasible improvements have not been recommended.

Table 4.12-28. Freeway Facility Analysis for Horizon Year (2040) Conditions With Improvements

Freeway	Direction	Mainline Segment or Ramp Junction	Lanes ¹	Without Improvements				With Improvements			
				Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	Southbound	North of Alessandro Bl.	3	42.5	-5	E	F	28.6	-5	D	F
		Off-Ramp at Alessandro Bl.	3	27.8	-5	C	F	21.7	-5	C	F
		Loop On-Ramp at Alessandro Bl.	3	29.7	-5	D	F	22.8	-5	C	F
		On-Ramp at Alessandro Bl.	4	23.4	-5	C	F	17.6	-5	B	F
		Between Alessandro Bl. and Cactus Av.	4	25.5	26.9	C	D	19.4	29.0	C	D
		Off-Ramp at Cactus Av.	4	21.0	21.8	C	C	15.7	23.3	B	C
		Loop Off-Ramp at Cactus Av.	4	24.3	28.6	C	D	18.3	27.8	C	D
		On-Ramp at Cactus Av.	4	20.5	27.4	C	D	15.0	22.4	B	C
		Between Cactus Av. and Van Buren Bl.	4	24.3	26.0	C	C	18.4	28.1	C	D
		Off-Ramp at Van Buren Bl.	4	24.3	27.1	C	D	18.4	28.1	C	D
		On-Ramp at Van Buren Bl.	4	16.6	30.5	B	D	14.0	19.8	B	C
		South of Van Buren Bl.	4	19.7	27.3	C	D	16.5	28.0	B	D
	Northbound	South of Van Buren Bl.	4	-5	35.6	F	E	-5	26.2	F	D
		Off-Ramp at Van Buren Bl.	4	-5	32.8	F	D	-5	26.3	F	D
		On-Ramp at Van Buren Bl.	4	-5	29.8	F	D	-5	25.2	F	C
		On-Ramp at Van Buren Bl.	4	-5	30.3	F	F	-5	24.9	F	C
		Between Van Buren Bl. and Cactus Av.	4	-5	61.7	F	F	38.1	28.5	E	D
		Off-Ramp at Cactus Av.	4	-5	71.7	F	F	38.1	28.8	E	D
		On-Ramp at Cactus Av.	3	-4	40.8	F	F	29.4	29.6	D	D
		On-Ramp at Cactus Av.	4	-4	59.5	F	F	24.4	29.6	C	D
		Between Cactus Av. and Alessandro Bl.	4	-4	73.0	F	F	28.6	56.5	D	F
		Off-Ramp at Alessandro Bl.	4	-4	80.1	F	F	28.6	71.3	D	F
		On-Ramp at Alessandro Bl.	3	-4	32.2	F	F	29.0	32.2	D	F
North of Alessandro Bl.	3	-4	38.8	F	F	34.8	38.8	D	F		

Notes:

- * **BOLD** = LOS does not meet the applicable jurisdictional standard (i.e., unsatisfactory LOS).
- ¹ Number of lanes are in the specified direction and is based on existing conditions.
- ² Density is measured by passenger cars per mile per lane (pc/mi/ln).
- ³ LOS = Level of Service
- ⁴ Observations made in the field indicate that the freeway segments experience traffic congestion due to queuing from downstream bottlenecks.
- ⁵ Due to oversaturated conditions (per HCS7), LOS results may be unreliable. As such, the LOS is assumed to be F.

Table 4.12-29. Summary of Improvements by Analysis Scenario and Project Fair Share

#	Intersection Location	Jurisdiction	Existing (2019)	Existing plus Project	2024 Without Project	2024 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in TUMF? ^{1,2}	Total Cost ¹²	Fair Share (percent) ³	Fair Share Cost ¹³
1	Overlook Pkwy./Canyon Crest Dr. & Alessandro Bl.	Riverside	- Restripe the SB shared left-through lane as a 3rd left-turn lane and the SB right-turn lane as a shared through-right-turn lane	- Same	- Same	- Same	- Same	- Same	No	\$39,200	2.92%	\$1,143
			- Modify the TS to implement protected left turn phasing on the NB and SB approaches	Same	- Same	Same	- Same	- Same	No	\$117,600		\$3,429
											\$156,800	
2	Wood Rd. & Van Buren Bl.	Riverside	- None	- None	- NB right-turn lane	- Same	- Same	- Same	No	\$78,400	8.06%	\$6,320
			- Modify the TS to implement overlap phasing on the NB and WB approaches	- Same	- Same	- Same	- Same	No	\$117,600		\$9,479	
					- 2nd SB left-turn lane	- Same	- Same	No	\$78,400		\$6,320	
									\$274,400		\$22,118	
3	Wood Rd. & Krameria Av.	Riverside	- None	- None	- None	- None	- 2nd NB through lane	- Same	Yes (TUMF)	NA ⁹	--	\$0
									\$0		\$0	
4	Wood Rd. & Mariposa Av.	County	- None	- None	- Install a traffic signal	- Same	- Same	- Same	No	\$392,000	2.61%	\$10,246
										\$392,000		\$10,246
5	Wood Rd. & Nandina Av.	County	- None	- None	- None	- None	- Install a traffic signal	- Same	No	\$392,000	1.76%	\$6,916
										\$392,000		\$6,916
6	Trautwein Rd. & Alessandro Bl.	Riverside	- None	- None	- No feasible improvements ⁴	- No feasible improvements	- No feasible improvements	- No feasible improvements ⁴	N/A	\$0	--	\$0
										\$0		\$0
7	Trautwein Rd. & Mission Grove Pkwy.	Riverside	- None	- None	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	N/A	\$0	--	\$0
										\$0		\$0
8	Trautwein Rd. & John F. Kennedy Dr.	Riverside	- None	- None	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	N/A	\$0	--	\$0
										\$0		\$0
9	Trautwein Rd. & Orange Terrace Pkwy.	Riverside	- None	- None	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	N/A	\$0	--	\$0
										\$0		\$0
10	Trautwein Rd./Cole Av. & Van Buren Bl.	Riverside	- None	- None	- 3rd EB through lane	- Same	- Same	- Same	Yes (TUMF)	NA ⁹	--	\$0
										\$0		\$0
11	Mission Grove Pkwy. & Alessandro Bl.	Riverside	- None	- None	- None	- None	- Modify the TS to implement overlap phasing on the NB and EB approaches	- Same	No	\$117,600	1.50%	\$1,759
										\$0		\$0

Table 4.12-29. Summary of Improvements by Analysis Scenario and Project Fair Share

#	Intersection Location	Jurisdiction	Existing (2019)	Existing plus Project	2024 Without Project	2024 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in TUMF ²	Total Cost ¹²	Fair Share (percent) ³	Fair Share Cost ¹³
12	Barton St. & Alessandro Bl.	Riverside/JPA	- None	- None	- None	- None	- NB left-turn lane	- Same	No	\$78,400	1.04%	\$812
							- SB left-turn lane	- Same	No	\$78,400		\$812
									\$156,800	\$1,623		
13	Barton St. & Van Buren Bl	Riverside/JPA	- None	- None	- NB right-turn lane	- Same	- Same	- Same	No	\$78,400	17.15%	\$13,446
						- EB through lane ⁵	- Same	- Same	No	\$0		\$0
						- EB right-turn lane ⁵	- Same	- Same	No	\$0		\$0
						- Modify the TS to implement overlap phasing on the EB right-turn lane ⁵	- Same	- Same	No	\$0		\$0
						- Modify the TS to implement overlap phasing on the NB right-turn lane ⁵	- Same	- Same	No	\$0		\$0
						- 2nd NB left-turn lane ⁵	- Same	- Same	No	\$0		\$0
						- 2nd WB left-turn lane ⁵	- Same	- Same	No	\$0		\$0
		\$78,400	\$13,446									
14	Barton St. & Gless Ranch Rd	Riverside/JPA	- None	- SB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0	--	\$0
				- WB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
				- Install a traffic signal ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
		\$0	\$0									
15	Barton St. & Krameria Av.	Riverside/JPA	- None	- WB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+	- Not Applicable	- Same as E+P	No	\$0	--	\$0
										\$0		\$0
16	Barton St. & Lurin Av.	Riverside/JPA	- None	- NB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0	--	\$0
				- Install a traffic signal ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
				- SB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
				-WB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
				- NB shared through-right-turn lane ⁵	- Same	- Same	- Same	- Same	No	\$0		\$0
		\$0	\$0									

Table 4.12-29. Summary of Improvements by Analysis Scenario and Project Fair Share

#	Intersection Location	Jurisdiction	Existing (2019)	Existing plus Project	2024 Without Project	2024 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in TUMF?1,2	Total Cost ¹²	Fair Share (percent) ³	Fair Share Cost ¹³	
17	Barton St. & Nandina Av.	County/JPA	- None	- None	- Install a traffic signal	- Same	- Same	- Same	No	\$392,000	4.58%	\$17,959	
					- NB left-turn lane	- Same	- Same	- Same	No	\$78,400		\$3,592	
					- SB left-turn lane	- Same	- Same	- Same	No	\$78,400		\$3,592	
										\$548,800		\$25,142	
18	Coyote Bush Rd. & Van Buren Bl.	Riverside/JPA	- None	- WB right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0	--	\$0	
										\$0		\$0	
19	Coyote Bush Rd. & Caroline Wy.	JPA	- None	- NB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0	--	\$0	
					- SB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
					-EB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
					-WB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
23	Bundy St. & Krameria Av.	JPA	- None	- Install a traffic signal ⁵	- Same	- Same	- Same	- Same	No	\$0	--	\$0	
					-SB shared left-through-right-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
										\$0		\$0	
					- EB left-turn lane ⁵	- Not Applicable	- Same as E+P	- Not Applicable	- Same as E+P	No	\$0		\$0
					\$0		\$0						
26	Village West Dr./Clark St. & Nandina Av.	County/JPA	- None	- None	- None	- None	- Install a traffic signal	- Same	No	\$392,000	9.49%	\$37,220	
							- NB left-turn lane	- Same	- Same	No	\$78,400		\$7,444
							- SB left-turn lane	- Same	- Same	No	\$78,400		\$7,444
										\$548,800		\$52,108	
27	Sycamore Canyon Dr./Meridian Pkwy. & Alessandro Bl.	Riverside/JPA	- None	- None	- Modify the TS to implement overlap phasing on the SB, EB, and WB right-turn lane	- Same	- Same	- Same	No	\$117,600	1.96%	\$2,301	
							- 2nd EB left-turn lane	- Same	- Same	No	\$78,400		\$1,534
										\$196,000		\$3,835	
32	Meridian Pkwy. & Van Buren Bl.	JPA	- None	- None	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	- No feasible improvements ⁴	N/A	\$0	--	\$0	
										\$0		\$0	
37	I-215 SB Ramps & Van Buren Bl.	Caltrans/JPA/County	- None	- None	- 3rd WB through lane	- Same	- Same	- Same	Yes (TUMF)	NA ⁹	--	\$0	
										\$0		\$0	

Table 4.12-29. Summary of Improvements by Analysis Scenario and Project Fair Share

#	Intersection Location	Jurisdiction	Existing (2019)	Existing plus Project	2024 Without Project	2024 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in TUMF ^{1,2}	Total Cost ¹²	Fair Share (percent) ³	Fair Share Cost ¹³
39	Old 215 Frontage Rd./I-215 NB Ramps & Cactus Av.	Caltrans/JPA	- None	- None	- 3rd EB through lane	- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹	--	\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
						- Same	- Same	- Same	Yes (TUMF) ⁶	NA ⁹		\$0
40	Van Buren Bl. & I-215 NB Ramps	Caltrans/JPA/County	- None	- None	- None	- None	- No feasible improvements ⁴	- No feasible improvements ⁴	N/A	\$0	--	\$0
										\$0		\$0
41	Old 215 Frontage Rd. & Alessandro Bl.	MV/Riverside/County	- None	- None	- None	- None	- 3rd EB through lane	- Same	Yes (TUMF)	NA ⁹	--	\$0
								- Same	Yes (TUMF)	NA ⁹		\$0
42	Day St. & Cottonwood Av.	MV	- None	- None	- None	- None	- 2nd NB through lane	- Same	No	\$282,240	3.23%	\$9,105
										\$282,240		\$9,105
43	Day St. & Alessandro Bl.	MV	- None	- None	- None	- None	- 3rd WB through lane	- Same	Yes (TUMF)	NA ⁹	--	\$0
										\$0		\$0
44	Elsworth St. & Alessandro Bl.	MV	- None	- None	- None	- None	- 2nd NB left-turn lane	- Same	No	\$78,400	2.72%	\$2,135
										\$78,400		\$2,135
45	Elsworth St. & Cactus Av.	MV/JPA	- Modify the TS to implement protected left turn phasing on the NB and SB approaches	- Same	- Same	- Same	- Same	- Same	No	\$117,600	3.72%	\$4,370
					- Same	- Same	- Same	- Same	No	\$78,400		\$2,914
					- Same	- Same	- Same	- Same	No	\$282,240		\$10,489
					- Same	- Same	- Same	- Same	No	\$282,240		\$10,489
									\$760,480		\$28,261	
47	Graham St./Riverside Dr. & Cactus Av.	MV/JPA	- None	- None	- None	- None	- 2nd EB left-turn lane	- Same	No	\$78,400	2.78%	\$2,177
										\$78,400		\$2,177
Roadway Segment												
	Nandina Av. Between Village West Dr. and Decker St.	County	-None	-None	-None	-None	-Improvement to accommodate Industrial Collector cross-section	-Same	No	\$2,313,600	2.48%	\$57,377

Table 4.12-29. Summary of Improvements by Analysis Scenario and Project Fair Share

#	Intersection Location	Jurisdiction	Existing (2019)	Existing plus Project	2024 Without Project	2024 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in TUMF ^{1,2}	Total Cost ¹²	Fair Share (percent) ³	Fair Share Cost ¹³
Total Project Fair Share Contribution to the March JPA (non-TUMF) ⁷										\$1,183,840		\$63,296
Total Project Fair Share Contribution to the City of Riverside ⁸										\$646,800		\$36,143
Total Project Fair Share Contribution to the County of Riverside ⁹										\$3,646,400		\$113,164
Total Project Fair Share Contribution to the City of Moreno Valley ¹⁰										\$780,080		\$26,459
Total Project Fair Share Contribution to Caltrans ¹¹										\$0		\$0
Total										\$6,257,120		\$239,063

Notes:

- ¹ Improvements included in Transportation Uniform Mitigation Fee (TUMF) program. Although identified as a TUMF facility, the improvement is not currently identified on the Northwest Zone 5-Year Transportation Improvement Program Amendment (adopted January 6, 2014).
- ² Because the March JPA does not have plenary control over intersections under other jurisdictions, the March JPA cannot guarantee that such improvements will be constructed.
- ³ Program improvements constructed by Project may be eligible for fee credit, at discretion of the March JPA. See Table 8-1 for Fair Share Calculations. The highest peak hour fair share percentage for each intersection, as shown in Table 8-1, has been used.
- ⁴ The roadway improvements have been built up to the ultimate width of the intersection as designated in the General Plan. Based on recent comments and the jurisdiction’s traffic study guidelines, infeasible improvements have not been recommended.
- ⁵ Total Project fair share contribution is not applicable as the improvements are Project design features. The Project will be responsible for constructing the improvements identified.
- ⁶ The TUMF nexus study identifies I-215/Cactus overcrossing (\$22,280,000). Although the individual improvements are not specifically identified in the nexus study, they are likely to be part of the overall interchange improvements.
- ⁷ Total Project fair share contribution consists of the improvements which are not already included in the County TUMF for those intersections wholly or partially within the March JPA.
- ⁸ Total Project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Riverside.
- ⁹ Total Project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the County of Riverside.
- ¹⁰ Total Project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Moreno Valley.
- ¹¹ Total Project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within Caltrans’ jurisdiction.
- ¹² Costs have been estimated using the data provided in Appendix G of the CMP (2016 Update) for preliminary construction costs. A growth factor of 2.85% per year has been used to reflect 2019 costs.

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Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce transportation impacts and will be incorporated into the MMRP for the Project:

- B-1** The project shall contribute on a fair share basis toward the improvements identified in the Cumulative Impacts paragraph of Section IV.B of the 2003 Focused EIR.
- B-2** The project shall construct the transportation improvements identified in Figure IV.B-5 through IV.B-7 (see Section IV.B of the 2003 Focused EIR). To the extent that such improvements provide capacity benefits for local or regional (i.e., non-project) demand, the project is eligible for credits toward its contribution toward local and/or regional transportation impact fees, if any.
- B-3** March Business Center traffic volumes shall be monitored periodically to assure that the transportation infrastructure provides sufficient capacity to serve project volumes. Traffic monitoring shall occur at a minimum of five-year intervals.
- B-5** The March Business Center shall require implementation of parking ratios that limit the need for on-street parking. These ratios are identified in the Specific Plan.
- B-6** The project shall provide for bicycle facilities to accommodate non-motorized circulation on the site and connectivity to routes in the Cities of Riverside and Moreno Valley.
- B-7** March Business Center shall provide truck routes on internal roadways to limit impacts of trucks on adjacent residential communities.
- B-8** The project shall construct internal roadways in accordance with the County Road Improvement Standards and Specifications with additional landscaping as identified in the Riverside County Integrated Project (RCIP).
- B-10** The March JPA shall implement Transportation Demand Management (TDM) strategies to shift trips outside the standard commuting hours and/or to non- “drive alone” modes of travel. This is accomplished through various employer-initiated measures, such as flexible working house, encouragement of carpooling, and facilitating access for non-motorized (i.e., bicycling and walking) modes of travel. Section V of the Specific Plan outlines TDM requirements.
- B-11** The March JPA shall cooperate with the Riverside Transportation Agency (RTA) for the provision of bus service within the Specific Plan Area.
- B-12** Signage shall be provided at the Van Buren Boulevard intersections with Coyote Bush Road and Orange Terrace to discourage truck traffic on residential streets in the Orangecrest Development. Furthermore, the March JPA, as a responsible party, shall encourage the City of Riverside and Riverside County to review and consider appropriate legislation to eliminate or curtail truck traffic, exempting local deliveries, on Alessandro Boulevard and Van Buren Boulevard west of the March Business Center Development.

Additionally, and specific to this Project, TDM strategies were evaluated as mitigation measures for reducing VMT impacts determined to be potentially significant. The effectiveness of TDM strategies to reduce VMT has been

determined based on the SB 743 Implementation TDM Strategy Assessment (February 26, 2019) (WRCOG Report) prepared for WRCOG, and the Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). The WRCOG Report indicates that of the 50 transportation measures presented by the California Air Pollution Control Officers Association (CAPCOA 2010), only 41 are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.

Based on a review of the 41 transportation measures identified by CAPCOA, only 7 of those measures may be effective at the project level, which is consistent with the WRCOG Report. The effectiveness of the following TDM measures would be dependent in large part on future Project design features and occupancies, which are unknown at this time. Beyond Project tenancy considerations, land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context of the Project is characteristically suburban. Of itself, the Project's suburban context acts to reduce the range of feasible TDM measures and moderates their potential effectiveness.

Under the most favorable circumstances, projects located within a suburban context, such as the proposed Project evaluated here, could realize a maximum 10% reduction in VMT through implementation of feasible TDM measures. For the Project considered here, this could result in reduction from 15.76 to 14.18 HBW VMT per employee which would still exceed of the existing regional VMT per employee of 13.13 by 7.99%.

The following are the relevant TDM measures with a discussion of the proposed Project's compliance:

- **Increase Diversity of Land Uses.** Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. For example, when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs.

Analysis: The Project proposes the construction of a diverse mix of land uses such as retail, office, industrial/warehousing and a dog park all to be located in close proximity to existing single-family residential uses, a military retirement community and golf course. It is recognized that the Project would introduce additional employment opportunities, acting to generally improve the regional jobs/housing balance. The resulting improved jobs/housing balance could reduce area commute VMT, as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 162). Since the Project used a traffic model to estimate the VMT, it is assumed that VMT reduction due to mix of land uses and its impact on trip-making has been accounted for by the output provided by the model. Further, the trip generation estimate of the Project (Table 4.12.14) uses a 10% trip reduction due to internal trip capture to recognize the interactions that would occur between the various complementary land uses. Therefore, using additional VMT reduction would be double-counting, hence no additional VMT reduction has been assumed for this measure.

- **Provide Pedestrian Network Improvements.** Providing a pedestrian access network to link areas of the Project site encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT.

Analysis: Although there are existing sidewalks off-site along portions of Van Buren Boulevard, Barton Street, and Village West Drive, field observations conducted at the time the Project's traffic study was prepared indicates that there is nominal pedestrian activity in the study area likely due to the lack of diversity of existing land uses. The Project proposes increased diversification of land uses along with additional sidewalks along the Village West Drive extension and sidewalk improvements, as needed, along the Project's frontage. This Project's implementation of this measure could provide for a potential reduction in Project VMT, as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 186). The range

of effectiveness of this measure is anticipated to result 0%–2% of VMT reduction. Based on CAPCOA guidance for pedestrian accommodations within Project site and connecting off-site in sub-urban context, a maximum of 2% VMT reduction could be achieved by the proposed Project.

- **Provide Traffic Calming Measures.** Providing traffic calming measures encourages people to walk or bike instead of using a vehicle. This mode shift will result in a decrease in VMT. Traffic calming features may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others.

Analysis: The Van Buren Boulevard corridor provides for sidewalk and bike lane enhancements. There is limited opportunity for the Project to implement meaningful enhanced mitigation in this area.

- **Implement Car-Sharing Program.** Implementing a car-sharing program would allow individuals to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees.

Analysis: It is possible that employers within the Project site could implement car-sharing programs. This may provide car access for employees on an as-needed basis, and thereby alleviate some of the costs and responsibilities of individual car ownership. However, this would not necessarily result in a reduction of VMT but would rather transfer the VMT source from individually-owned autos to employee-subsidized autos. Moreover, CAPCOA indicates that this measure would at most result in nominal percent reduction in VMT (CAPCOA, Quantifying Greenhouse Gas Mitigation Measures, p. 245).

- **Increase Transit Service Frequency and Speed.** This measure serves to reduce transit-passenger travel time through more reduced headways and increased speed and reliability. This makes transit service more attractive and may result in a mode shift from auto to transit which reduces VMT.

Analysis: The study area is currently served by Riverside Transit Agency (RTA), a public transit agency serving various jurisdictions within Riverside County. Route 27 currently provides service to the vicinity of the Project site, and the Project provides for a new bus turnout along Van Buren Boulevard to facilitate a future stop along this route and potentially others. Current service headways for Route 27 in the area are at 1-hour intervals, which severely limits the effectiveness of this measure.

- **Encourage Telecommuting and Alternative Work Schedule.** Encouraging telecommuting and alternative work schedules reduces the number of commute trips and therefore VMT traveled by employees. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks.

Analysis: This measure could provide for a potential reduction in Project VMT, as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 236). However, the effectiveness of this measure is dependent on the ultimate building tenant(s) which are currently unknown.

- **Provide Ride-Sharing Programs.** This strategy focuses on encouraging carpooling and vanpooling but its ultimate implementation is limited as the telecommuting/alternative work schedule Measure above.

Analysis: This measure could provide for a potential reduction in Project generated VMT, as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 227). However, the effectiveness of this measure is dependent on the ultimate building tenant(s) which are currently unknown.

Mitigation Measures

- MM-TRA-1** **VMT Reduction.** The Project applicant shall submit a Transportation Demand Management (TDM) plan prepared by a qualified transportation consultant acceptable to the March Joint Powers

Authority (JPA) to reduce vehicle miles traveled. The TDM plan shall be approved by the March JPA prior to the issuance of the first occupancy permit. The TDM plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:

- Transit passes
- Car-sharing programs
- Telecommuting and alternative work schedules
- Ride sharing programs

It is also recognized that as the Project area and surrounding communities develop as envisioned under the March JPA, City of Riverside, City of Moreno Valley, City of Perris, and County of Riverside General Plans, new residential, office, retail, and industrial development would be implemented. These actions could collectively alter transportation patterns, improve the region’s jobs/housing ratio, diminish VMT, and support implementation of new or alternative TDM measures. There is no means, however, to quantify any VMT reductions that could result from implementation of mitigation measure MM-TRA-1. Additionally, the effectiveness of some of the TDM strategies that have potential to reduce the Project VMT are dependent on as yet unknown Project building tenant(s); and as noted above, “VMT reductions from TDM strategies cannot be guaranteed in most cases.” Therefore, Project’s impacts would be **significant and unavoidable**.

Additionally, while impacts would be less than significant related to design of the Project, the following two mitigation measures are incorporated into the Project to further reduce impacts.

MM-TRA-2 To address trucks turning left from Coyote Bush Road onto Van Buren Boulevard, the March Joint Powers Authority shall adopt a new monetary fine schedule that imposes a penalty of \$2,000 for the first violation, \$5,000 for the second violation, and \$10,000 for the third violation.

MM-TRA-3 Upon approval from the County of Riverside, the proposed Project shall install two display signs (one in each direction) on Van Buren Boulevard which that flash a drivers speed and flash “slow down” to drivers who are exceeding the allowed speed.

4.12.7 Level of Significance after Mitigation

Threshold TRA-1

No mitigation measures associated with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities are required. Impacts would be **less than significant**.

Threshold TRA-2

Mitigation measure **MM-TRA-1** was identified and examined for applicability to the Project’s VMT reduction. However, there are no means to quantify any VMT reductions that could result from implementation of mitigation measures B-1 through B-12 from the 2003 Focused EIR or MM-TRA-1. Hence the Project would be inconsistent with CEQA Guidelines Section 15064.3(b) and therefore, impacts would be **significant and unavoidable**.

Threshold TRA-3

While impacts would be **less than significant**, two new mitigation measures are incorporated to further reduce impacts

4.12.8 Cumulative Effects

The proposed Project's cumulative contribution has been analyzed under Opening Year and Horizon Year analyses under Threshold TRA-1. Improvement measures have been discussed in Section 4.12.6. The Project applicant shall participate in the WRCOG TUMF programs by paying the requisite fees at the time of building permit.

The Project is anticipated to contribute to operational deficiencies of the identified freeway mainline segments and merge/diverge ramp junctions. No improvement measures have been identified as no other improvements beyond those planned by the I-215 North Project have been evaluated. Neither Caltrans nor the state have adopted a fee program that can ensure that locally contributed impact fees will be tied to improvements to freeway mainlines, and only Caltrans has the jurisdiction over mainline improvements. Because Caltrans has exclusive control over state highway improvements, ensuring that fair share contributions to mainline improvements are actually part of a program tied to implementation is within the jurisdiction of Caltrans and beyond the control of the March JPA.

Project's Cumulative Effect on VMT

For cumulative conditions, the Project's effect on VMT needs to be determined for VMT analysis. The Project's cumulative VMT was estimated using the RivTAM model for the year 2040. It should be noted that the Project-generated VMT is estimated using Production/Attraction methodology, which provides daily VMT by trip purpose (i.e., home-based work trips used in the Project's analysis for employee VMT), the Project's effect on cumulative VMT is estimated using the Boundary methodology. The Boundary method includes the sum of all weekday VMT on a roadway network within a designated boundary. As explained under 4.12.2 Methodology for VMT Estimation, this VMT estimation method captures the effect of cut-through and/or displaced traffic and is used to evaluate the cumulative VMT to assess Project's effect on VMT.

Since the Boundary method includes VMT from all trips (including trips that do not end or begin in the in designated boundary), therefore it is normalized based on service population (i.e., the sum of all residents and employees) within the region.

The proposed Project results in jobs within the total number of jobs projected by the 2016 SCAG RTP/SCS, and is consistent with the underlying employment assumptions upon which the RTP/SCS was based. However, because the proposed Project requires a general plan amendment and a specific plan amendment, this analysis calculated VMT for the cumulative 2040 year to confirm that the proposed Project is consistent with regional RTP/SCS.

Regional (WRCOG) total VMT was calculated for the cumulative 2040 model year for both without and with the Project and total VMT is then divided by service population. Table 4.12-30 indicates that the Project reduces VMT per service population for the WRCOG region by 0.01 VMT per service population. As the Project does not result in a net increase in VMT per service population the cumulative effect on VMT would be less than significant.

Table 4.12-30. Cumulative Western Riverside Council of Governments VMT

	Cumulative Year (2040) No Project	Cumulative Year (2040) With Project
VMT	64,392,194	64,397,508
VMT per service population	19.37	19.36

Note: VMT = vehicle miles traveled.

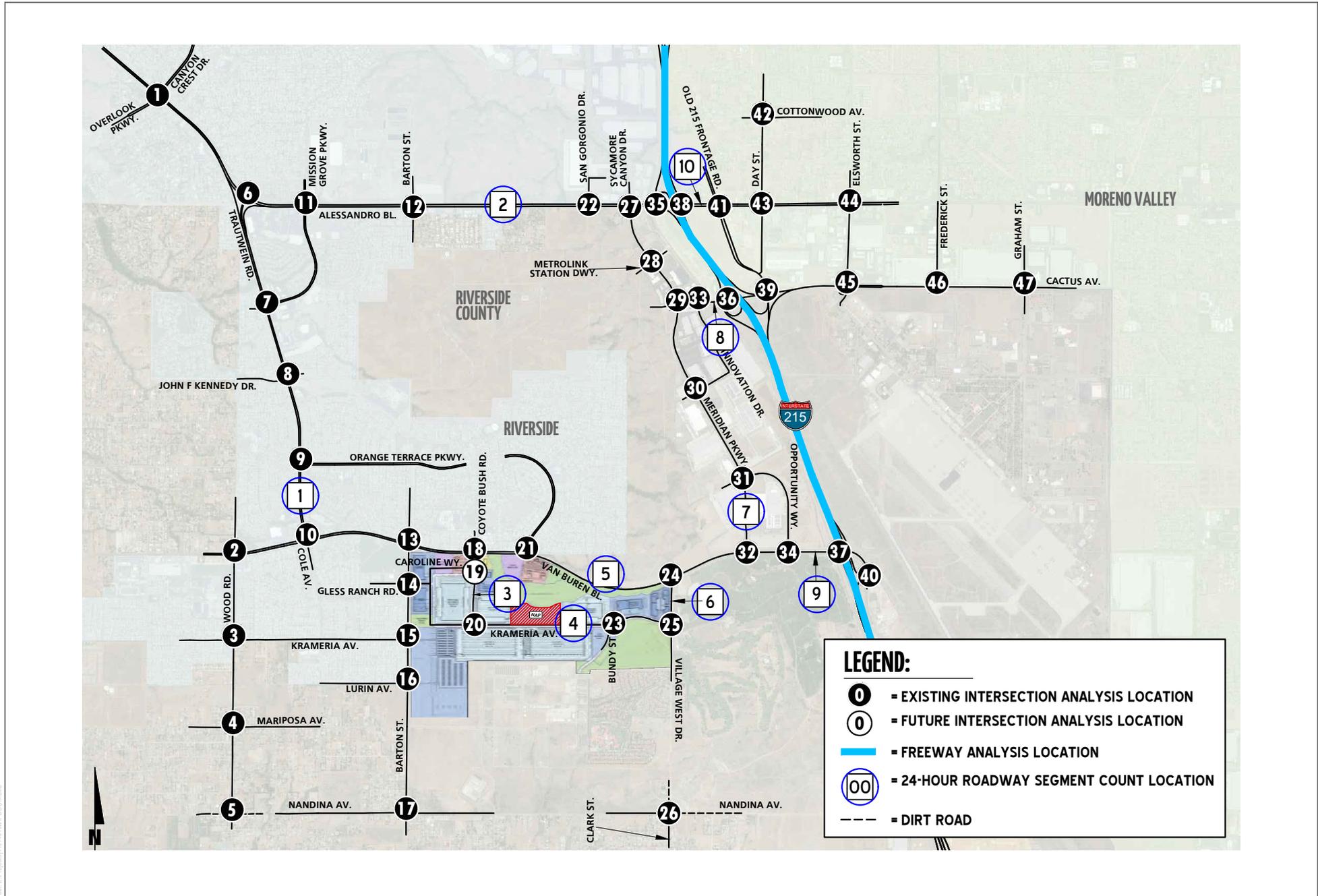
The RTP/SCS was based on regional growth projections rather than full buildout and would include at least a portion of the 2003 Approved South Campus, a conservatively low number. This VMT analysis has calculated VMT based on the full buildout of the proposed Project, a conservatively high number. Even under this comparison weighted against the proposed Project, the proposed Project still decreases VMT. As shown in Tables 4.12-13A and 4.12-13B, the proposed Project is consistent with the RTP/SCS, and as shown in Table 4.12-30 as well as per WRCOG guidance would have less than significant VMT impact under cumulative conditions. Hence, Project's impact would be **less than significant**.

4.12.9 References Cited

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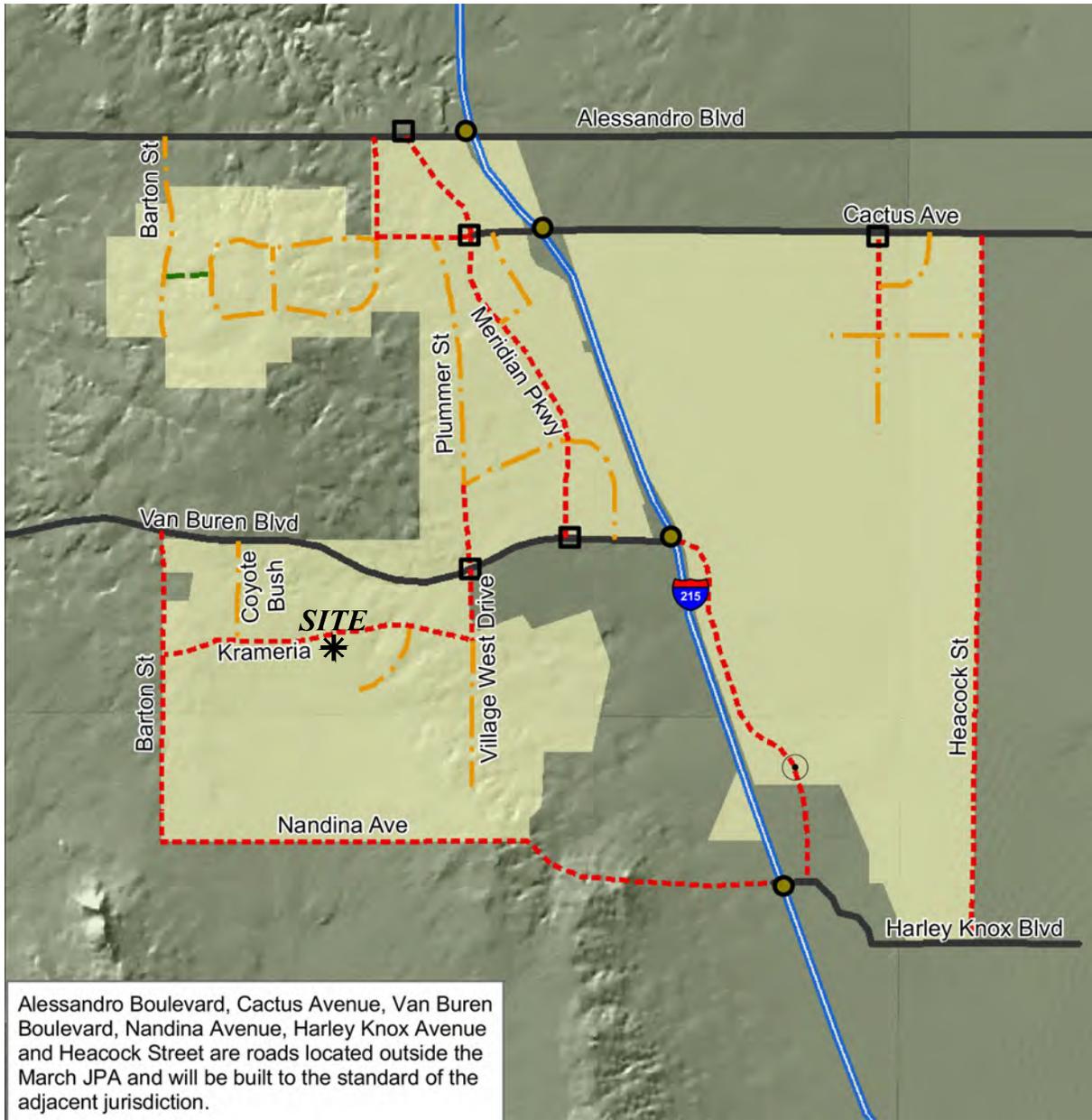
SOURCE: Urban Crossroads, 2020

FIGURE 4.12-1

Study Area

South Campus Specific Plan and Village West Drive Extension

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LEGEND

- Arterial Highway
- Arterial/Urban Arterial Highway
- - - Emergency Access
- - - Industrial Collector
- - - Secondary Highway
- March JPA Planning Area
- Roundabout
- Enhanced Intersection
- Freeway Interchange

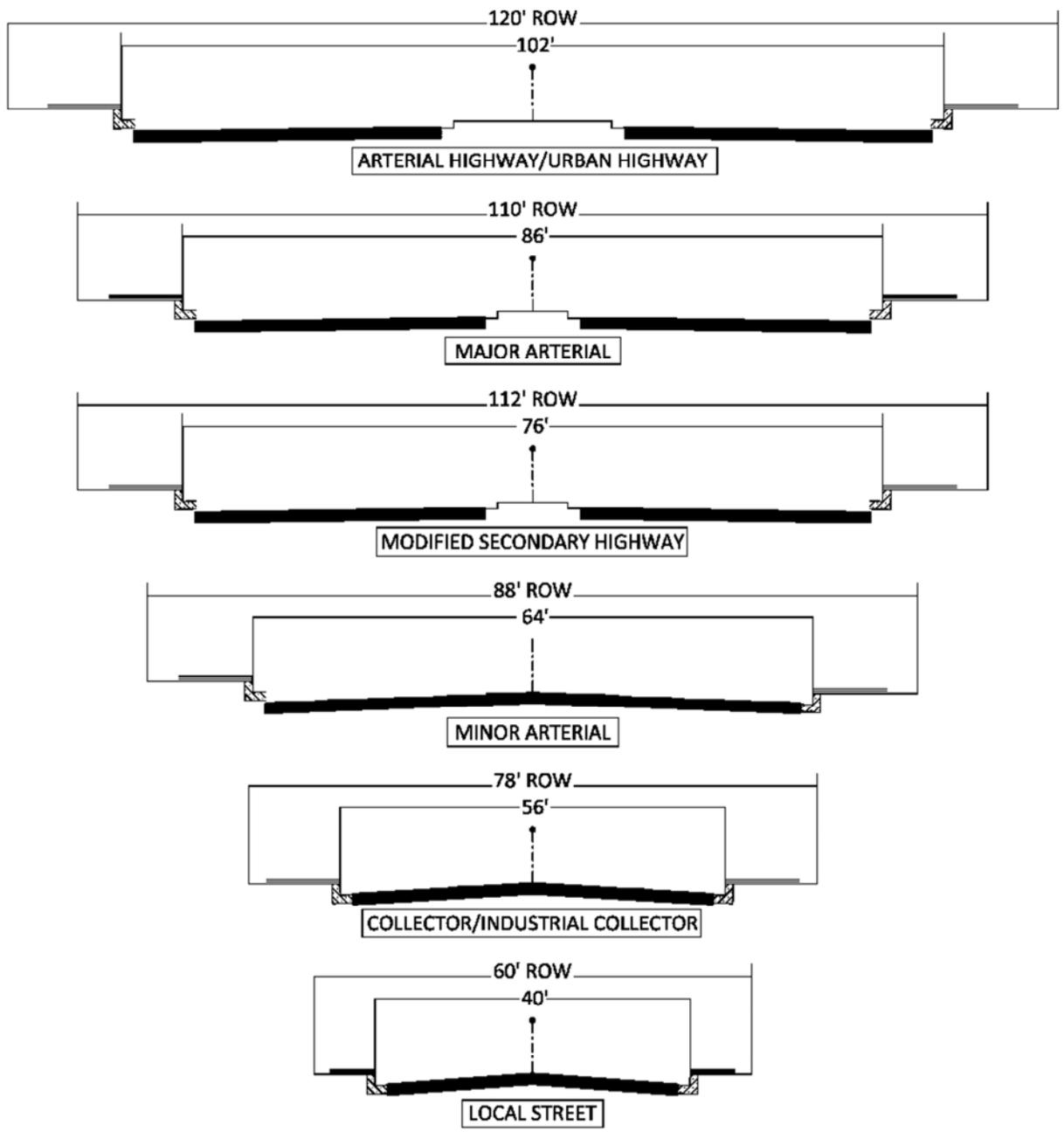


SOURCE: Urban Crossroads, 2020

FIGURE 4.12-2

March Joint Powers Authority General Plan Circulation Element
 South Campus Specific Plan and Village West Drive Extension

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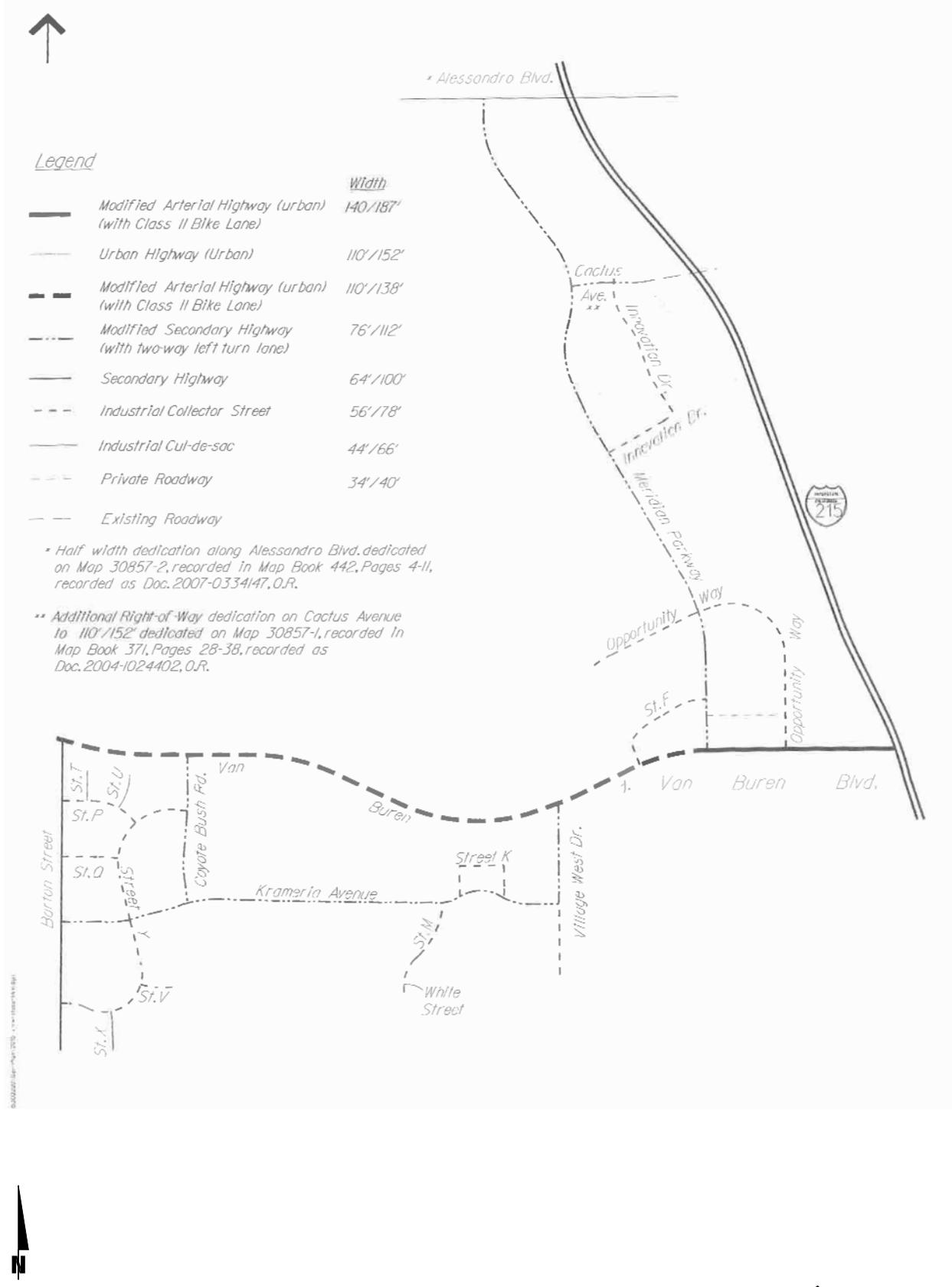
SOURCE: Urban Crossroads, 2020

FIGURE 4.12-3

March Joint Powers Authority General Plan Roadway Cross-Sections
 South Campus Specific Plan and Village West Drive Extension

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EXHIBIT 3-3.A: MERIDIAN GENERAL PLAN AMENDMENT ROADWAY SYSTEM

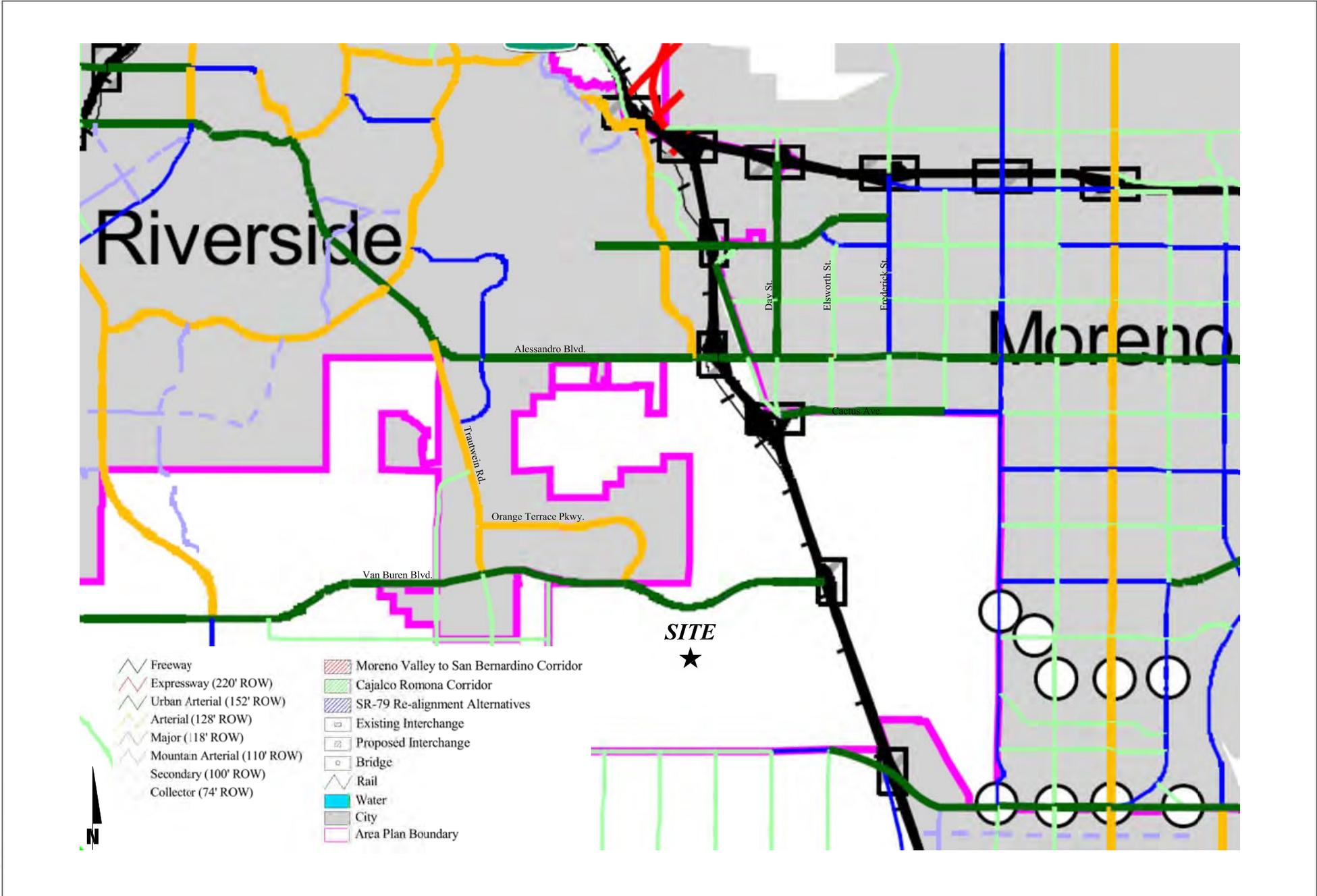


SOURCE: Urban Crossroads, 2020

FIGURE 4.12-4

March Business Center General Plan Amendment Roadway System
 South Campus Specific Plan and Village West Drive Extension

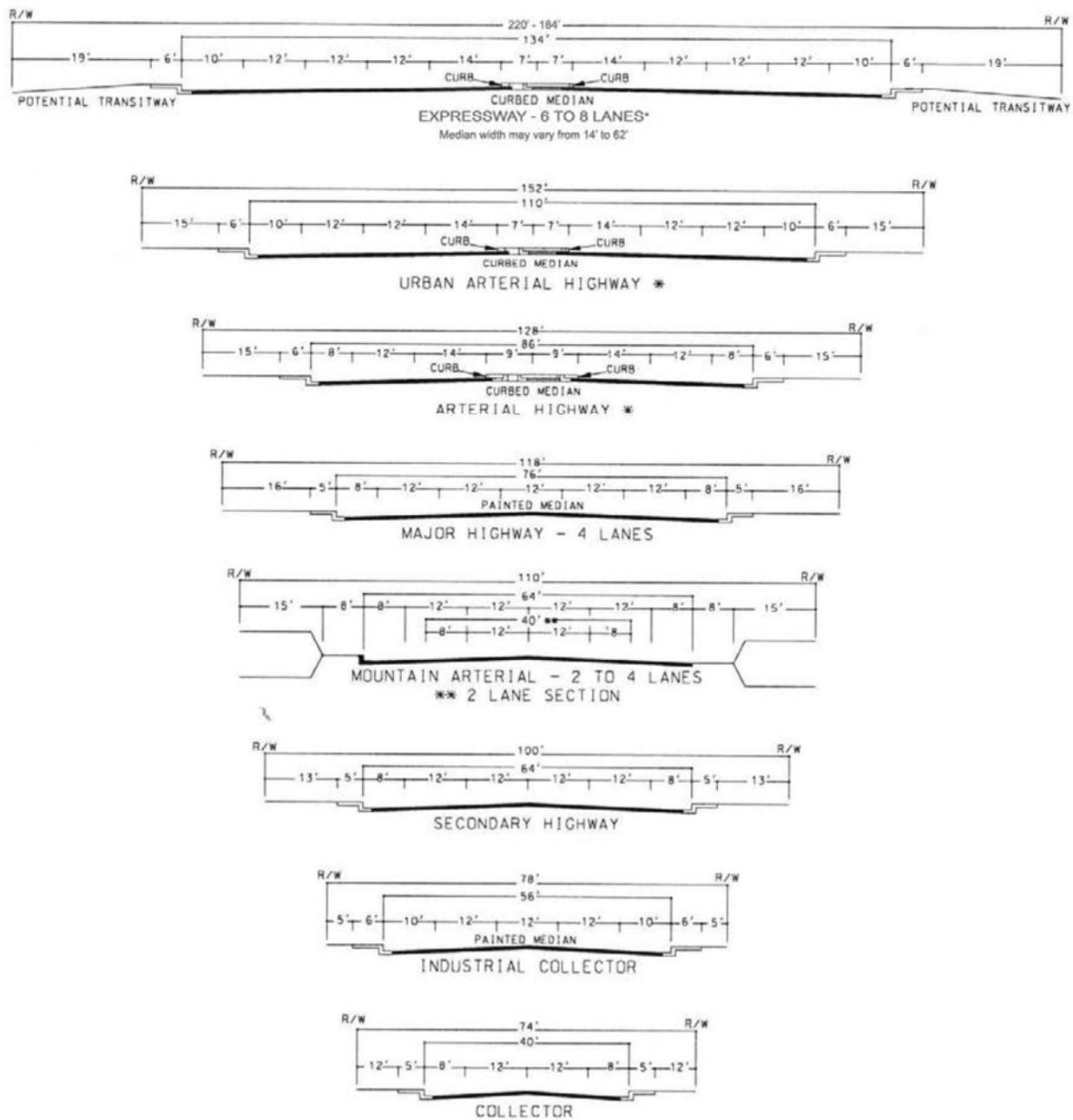
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SOURCE: Urban Crossroads, 2020

FIGURE 4.12-5
 County of Riverside General Plan Circulation Element
 South Campus Specific Plan and Village West Drive Extension

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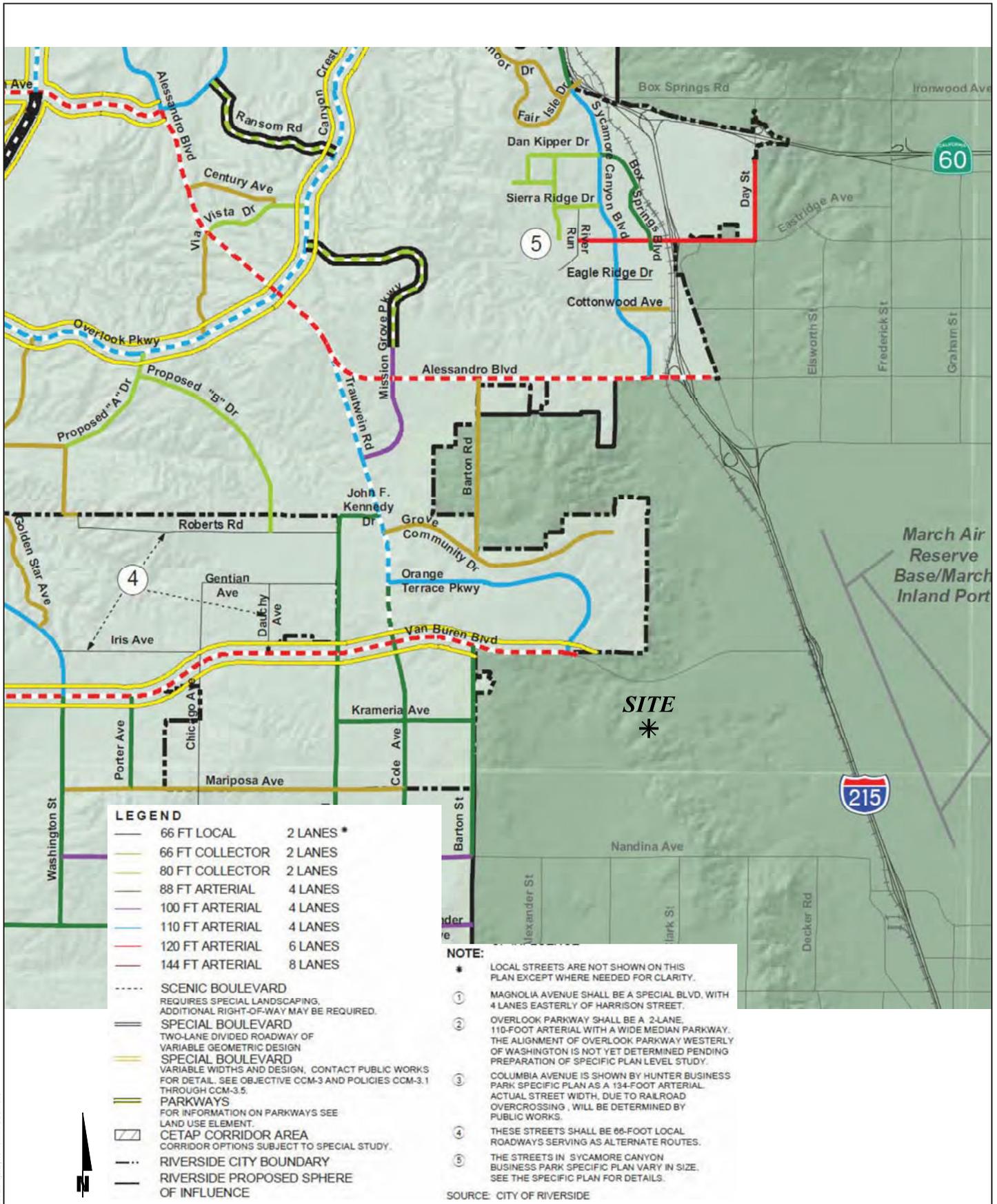


*IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE. ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

SOURCE: Urban Crossroads, 2020

FIGURE 4.12-6

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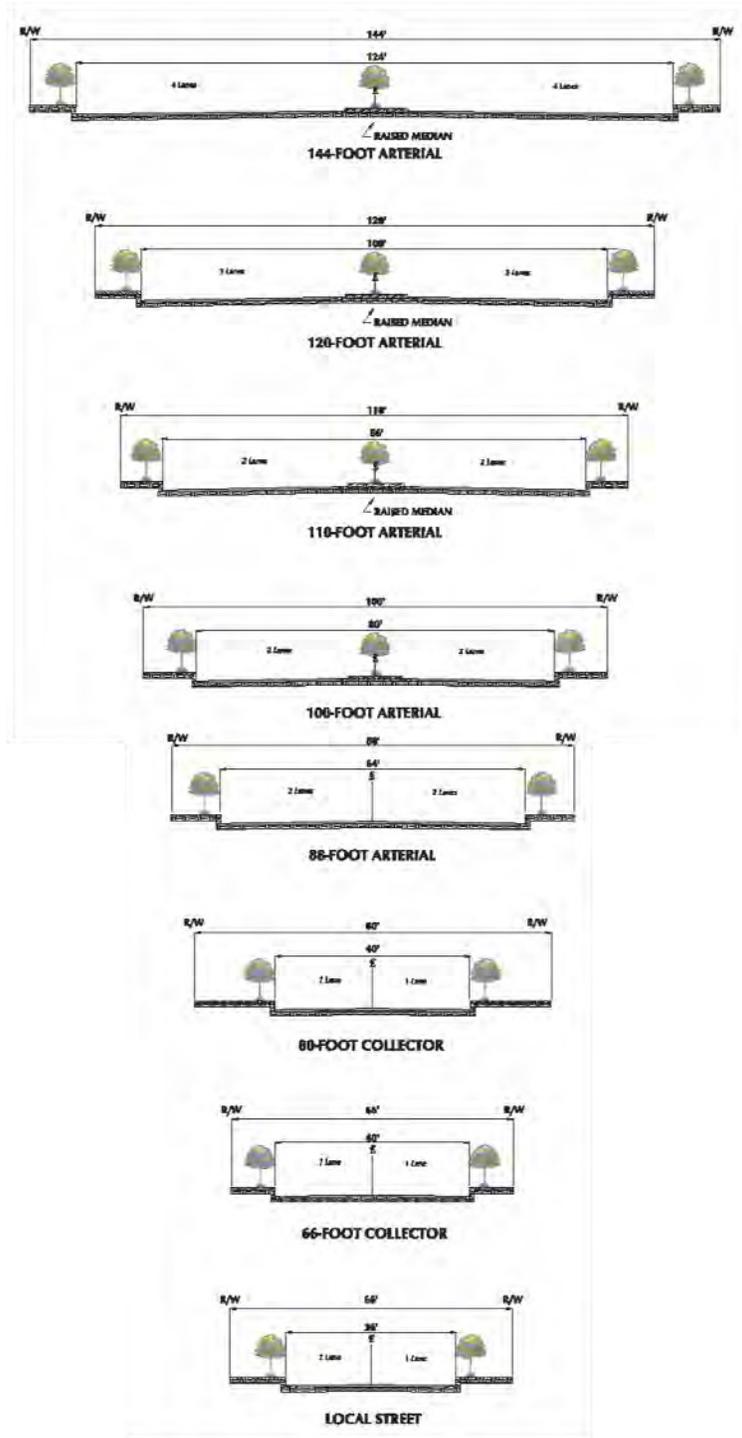


SOURCE: Urban Crossroads, 2020

FIGURE 4.12-7

City of Riverside General Plan Circulation Element
South Campus Specific Plan and Village West Drive Extension

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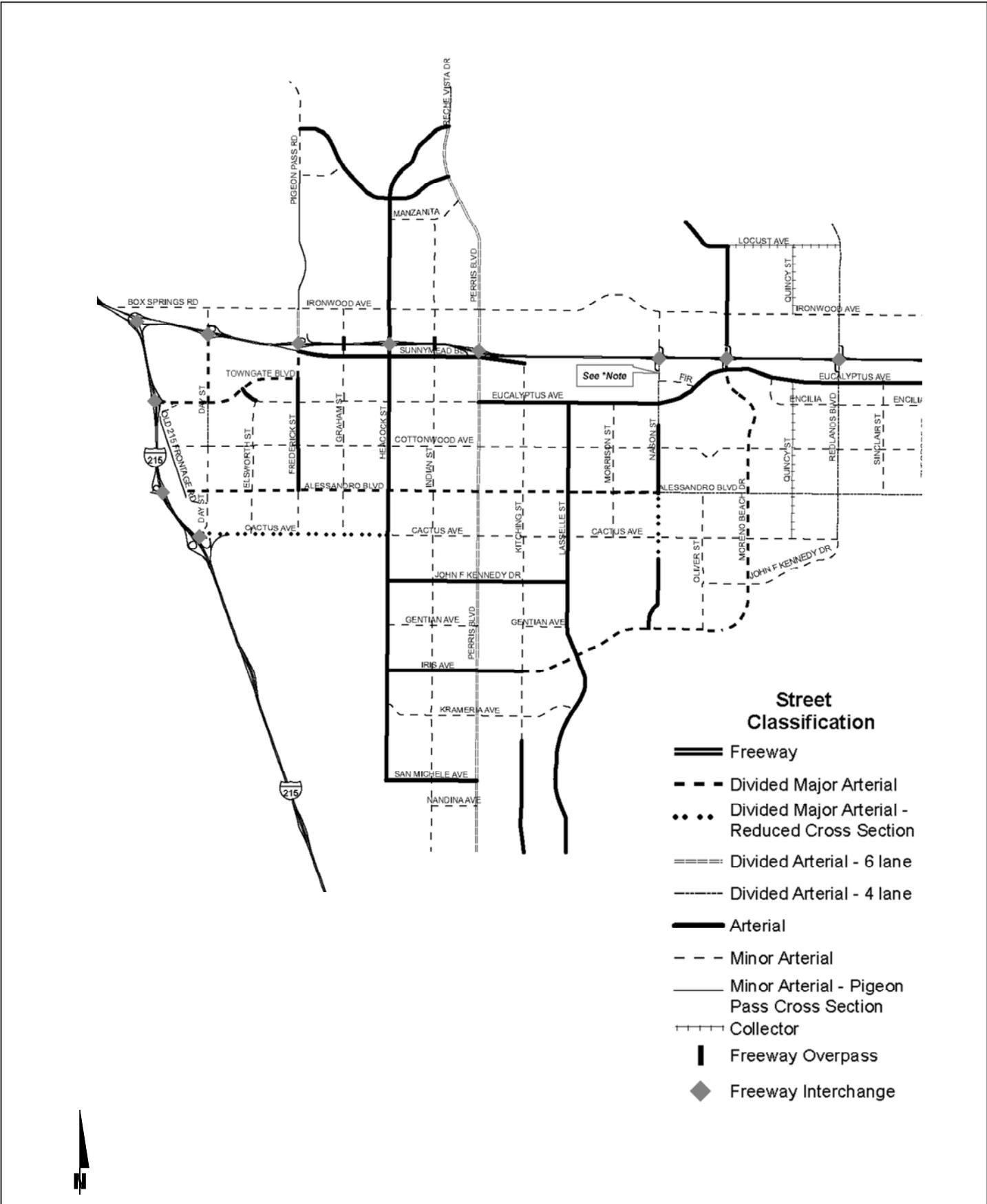


SOURCE: Urban Crossroads, 2020

FIGURE 4.12-8

City of Riverside General Plan Roadway Cross-Sections
 South Campus Specific Plan and Village West Drive Extension

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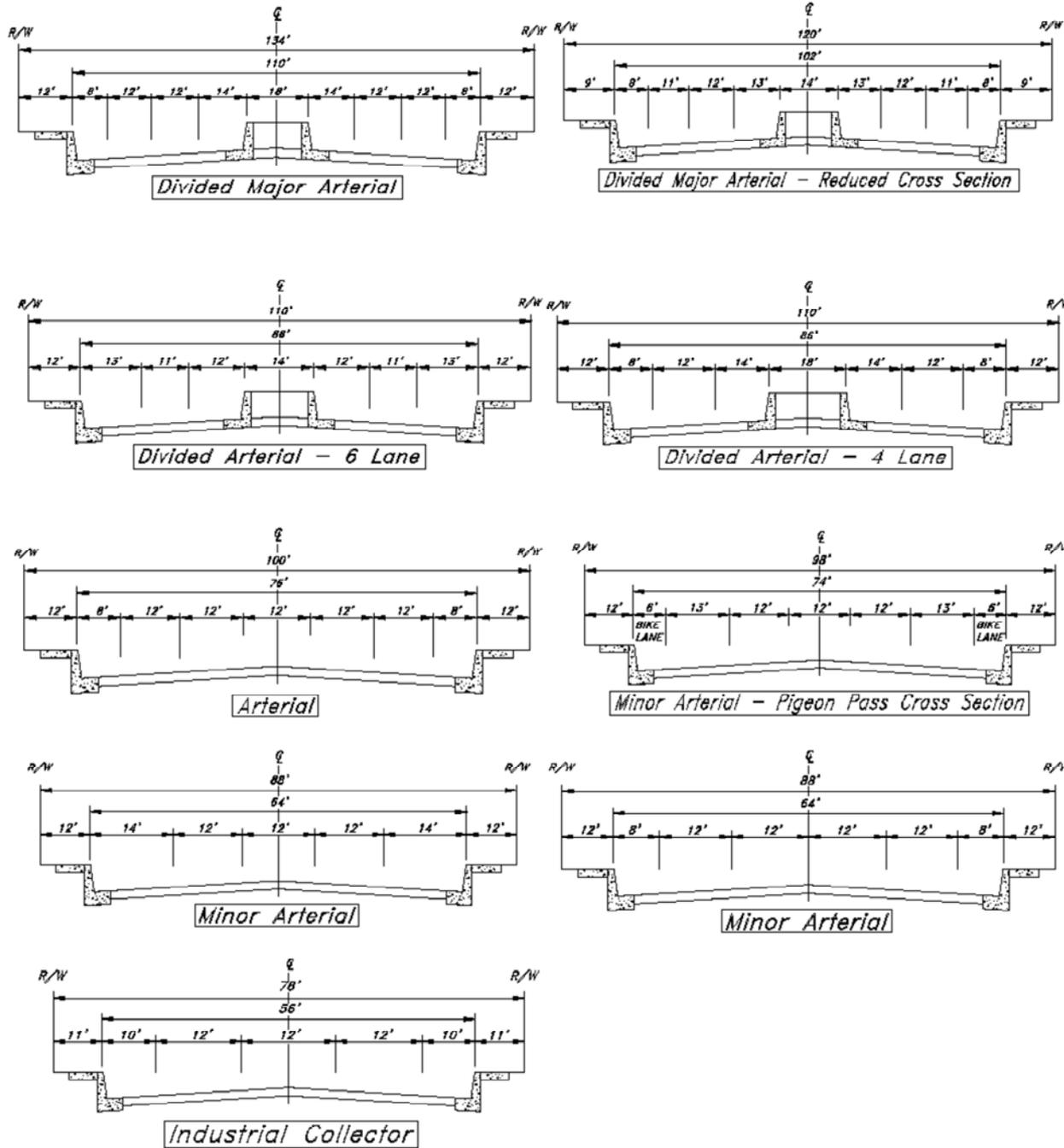
SOURCE: Urban Crossroads, 2020

FIGURE 4.12-9

City of Moreno Valley General Plan Circulation Element
 South Campus Specific Plan and Village West Drive Extension



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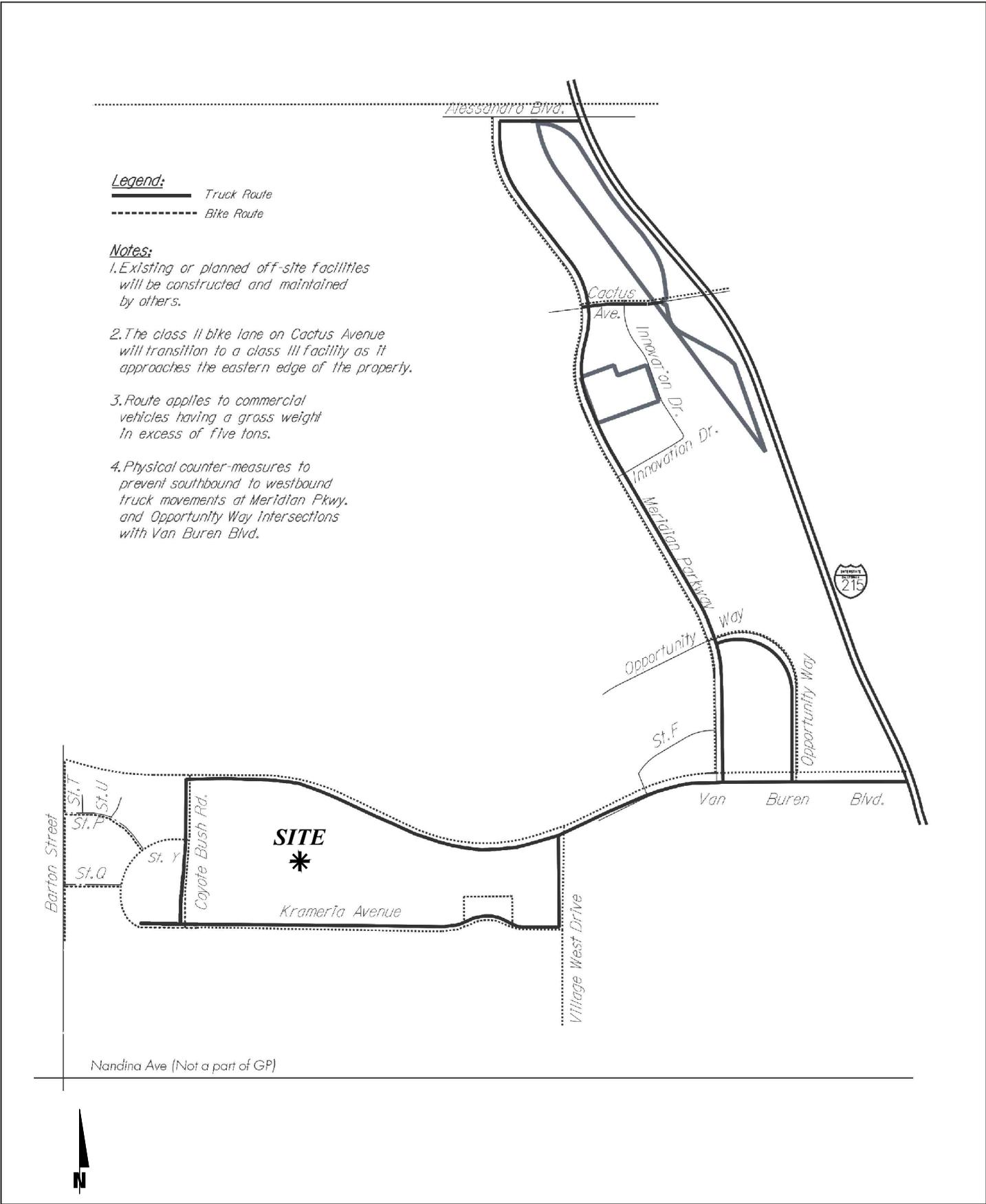


SOURCE: Urban Crossroads, 2020

FIGURE 4.12-10

City of Moreno Valley General Plan Roadway Cross-Sections
 South Campus Specific Plan and Village West Drive Extension

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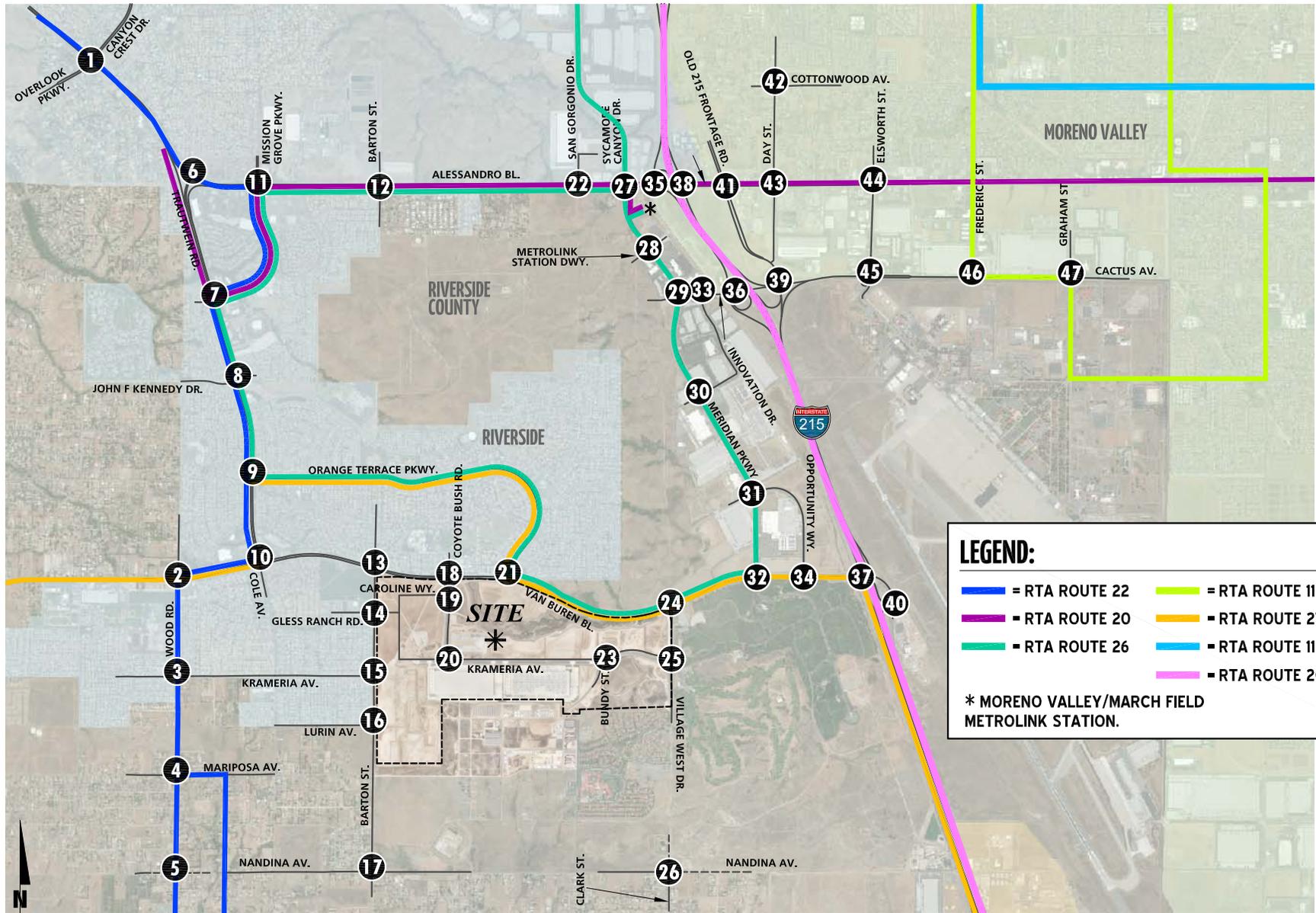
SOURCE: Urban Crossroads, 2020

FIGURE 4.12-11

March Business Center Truck Routes

South Campus Specific Plan and Village West Drive Extension

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LEGEND:

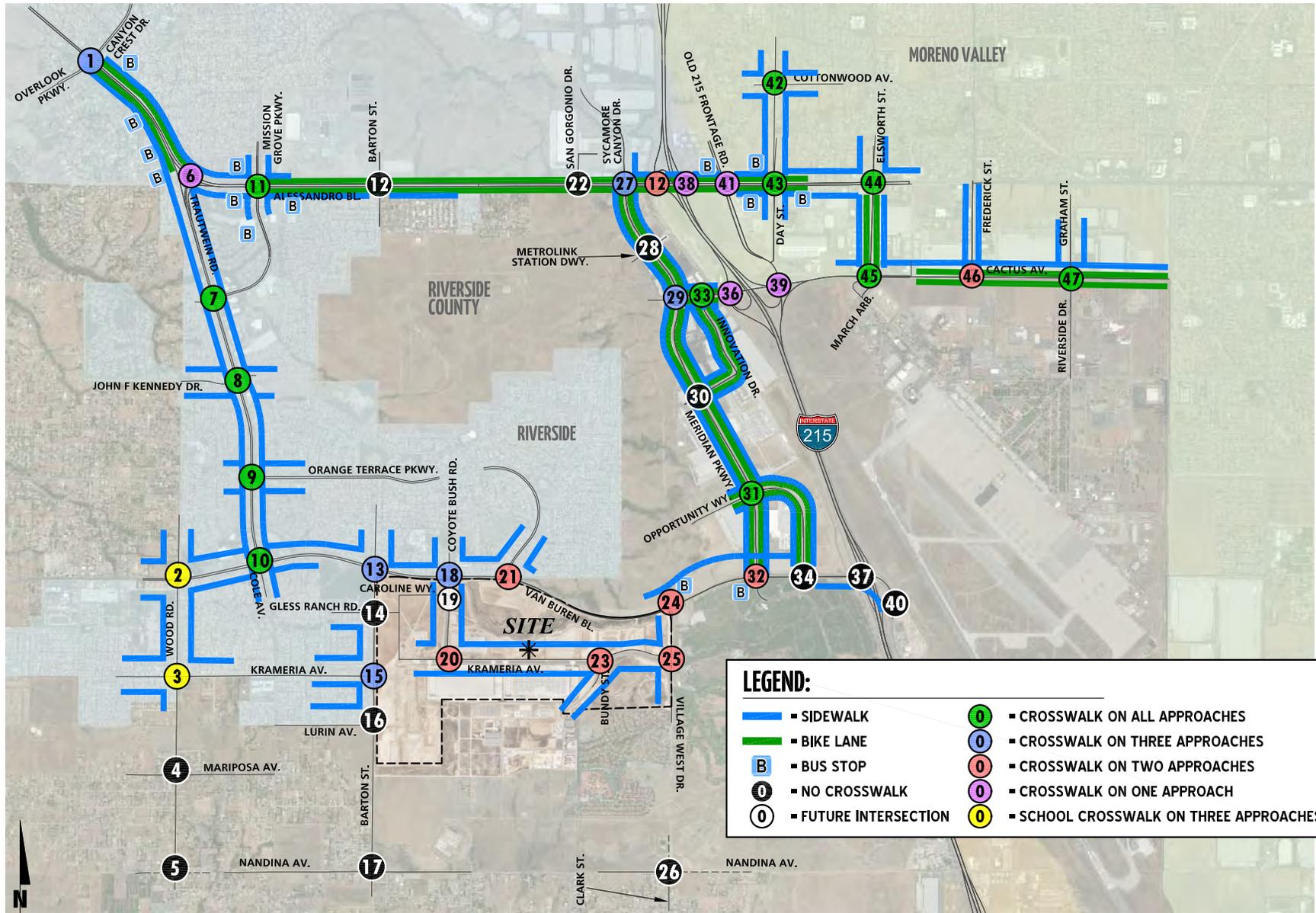
- = RTA ROUTE 22
- = RTA ROUTE 20
- = RTA ROUTE 26
- = RTA ROUTE 11
- = RTA ROUTE 27
- = RTA ROUTE 11
- = RTA ROUTE 208/212

* MORENO VALLEY/MARCH FIELD METROLINK STATION.

SOURCE: Urban Crossroads, 2020

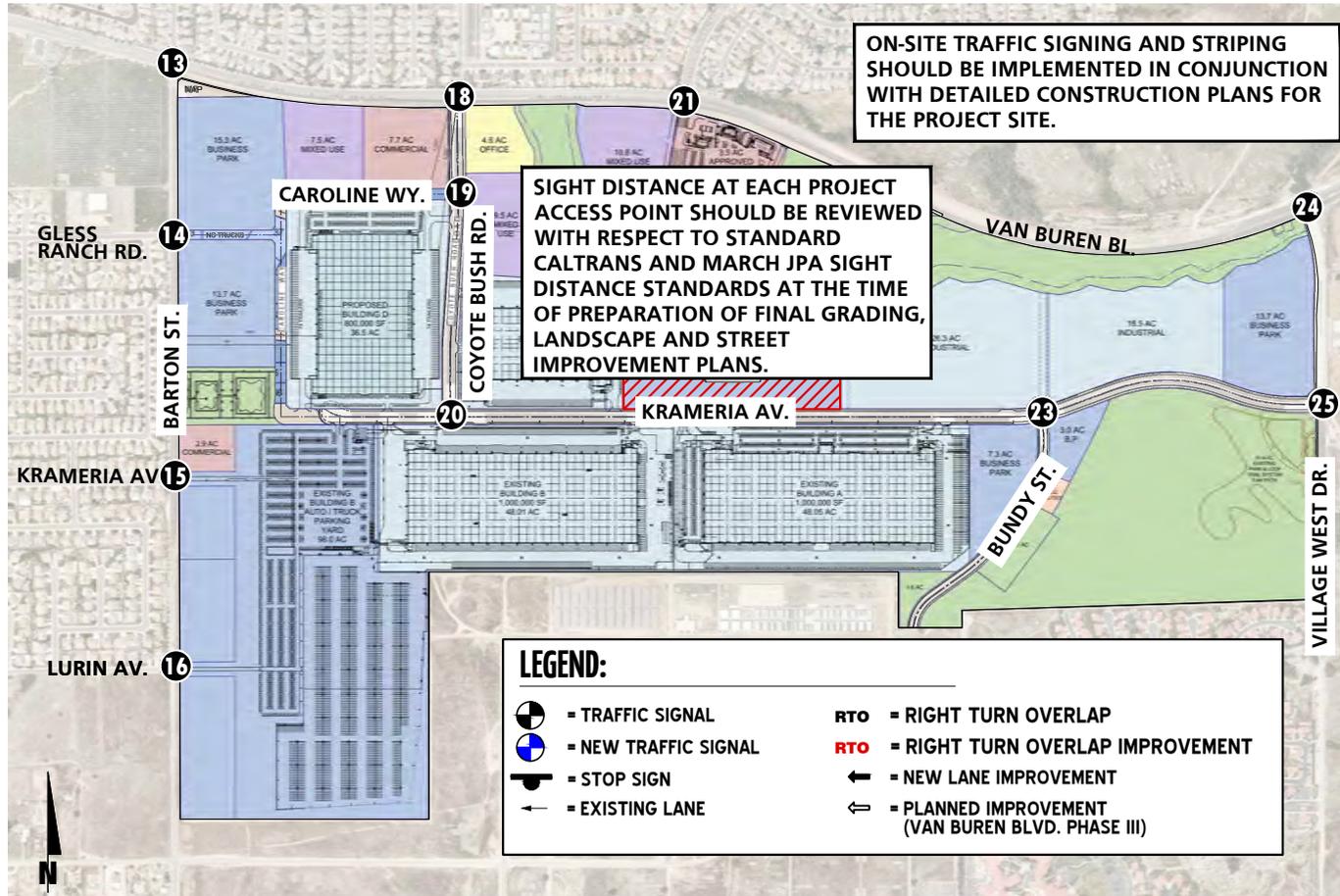
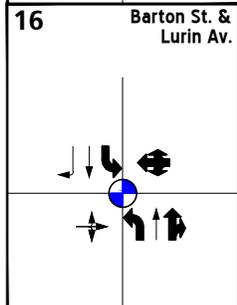
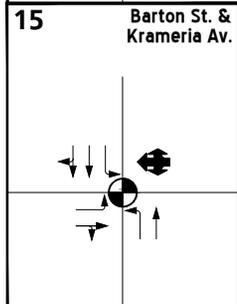
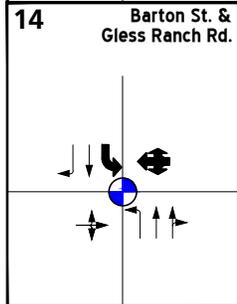
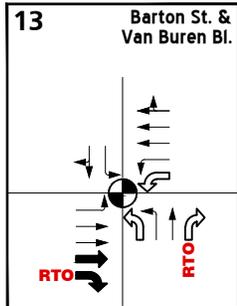
FIGURE 4.12-12
Existing Transit Routes

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SOURCE: Urban Crossroads, 2020

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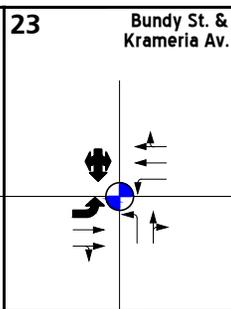
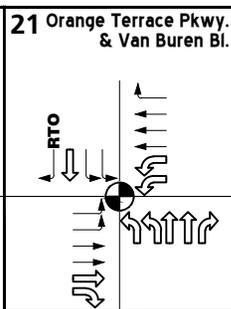
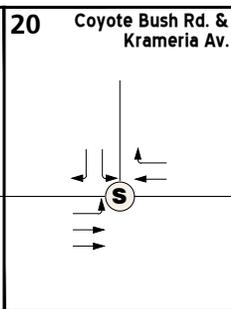
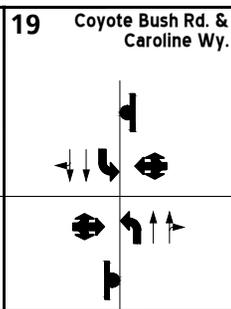
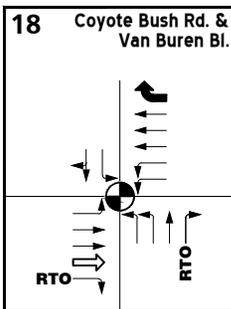
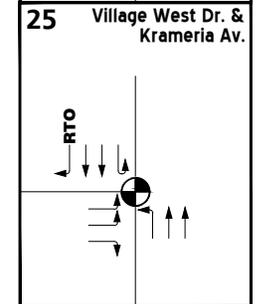
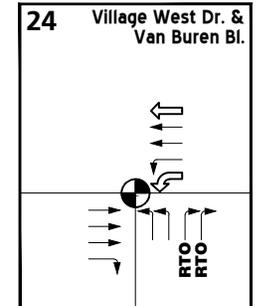


ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

SIGHT DISTANCE AT EACH PROJECT ACCESS POINT SHOULD BE REVIEWED WITH RESPECT TO STANDARD CALTRANS AND MARCH JPA SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE AND STREET IMPROVEMENT PLANS.

LEGEND:

- = TRAFFIC SIGNAL
- = NEW TRAFFIC SIGNAL
- = STOP SIGN
- = EXISTING LANE
- = RTO = RIGHT TURN OVERLAP
- = RTO = RIGHT TURN OVERLAP IMPROVEMENT
- = NEW LANE IMPROVEMENT
- = PLANNED IMPROVEMENT (VAN BUREN BLVD. PHASE III)



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4.13 Tribal Cultural Resources

This section provides an analysis of the potential impacts to tribal cultural resources (TCRs) from the implementation of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project). This analysis is based on a review of nine separate technical studies prepared by CRM TECH in support of the Project site (Confidential Appendix L of this Subsequent Environmental Impact Report [SEIR]), and tribal consultation completed by the March Joint Powers Authority (JPA). These studies (Appendix L) were prepared in compliance with the California Environmental Quality Act (CEQA).

On July 1, 2015, Assembly Bill (AB) 52 went into effect amending CEQA to include TCRs as a new class of resources and requiring additional considerations relating to Native American consultation. A TCR, in general, is similar to the federally defined Traditional Cultural Properties. However, AB 52 incorporates considerations of local and state significance and requires mitigation under CEQA. TCRs may include resources that are listed in or eligible for listing in the California Register of Historical Resources, such as archaeological sites, districts, or landscapes, or other kinds of resources that the CEQA lead agency chooses to treat as a TCR through tribal consultation.

The 2003 Focused Environmental Impact Report (EIR) evaluated impacts of the 2003 Approved South Campus's 514.9 acres of developable land and 111.6 acres of Park/Open Space. As shown in Table 3-2, 2003, Current, and Proposed South Campus Land Uses, in Chapter 3, Project Description, of this SEIR, the proposed Project would reduce developable acreage by 87.9 acres to 427 acres and increase Park/Open Space by 28.7 acres to 140.3 acres. The proposed Project thus significantly reduces the developable acreage. The 2003 Approved South Campus and proposed Project are shown in Figure 3-4A, Originally Approved South Campus Configuration, and Figure 3-4C, Proposed South Campus Configuration, in Chapter 3 of this SEIR.

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the "Project." The "without Project" condition will reflect the 2003 Approved South Campus and the "with Project" conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused EIR, those mitigation measures are described and applied to the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for "Wholesale, Storage and Distribution" (both Medium and Heavy) to accommodate cold storage warehousing and the definition of "Business Enterprise" to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.13.1 Existing Conditions

This section describes the existing conditions of the Project site pertaining to TCRs, including its ethnographic setting.

Cultural Setting

Ethnographic Setting

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the southern California region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions throughout California brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shippek 1978; Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his “memory culture” approach (Lightfoot 2005, p. 32) by recording languages and oral histories throughout the state. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of precontact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). As the Project area is in southwest Riverside County, the Native American inhabitants of the region would have generally spoken a Luiseño variety of Takicy.

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative “time depth” of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group’s language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the “absolute chronology of the internal diversification within a language family” can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Cahuilla

The name “Cahuilla” is possibly derived from a native word meaning a “master, boss” (Bean 1978, p. 575). *’lvi’lyu’atam* is the traditional term for the linguistically and culturally defined Cahuilla cultural nationality, and “refers to persons speaking the Cahuilla language and recognizing a commonly shared cultural heritage” (Bean 1972, p. 85). It is thought that the Cahuilla migrated to southern California about 2,000 to 3,000 years ago, most likely from southern Sierra Nevada ranges of east–central California with other related socio-linguistic groups (Tatic speakers) (Moratto 1984, p. 559). The Cahuilla settled in a territory that extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains. While 60% of Cahuilla territory was located in the Lower Sonoran Desert environment, 75% of their diet from plant resources was acquired in the Upper Sonoran and Transition environmental zones (Bean 1978, p. 576).

The Cahuilla had three primary levels of socio-political organization (Bean 1978, p. 580). The highest level was the cultural nationality, encompassing everyone speaking a common language. Next were the two patrimoieties of the Wildcats (*tuktum*) and the Coyotes (*’istam*). Every clan of the Cahuilla fell into one or the other of these moieties. The third basic level consisted of the numerous political–ritual–corporate units called sibs, or a patrilineal clan (Bean 1978, p. 580). While anthropologists have designated groups of Cahuilla clans by their geographical location into Pass, Desert, and Mountain, suggesting dialect and ceremonial differences between these groupings, these social and linguistic areas were more a result of proximity than actual social connections. In reality, there was a continuum of minor differences from one clan to the next. Lineages within a clan cooperated in defense, in community subsistence activities, and in religious ceremonies. While most lineages owned their own village site and particular resource area, much of the territory was open to all Cahuilla people.

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water, such as springs or where large wells could be dug. Each family and lineage had their houses (*kish*) and granaries for the storage of food, and ramadas for work and cooking. There would often be sweat houses and song houses (for non-religious music). Each community also had a separate house for the lineage or clan leader. There was a ceremonial house, or *kishumnawat*, associated with the clan leader, where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, and a “village” could spread out over a mile or two (Bean 1978).

A wide variety of tools and implements were employed by the Cahuilla to gather and collect food resources. For the hunt, these included the bow and arrow, traps, nets, slings and blinds for hunting land mammals and birds, and nets for fish in Holocene-epoch Lake Cahuilla. Rabbits and hares were commonly brought down by the throwing stick, but communal hunts for these animals utilized tremendously large nets and clubs. Foods were processed with a variety of tools, including portable stone mortars, bedrock mortars and pestles, basket hopper mortars, manos and metates, bedrock grinding slicks, hammerstones and anvils, woven strainers and winnowers, leaching baskets and bowls, woven parching trays, knives, bone saws, and wooden drying racks. Food was consumed from a number of woven and carved wood vessels and pottery vessels. The ground meal and unprocessed hard seeds were stored in large finely woven baskets, and the unprocessed mesquite beans were stored in large granaries woven of willow branches and raised off the ground on platforms to keep it from vermin. Pottery vessels were made by the Cahuilla, and also traded from the Yuman-speaking groups across the Colorado River and to the south (Bean 1978).

By 1819, several Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto, but interaction with Europeans was not as intense in the Cahuilla region as it was for coastal groups. The topography and lack of water also made the area less attractive to colonists than the coastal valley regions. By the 1820s, however, the Pass Cahuilla were experiencing consistent contact with the ranchos of

Mission San Gabriel, while the individuals and families of the Mountain branch of the Cahuilla were frequently employed by private rancheros and were also recruited to Mission San Luis Rey (Bean 1978).

By the 1830s, Mexican ranchos were located near Cahuilla territory along the upper Santa Ana and San Jacinto rivers, thus introducing the Cahuilla to ranching and an extension of traditional agricultural techniques. The Bradshaw Trail was established in 1862, and was the first major east–west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River with the coast. Bradshaw based his trail on the Cocomaricopa trail, with maps and guidance provided by local Native Americans. Journals by early travelers along the Bradshaw Trail told of encountering Cahuilla villages and walk-in wells during their journey through the Coachella Valley (Bean 1978).

The continuing expansion of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862–1863. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978, pp. 583–584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their territory (Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez) (Bean 1978, p. 585). Four of the reservations are shared with other groups, including the Chemehuevi, Cupeño, and Serrano.

CHRIS Records Search

AB 52 defines TCRs as those archaeological sites identified by tribal individuals that are eligible for or listed in the California Register of Historical Resources, or resources that are accompanied by substantial evidence such that the lead agency designates a resource as a TCR. As such, it is appropriate to review identification of prehistoric archaeological resources that have the potential to be identified by consulting tribes as a TCR, by referring to records searches and cultural resources inventories.

Results from previous, recent records searches by CRM Tech that cover the entire Project site were compiled for the current Project. CRM Tech requested record searches from the Eastern Information Center located on the campus of California State University, Riverside, for projects 2833 in July 2014, 3046 in March 2016, 3186 in February 2017, and 3520 in July 2019 for the area covered by the South Campus Specific Plan Area (Appendix L). CRM Tech requested a record search from the Eastern Information Center for project 3538 for the area covered by the West Village Drive Extension Area. All record searches had a 1-mile radius and included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. The full records search results are included in Appendix L of this SEIR.

The records search identified 164 prehistoric resources within the records search area. Of these, 143 are outside of the Project site including: 137 prehistoric bedrock milling features; one prehistoric lithic scatter; three prehistoric isolated artifacts; and two multi-component sites that contain prehistoric bedrock milling features. The remaining 21 prehistoric cultural resources were identified within the Project site, primarily consisting of bedrock milling sites, only a few of which had associated artifact scatters. All prehistoric resources identified within the Project site are summarized in Table 4.13-1. None of these resources appear eligible for listing in the California Register of Historical Resources.

Table 4.13-1. Previously Recorded Cultural Resources Within the Project Site

Primary Number	Trinomial	Resource Age and Type	Resource Description*	CRHR Recommendations
P-33-003096	CA-RIV-3096	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-003097	CA-RIV-3097	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003098	CA-RIV-3098	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003099	CA-RIV-3099	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-003100	CA-RIV-3100	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003105	CA-RIV-3105	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003288	CA-RIV-3288	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-003289	CA-RIV-3289	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003290	CA-RIV-3290	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-003291	CA-RIV-3291	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003292	CA-RIV-3292	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-003382	CA-RIV-3382	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-003383	CA-RIV-3383	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-005415	CA-RIV-5415	Prehistoric: Site	Bedrock milling feature	7R: Not evaluated
P-33-005416	CA-RIV-5416	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-023984	CA-RIV-11789	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-023985	CA-RIV-11790	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-024849	CA-RIV-12318	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-026411	CA-RIV-12424	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-026664	CA-RIV-12563	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR
P-33-028029	CA-RIV-12652	Prehistoric: Site	Bedrock milling feature	6Z: Appears ineligible for CRHR

Source: Appendix L.

Notes: CRHR = California Register of Historical Resources.

* None are designated tribal cultural resources.

Native American Coordination

Native American Heritage Commission Sacred Lands File Search

All Native American coordination efforts for the Project site were addressed as part of CRM Tech's technical results included in Appendix L.

CRM Tech requested a review of the Native American Heritage Commission (NAHC) Sacred Lands File under contract 3046 on March 7, 2016, and received negative results on March 8, 2016. CRM Tech contacted the individuals on the NAHC list on March 14, 2016, and March 6, 2017, and received four responses from the following Tribal representatives: Judy Stapp, Director of Cultural Affairs, Cabazon Band of Mission Indians; Andreas Heredia, Cultural Director, Cahuilla Band of Indians; Raymond Huaute, Cultural Resources Specialist, Morongo Band of Mission Indians; and Daniel McCarthy, Director, Cultural Resources Management Department, San Manuel Band of Mission Indians (see Table 4.13-2). CRM Tech also contacted Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians to inform them of the fieldwork and invite them to participate. CRM Tech requested a review of the Sacred Lands File under contract 3186 on February 22, 2017, and received negative results on February 27, 2017. CRM Tech contacted the individuals on the NAHC list on March 6, 2017, and received two responses from the following Tribal representatives: Raymond Huaute, Cultural Resources Specialist, Morongo Band of Mission Indians and Diane Versaggi, on behalf of Lee Clauss, Director of Cultural Resources, San Manuel Band of Mission Indians. Native American monitors from Pechanga Band of Luiseño Indians and/or Soboba Band of Luiseño Indians participated in fieldwork on CRM Tech projects 2833, 3046, 3186, 3276, and 3349 (Appendix L). Table 4.13-2 summarizes CRM Tech’s Native American coordination efforts for contract numbers 3046 and 3186, which includes project areas under contracts 2833, 3045, 3276, 3349, and 3520.

This coordination was conducted for informational purposes only and does not necessarily constitute formal government-to-government consultation as specified by AB 52 and Senate Bill (SB) 18. AB 52 and SB 18 consultation efforts conducted by March JPA are discussed in the following paragraphs.

Table 4.13-2. Summary of Native American Outreach

Native American Tribal Representatives	Response to Initial Tribal Outreach Letters Sent March 14, 2016, Pertaining to Report CRM Tech-3046	Response to Initial Tribal Outreach Letters Sent March 6, 2017, Pertaining to Report CRM Tech-3186
Jeff Grubbe, Chairperson, Agua Caliente Band of Cahuilla Indians	No Response	No Response
Patricia Garcia-Plotkin, Tribal Historic Preservation Officer, Agua Caliente Band of Cahuilla Indians	No Response	No Response
Amanda Vance, Chairperson, Augustine Band of Cahuilla Mission Indians	No Response	No Response
David L. Saldivar, Tribal Government Affairs Manager, Augustine Band of Cahuilla Mission Indians	No Response	No Response
Doug Welmas, Chairperson, Cabazon Band of Mission Indians	No Response	No Response
Judy Stapp, Director of Cultural Affairs, Cabazon Band of Mission Indians	March 22, 2016, Judy Stapp responded; the Project is located outside the Tribe's current reservation boundaries and the Tribe has no specific information indicating the Project area has traditional cultural value.	No Response

Table 4.13-2. Summary of Native American Outreach

Native American Tribal Representatives	Response to Initial Tribal Outreach Letters Sent March 14, 2016, Pertaining to Report CRM Tech-3046	Response to Initial Tribal Outreach Letters Sent March 6, 2017, Pertaining to Report CRM Tech-3186
Andreas Heredia, Cultural Director, Cahuilla Band of Indians	March 29, 2016, Andreas Heredia responded; the Cahuilla Band of Indians requested consultation. The Project area is located in the Tribe's Traditional Land Use Area.	No Response
Luther Salgado, Chairperson, Cahuilla Band of Indians	No Response	No Response
Ralph Goff, Chairperson, Campo Band of Mission Indians	Individual not listed as a Native American Heritage Commission (NAHC) contact on March 14, 2016	No Response
Desiderio Vela, Environmental Program Manager, Ewiiapaayp Band of Kumeyaay Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Michael Garcia, Vice Chairperson, Ewliapaayp Tribal Office	Individual not listed as an NAHC contact on March 14, 2016	No Response
Robert Pinto, Chairperson, Ewliapaayp Tribal Office	Individual not listed as an NAHC contact on March 14, 2016	No Response
Robert Dorame, Chairperson, Gabrielino Tongva Indians of California Tribal Council	Individual not listed as an NAHC contact on March 14, 2016	No Response
Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians - Kizh Nation	No Response	No Response
Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians	No Response	No Response
Samuel H. Dunlap, Cultural Resources Director, Gabrielino/Tongva Nation	No Response	No Response
Sandonne Goad, Chairperson, Gabrielino/Tongva Nation	No Response	No Response
Linda Candelaria, Co-Chairperson, Gabriellino-Tongva Tribe	Individual not listed as an NAHC contact on March 14, 2016	No Response
Erica Pinto, Chairperson, Jamul Indian Village	Individual not listed as an NAHC contact on March 14, 2016	No Response
Gwendolyn Parada, Chairperson, La Posta Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Javaughn Miller, Tribal Administrator, La Posta Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
John Perada, Environmental Director, Los Coyotes Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Shane Chapparosa, Chairman, Los Coyotes Band of Mission Indians	No Response	No Response
Angela Elliott Santos, Chairperson, Manzanita Band Kumeyaay Nation	Individual not listed as an NAHC contact on March 14, 2016	No Response

Table 4.13-2. Summary of Native American Outreach

Native American Tribal Representatives	Response to Initial Tribal Outreach Letters Sent March 14, 2016, Pertaining to Report CRM Tech-3046	Response to Initial Tribal Outreach Letters Sent March 6, 2017, Pertaining to Report CRM Tech-3186
Nick Elliott, Cultural Resources Coordinator, Manzanita Band Kumeyaay Nation	Individual not listed as an NAHC contact on March 14, 2016	No Response
Virgil Oyos, Chairperson, Mesa Grande Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Denisa Torres, Cultural Resources Manager, Morongo Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Raymond Huaute, Cultural Resources Specialist, Morongo Band of Mission Indians	March 15, 2016, Raymond Huaute responded; the Morongo Band of Mission Indians formally requested consultation. The Project is within an area in which the Tribe has cultural ties with and they recommend a CHRIS records search and an archaeological survey with a tribal monitor present. Mr. Huaute also requested that the Morongo Band's Standard Development Conditions be implemented to address inadvertent discoveries of Native American cultural resources.	March 7, 2017 Raymond Huaute responded with the same response he gave in March 2016, except he did not formally request consultation in 2017.
Robert Martin, Chairperson, Morongo Band of Mission Indians	No Response	No Response
Anna Hoover, Cultural Analyst, Pechanga Band of Luiseño Indians	No Response	Individual not listed as an NAHC contact in 3/6/2017
Mark Macarro, Chairperson, Pechanga Band of Luiseño Indians	No Response	Individual not listed as an NAHC contact in 3/6/2017
Paul Macarro, Cultural Resources Manager, Pechanga Band of Luiseño Indians	No Response	Individual not listed as an NAHC contact in 3/6/2017
John Gomez Jr., Cultural Resources Coordinator, Ramona Band of Cahuilla Mission Indians	No Response	Individual not listed as an NAHC contact in 3/6/2017
Joseph Hamilton, Chairman, Ramona Band of Cahuilla Mission Indians	No Response	No Response
John Gomez, Environmental Coordinator, Ramona Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
John Valenzuela, Chairperson, San Fernando Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response

Table 4.13-2. Summary of Native American Outreach

Native American Tribal Representatives	Response to Initial Tribal Outreach Letters Sent March 14, 2016, Pertaining to Report CRM Tech-3046	Response to Initial Tribal Outreach Letters Sent March 6, 2017, Pertaining to Report CRM Tech-3186
Daniel McCarthy, Director, Cultural Resources Management Department, San Manuel Band of Mission Indians	March 31, 2016, Leslie Mouriquand responded that the Project is located in the Tribe's ancestral territory. The Tribe requested a copy of the records search and a copy of the report. Ms. Mouriquand recommended the development plans be adjusted to avoid impact to known archaeological sites.	Individual not listed as an NAHC contact in 3/6/2017
Lee Clauss, Director of Cultural Resources, San Manuel Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	March 10, 2017 Diane Versaggi responded on behalf of Mr. Clauss via email stating that the Project is outside of Serrano ancestral territory.
Lynn Valbuena, Chairwoman, San Manuel Band of Mission Indians	No Response	Individual not listed as an NAHC contact in 3/6/2017
Allen E. Lawson, Chairperson, San Pasqual Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
John Flores, Environmental Coordinator, San Pasqual Band of Mission Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Gabiella Rubalcava, Environmental Director, Santa Rosa Band of Cahuilla Indians	No Response	No Response
Steven Estrada, Chairman, Santa Rosa Band of Mission Indians	No Response	No Response
Goldie Walker, Chairperson, Serrano Nation of Mission Indians	No Response	No Response
Carrie Garcia, Cultural Resources Manager, Soboba Band of Luiseño Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Joseph Ontiveros, Director, Cultural Resources Department, Soboba Band of Luiseño Indians	No Response	No Response
Rosemary Morillo, Chairperson, Soboba Band of Luiseño Indians	No Response	No Response
Cody J. Martinez, Chairperson, Sycuan Band of the Kumeyaay Nation	Individual not listed as an NAHC contact on March 14, 2016	No Response
Lisa Haws, Cultural Resources Manager, Sycuan Band of the Kumeyaay Nation	Individual not listed as an NAHC contact on March 14, 2016	No Response
Michael Mirelez, Cultural Resources Coordinator, Torres-Martinez Desert Cahuilla Indians	No Response	No Response

Table 4.13-2. Summary of Native American Outreach

Native American Tribal Representatives	Response to Initial Tribal Outreach Letters Sent March 14, 2016, Pertaining to Report CRM Tech-3046	Response to Initial Tribal Outreach Letters Sent March 6, 2017, Pertaining to Report CRM Tech-3186
Ernest Pingleton, Cultural Resource Manager, Viejas Band of Kumeyaay Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Julie Hagen, Viejas Band of Kumeyaay Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response
Robert J. Welch, Chairperson, Viejas Band of Kumeyaay Indians	Individual not listed as an NAHC contact on March 14, 2016	No Response

Source: Appendix L.

Assembly Bill 52 Consultation

The Project is subject to compliance with AB 52 (California Public Resources Code [PRC], Section 21074), which requires consideration of impacts to TCRs as part of the CEQA process, and that the lead agency notify California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the proposed Project. All NAHC-listed California Native American Tribal representatives that have requested Project notification pursuant to AB 52 were sent letters by March JPA on February 24, 2020 (see Table 4.13-3). The letters contained a Project description, outline of AB 52 timing, request for consultation, and contact information for the appropriate lead agency representative. The tribal consultation window under AB 52 closed on March 28, 2020. On March 20, 2020, March JPA staff received a formal request to begin consultation pursuant to AB 52 from the Pechanga Band of Luiseño Indians. Documents related to AB 52 consultation are on file with March JPA.

Table 4.13-3. Assembly Bill 52 Native American Heritage Commission–Listed Native American Contacts

Native American Tribal Representatives	Tribe
Jeff Grubbe, Chairperson	Agua Caliente Band of Cahuilla Indians
Amanda Vance, Chairperson	Agustine Band of Cahuilla Mission Indians
Doug Welmas, Chairperson	Cabazon Band of Mission Indians
Daniel Salgado, Chairperson	Cahuilla Band of Indians
Ralph Goff, Chairperson	Campo Band of Mission Indians
Michael Garcia, Vice Chairperson	Ewiiapaayp Tribal Office
Lisa Cumper, Tribal Historic Preservation Officer	Jamul Indian Village
Erica Pinto, Chairperson	Jamul Indian Village
Javaughn Miller, Tribal	La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson	La Posta Band of Mission Indians
Shane Chapparosa, Chairperson	Los Coyotes Band of Mission Indians
Angela Elliott Santos, Chairperson	Manzanita Band of Kumeyaay Nation
Michael Linton, Chairperson	Mesa Grande Band of Diegueno Mission Indians
Robert Martin, Chairperson	Morongo Band of Mission Indians
Mark Macarro, Chairperson	Pechanga Band of Luiseño Indians
Jill McCormick, Historic Preservation Officer	Quechan Tribe of the Fort Yuma Reservation

Table 4.13-3. Assembly Bill 52 Native American Heritage Commission–Listed Native American Contacts

Native American Tribal Representatives	Tribe
Joseph Hamilton, Chairperson	Ramona Band of Cahuilla Mission Indians
Jessica Mauck, Director of Cultural Resources	San Manuel Band of Mission Indians
Allen E. Lawson, Chairperson	San Pasqual Band of Mission Indians
Steven Estrada, Chairperson	Santa Rosa Band of Mission Indians
Scott Cozart, Chairperson	Soboba Band of Luiseño Indians
Cody J. Martinez, Chairperson	Sycuan Band of the Kumeyaay
Thomas Torte, Chairperson	Torres-Martinez Desert Cahuilla Indians
John Christman, Chairperson	Viejas Band of Kumeyaay Indians

Senate Bill 18 Consultation

According to SB 18 (Government Code Section 65352.3), March JPA has a responsibility to initiate consultation with tribes/groups listed on the California NAHC’s official SB 18 contact list for amendment of its General Plan or any Specific Plan. SB 18 requires March JPA to send a letter to each contact on the NAHC’s SB 18 list, extending an invitation for consultation. Tribes have 90 days from receipt of the letter to request consultation. March JPA must also send a notice to all contacts at least 45 days prior to adopting the amended General Plan/Specific Plan, as well as a notice 10 days prior to any public hearing regarding the General Plan/Specific Plan amendment. March JPA sent notification of the proposed Project to all California Native American tribal representatives that have requested Project notifications pursuant to SB 18 and that are on file with the NAHC as being traditionally or culturally affiliated with the geographic area on February 24, 2020 (see Table 4.13-3). These notification letters included a Project description and inquired if the tribe would like to consult on the proposed Project. Documents related to SB 18 consultation are on file with March JPA.

On April 22, 2020, Governor Newsom issued Executive Order N-54-20 suspending the AB 52 timeframes for 60 days due to the COVID-19 state of emergency, effective immediately. Executive Order N-54-20 does not apply to SB 18 tribal consultation, and the AB 52 consultation window closed prior to the Executive Order’s issuance; therefore, the proposed Project was not impacted by this executive order. The SB 18 tribal consultation window closed on May 27, 2020, and no tribes requested consultation under SB 18.

4.13.2 Relevant Plans, Policies, and Ordinances

State**California State Assembly Bill 52**

AB 52 was approved by Governor Jerry Brown, Jr., on September 25, 2014. AB 52 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. PRC Section 21074 describes a TCR as a site, feature, place, cultural

landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe. A TCR is defined as follows:

- (a) Tribal cultural resources are either of the following:
 - (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the Project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Section 1(b)(9) of AB 52 establishes that “a substantial adverse change to a tribal cultural resource has a significant effect on the environment.” Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds PRC Section 21080.3.2, which states that parties may propose mitigation measures “capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource.” Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the county coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). PRC Section 5097.98 also outlines the process to be followed in the event that Native American remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native

American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). The NAHC will notify the “most likely descendant.” With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by the NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

California Public Resources Code Section 5097.98

PRC Section 5097.98 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines. The proposed Project would be required to comply with PRC Section 5097.98 should any unknown human remains be discovered during site disturbance.

California Public Resources Code, Sections 5097.5 and 30244

PRC Section 5097.5 prohibits “knowing and willful” removal, destruction, injury, defacement, and excavation upon any historic or prehistoric ruins, burial grounds, or archaeological or vertebrate paleontological site situated on public lands (lands under state, county, city, district, or public authority ownership or jurisdiction, or the ownership or jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. PRC Section 30244 requires reasonable mitigation for impacts on archaeological or paleontological resources that occur as a result of development.

4.13.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to Tribal Cultural Resources are based on March JPA 2019 CEQA Guidelines. According to the March JPA CEQA Guidelines, a significant impact related to Tribal Cultural Resources would occur if the Project would:

1. Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC, Section 21074, as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC, Section 5020.1(k), or
 - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC, Section 5024.1(c). In applying the criteria set forth in PRC, Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

Per the Initial Study prepared for the proposed Project (Appendix A), the Project would not result in impacts to a resource listed or eligible for listing in the California Register of Historical Resources. As such, the focus of the analysis within this section of the SEIR is based on the following threshold:

TCR-1. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074, as either a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC, Section 5024.1(c)? In applying the criteria set forth in PRC, Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

4.13.4 Methodology

The areas covered by the South Campus Specific Plan Area and the Village West Drive Extension Area have recently been the subject of CEQA review by CRM Tech (Appendix L). The results of the records search were reviewed earlier in this section, identifying as many as 21 prehistoric cultural resources within the Project site. None of these prehistoric sites appears eligible for listing in the California Register of Historical Resources, indicating they do not meet the first threshold of site significance under AB 52 to be considered a TCR. On March 20, 2020, March JPA staff received a formal request to begin consultation pursuant to AB 52 from the Pechanga Tribe. Due to Covid-19 restrictions, on May 28, 2020, tribal representatives from the Pechanga Band of Luiseño Indians (Tribe) conducted a remote consultation meeting with March JPA staff. At the conclusion of the consultation meeting, March JPA staff provided the Tribe with electronic information regarding the Notice of Preparation and scoping meeting details for the Project.

To date, the March JPA has not received information from the Tribe that would constitute substantial evidence to otherwise designate any of these 21 prehistoric resources, individually or together, as a TCR. The March JPA concluded consultation with the Tribe through notification on August 6, 2020. As such, no TCRs have been identified in the Project site that could be impacted by Project implementation.

4.13.5 Impacts Analysis

TCR-1 ***Would the Project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074, as either a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC, Section 5024.1(c)? In applying the criteria set forth in PRC, Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.***

Under CEQA, an effect to a tribal cultural resource is considered a “substantial adverse change,” if it is shown that the change would materially impair the significance of the historical resource. That is, a project that demolishes or materially alters in an adverse manner those physical characteristics of a historical resource conveying its historic significance would materially impair the significance of a historical resource. Therefore, such a change would constitute a “substantial adverse change” under CEQA.

No TCRs have been identified through tribal consultation under AB 52 or SB 18, and the lead agency has not identified any TCRs within the Project site that would warrant discretionary designation of a resource as a TCR. However, in consideration of the known sensitivity of the Project site for cultural resources, mitigation measures MM-TCR-1 and MM-TCR-2 are included below to provide for archaeological and tribal monitoring for all initial ground-disturbing activities, including cultural/historical sensitivity training. MM-TCR-2 would be implemented in the unlikely event that human remains are encountered. With the implementation of MM-TCR-1 and MM-TCR-2, the Project result in less than significant impact to TCRs.

4.13.6 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measure is required, and will be incorporated into the Mitigation Monitoring and Reporting Program for the Project, to reduce cultural and tribal cultural resources impacts to less than significant:

- L-1** If archaeological or paleontological resources are encountered at the time of grading or Project construction, all Project work in the area of the resource shall cease until the area has been surveyed by a qualified archaeologist or paleontologist in conformance with the Cultural Resource Management Plan.

Based on the analysis above, the following additional mitigation measures are required to reduce potentially significant TCR impacts to less than significant levels.

- MM-TCR-1** Prior to issuance of a grading permit, the Project Applicant/Developer shall retain a qualified archaeologist (Project Archaeologist) and a Tribal monitor from the Pechanga Band of Luiseño Indians (Tribe) to monitor all initial ground-disturbing activities, including, but not limited to clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, and structure demolition. The Applicant/Developer shall submit a fully executed copy of the contract for the retention of an archaeologist to the Planning Department to ensure compliance. The Applicant/Developer shall also secure an agreement with the Tribe for Tribal monitoring. The Applicant/Developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land owner/Applicant/Developer for the monitoring of the Project to the Planning Department and to the Engineering Department. The Applicant/Developer is also required to provide a minimum of 30 days advance notice to the Tribe of all mass grading and trenching activities.

Prior to the commencement of ground-disturbing activities, the Project's qualified archaeological Principal Investigator (Principal Investigator), meeting the Secretary of the Interior's Professional Qualification Standards, in consultation with the Tribe, the March JPA, and construction manager, shall develop a cultural resource monitoring and treatment plan (CRMTP) prior to Project commencement. This CRMTP defines the process to be followed, upon discovery of cultural resources, to ensure the proper treatment, evaluation and management of cultural resources in the Project site, should they be encountered during construction.

- A. For purposes of CRMTP implementation, the Project area subject to monitoring is defined as:
- All areas within the Project boundary specifically in which ground-disturbing activities (e.g. including, but not limited to clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, and structure demolition) will occur,

- Any on-site or off-site ancillary Project use areas or facility locations are subject to the protocols outlined in the CRMTP. These include, but are not limited to, access roads, yards/support areas, easements, staging areas, and utility tie-ins.
- B. The CRMTP shall include a requirement for all construction personnel to complete a Cultural Resources Worker Sensitivity Training (Training) prior to commencement of construction activities. The Training shall be conducted by a qualified archaeologist (Project Archaeologist). The Training shall provide: (1) the types and characteristics of cultural materials that may be identified during construction and explain the importance of and legal basis for the protection of significant cultural resources; (2) proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities, including procedures for work curtailment or redirection; and (3) protocols for the contact of the site supervisor and archaeological and Tribal monitor upon discovery of a resource. All new construction personnel must take the training prior to beginning ground-disturbing activities.
- C. The following protocols shall be included in the CRMTP:
- a. The Project Archaeologist and the Tribal monitor shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the Project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Project Archaeologist and the Tribal monitor, shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with the March JPA.
 - b. If during ground disturbance activities, potential cultural resources are inadvertently discovered, the Project Archaeologist and Tribal monitor shall immediately redirect grading operations in a 100-foot radius around the discovery and the following procedures shall be followed:
 - i. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the Applicant/Developer, the Project's archaeological Principal Investigator, the Tribal representative(s), the Project monitors, and the Planning Director to discuss the significance of the find pursuant to California Public Resources Code Section 21083.2.
 - ii. At the meeting, the significance of the discovery shall be discussed and after consultation with the Project PI, Tribal representative(s), the Project monitors, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.
 - iii. Grading of further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation.
 - iv. Treatment and Disposition of the inadvertently discovered cultural resources shall be carried out in one or more of the following methods:
 - Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for cultural resources.
 - During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the Project

Archaeologist. If removal of artifacts from the Project site is necessary, each artifact shall be catalogued, and an inventory will be provided to the Tribal monitor upon each addition. No recordation of sacred items is permitted without the written consent of the Tribe

- Following the completion of the Project, if the cultural resources are determined to be Native American in origin, the Applicant/Developer shall relinquish ownership of all cultural resources that are determined to be of Native American origin to the Tribe.
- If the landowner and the Tribe cannot come to a consensus on the significance or the mitigation for the Native American cultural resource, these issues will be presented to the March JPA Planning Director (Director) for decision. The Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological resources, recommendations of the Project archaeological PI and shall consider the cultural and religious principles and practices of the Tribe. Notwithstanding any other rights available under the law, the decision of the Director shall be appealable to the March Joint Powers Authority Council.
- Onsite reburial of the discovered items. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed.

D. Regardless of discovery, at the completion of all ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards shall prepare a Monitoring Report and submit said report to the March JPA, the Eastern Information Center (EIC) located at University of Riverside, Riverside and the Pechanga Band of Luiseño Indians Tribal Government. The report will document all monitoring efforts and be completed within 60 days of conclusion of all ground-disturbing activities.

MM-TCR-2

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. Human remains from other ethnic/cultural groups with recognized historical associations to the project area shall also be subject to consultation between appropriate representatives from that group and the Planning Director.

4.13.7 Level of Significance After Mitigation

With implementation of mitigation measures MM-TCR-1 and MM-TCR-2, as identified above, potential impacts to TCRs would be **less than significant**.

4.13.8 Cumulative Effects

Cumulative impacts to TCRs would occur if the proposed Project in combination with related projects, as identified in Table 4-1, in Chapter 4.0 of this Draft EIR, would affect identified tribal cultural resources. As discussed herein, the Project would not result in impacts to TCRs, and therefore the Project would result in or contribute to cumulative significant impacts to TCRs. Cumulative impacts would be less than significant.

4.13.9 References Cited

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4.14 Utilities and Service Systems

This section describes the existing utilities conditions of the South Campus Specific Plan and Village West Drive Extension Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to the implementation of the proposed Project. The following analysis is based in part upon the following documents:

- Master Project Specific Water Quality Management Plan, Master Meridian Business Park Project, South Campus – Phase II, prepared by DRC Engineering Inc., included as Appendix I1 of this Subsequent Environmental Impact Report (SEIR)
- Preliminary Hydrology Study, Meridian Park South Campus Phase II, prepared by DRC Engineering, included as Appendix I2 of this SEIR
- Conceptual Utility, Meridian South Campus Phase II March Joint Powers Authority, Riverside County, CA, by DRC Engineering,, included as Appendix M of this SEIR
- Water Supply Assessment, South Campus Specific Plan Amendment Project, by Western Municipal Water District, April 15, 2020, included as Appendix M1 of this SEIR
- Final Focused Environmental Impact Report Volume I for: March Business Center, prepared by Kimley-Horn and Associates Inc. (2003a)
- March Business Center Drainage Master Plan, prepared by Kimley-Horn and Associates (2003b)

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR, the net change in impacts is considered the “Project.” The “without Project” condition will reflect the 2003 Approved South Campus and the “with Project” conditions will reflect the net change in impact levels due to the shift in mix of uses. This SEIR provides analysis for both “without Project” and “with Project” conditions in order to provide an appropriate comparative analysis. For impacts mitigated through the 2003 Focused Environmental Impact Report (EIR), those mitigation measures are described and applied to the Project and will be included within the Mitigation Monitoring and Reporting Program (MMRP) for the Project. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes the proposed Project against existing conditions.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.14.1 Existing Conditions

South Campus Specific Plan Area

The South Campus Specific Plan is located within the jurisdictional boundaries of unincorporated areas within Riverside County. The South Campus Specific Plan is currently designated for a mix of office, commercial, mixed-

use, business park, industrial, parks, and open space use. The majority of the South Campus Specific Plan is undeveloped, with three industrial buildings within the southern quadrant of the proposed Project boundaries.

Domestic Water

Water Supply

Water is currently supplied to the South Campus Specific Plan by Western Municipal Water District. Western's service area is located in western Riverside County and covers 527 square miles, of which 104 square miles are included in its retail service area. Western Municipal Water District is both a wholesale and a retail agency, supplying approximately 23,000 retail customers and 14 wholesale customers within its service area. Western Municipal Water District's water supplies consist primarily of purchased or imported water, the majority of which is purchased from the Metropolitan Water District of Southern California, which makes up approximately 71% of Western Municipal Water District's total water supply. The Metropolitan Water District of Southern California imports water from the State Water Project, which conveys water from the Bay-Delta to Southern California via the California Aqueduct, and from the Colorado River through the Colorado River Aqueduct. Western Municipal Water District also purchases local groundwater supplies from Meeks and Daley Water Company, Riverside Highland Water Company and when available, from the City of Riverside, typically on an emergency or off-season basis. Groundwater is a major source of water supply for Western Municipal Water District and its retail agencies, making up 13% of purchased water, 85% of locally produced water, and 21% of Western Municipal Water District's total supply in 2015. Local groundwater supplies are pumped by Western Municipal Water District from the Temecula-Murrieta portion of the Temecula Valley Groundwater Basin and the San Bernardino Basin Area for retail supplies, and from the Arlington Subsection of the Riverside-Arlington Groundwater Basin for wholesale supplies (Western 2016).

In accordance with the Sustainable Groundwater Management Act, the California Department of Water Resources has classified each of these basins (Temecula Valley Basin, Riverside-Arlington Basin, and the San Bernardino Basin Area) in regard to prioritizing a Sustainable Groundwater Management Plan. All but the San Bernardino Basin Area, which is composed of parts of the Bunker Hill Basin, the Yucaipa Basin, and the Rialto-Colton Basin, were considered to have a very low priority in regard to enacting a Groundwater Management Plan. Of the three basins, both the Bunker Hill Basin and the Rialto-Colton Basin had a very low priority, while the Yucaipa Basin was considered to have a high priority (CDWR 2019).

However, groundwater used by Western Municipal Water District and many of its member agencies are generally adjudicated or otherwise managed as a result of court decisions and judgments. A formal Groundwater Management Plan has been developed for the Arlington Basin. Temecula Valley Basin has a Salt and Nutrient Management Plan to help manage groundwater quality in the face of current and proposed recycled water use. A Groundwater Management Plan has not been developed for the San Bernardino Basin; however, the management of this basin is the primary focus of the Upper Santa Ana River Watershed Integrated Regional Water Management Plan prepared by the San Bernardino Valley Municipal Water District and included in the Annual Report of the Western-San Bernardino Watermaster. The Basin Technical Advisory Committee, organized under the Upper Santa Ana Watershed Integrated Regional Water Management Plan, was formed to identify issues and projects that need to be continually addressed. The Basin Technical Advisory Committee includes representatives from 15 agencies, including Western Municipal Water District, along with various other stakeholders (Western 2015).

Western Municipal Water District's historical water demands have shown a slight increase in water use in Western Municipal Water District's wholesale and retail service areas due to the growth and development of the region. Although the overall historical demands have increased, demands have decreased in more recent years due to the

economic recession of 2008, the recent drought, and the associated increase in water conservation efforts. All urban water suppliers throughout California are mandated by the Water Conservation Act of 2009 (also referred to as Senate Bill [SB] X7-7) to reduce per-capita potable water demands by 20% by 2020. For 2015, Western Municipal Water District was required to have a per-capita water use of 391 gallons per-capita per day. Western Municipal Water District’s water demands for 2015 were 203 gallons per-capita per day, which is well below the 2015 target. Reduced demands in Western Municipal Water District’s service area are likely the result of ongoing conservation programs. Although the demand analysis demonstrates that there is anticipated to be a rebound effect (increased demands) now the drought has subsided, the analysis also shows that with existing and anticipated conservation efforts, Western Municipal Water District is on track to meet its 2020 gallons per-capita per day target of 352 gallons per-capita per day (Western 2016).

In June 2016, Western Municipal Water District adopted an Urban Water Management Plan (UWMP), which summarizes water demands by sector and characterizes the source waters available to meet those demands for 2020 through 2040. The plan also describes the reliability of Western Municipal Water District’s water supplies and discusses Western Municipal Water District’s Water Supply Shortage Contingency Planning during a catastrophic event or drought conditions. According to this UWMP and as shown in Table 4.14-1 and Table 4.14-2, Western Municipal Water District’s identified water supplies exceed estimated demand projections through 2040 under normal and multiple dry year conditions but may result in a shortage under 2040 single dry year conditions (Western 2016).

Table 4.14-1. Normal Year Supply and Demand Comparison

	2020	2025	2030	2035	2040
Western Municipal Water District Retail					
Supply totals (AFY)	69,718	76,264	79,672	92,030	90,400
Demand totals (AFY)	30,184	33,714	36,415	39,170	41,704
Difference (AFY)	38,904	42,550	42,257	52,860	48,696
Western Municipal Water District Wholesale					
Supply totals (AFY)	152,491	159,389	169,372	178,155	184,095
Demand totals (AFY)	110,787	114,039	123,515	122,895	132,999
Difference (AFY)	41,704	45,350	45,857	55,260	51,096

Source: Western 2016.

Note: AFY = acre-feet per year.

Table 4.14-2. Multiple-Dry Years Supply and Demand Comparison

		2020	2025	2030	2035	2040
Western Municipal Water District Retail						
First Year	Supply totals (AFY)	69,718	76,264	79,672	92,030	90,400
	Demand totals (AFY)	30,814	33,714	36,415	39,170	41,704
	Difference (AFY)	38,904	42,550	43,257	52,860	48,696
Second Year	Supply totals (AFY)	69,718	76,264	79,672	79,672	90,400
	Demand totals (AFY)	30,814	33,714	36,415	36,415	41,704
	Difference (AFY)	38,904	42,550	43,257	43,257	48,696

Table 4.14-2. Multiple-Dry Years Supply and Demand Comparison

		2020	2025	2030	2035	2040
Third Year	Supply totals (AFY)	69,718	76,264	79,672	79,672	90,400
	Demand totals (AFY)	30,814	33,714	36,415	36,415	41,704
	Difference (AFY)	38,904	42,550	43,257	43,257	48,696
Western Municipal Water District Wholesale						
First Year	Supply totals (AFY)	152,491	159,389	169,372	178,155	184,095
	Demand totals (AFY)	110,787	114,039	123,515	122,895	132,999
	Difference (AFY)	41,704	45,350	45,857	55,260	51,096
Second Year	Supply totals (AFY)	152,491	159,389	169,372	178,155	184,095
	Demand totals (AFY)	110,787	114,039	123,515	122,895	132,999
	Difference (AFY)	41,704	45,350	45,857	55,260	51,096
Third Year	Supply totals (AFY)	152,491	159,389	169,372	178,155	184,095
	Demand totals (AFY)	110,787	114,039	123,515	122,895	132,999
	Difference (AFY)	41,704	45,350	45,857	55,260	51,096

Source: Western 2016.

Note: AFY = acre-feet per year.

Water Conveyance

As shown in Figure 3-2, Existing Conditions, and summarized in Table 3-1, Existing South Campus Development, in Chapter 3, Project Description, of this SEIR, a portion of the South Campus Specific Plan is constructed or currently under construction. Water utility plans, as shown in Figure 4.14-1, Water System, provided for the South Campus Specific Plan area depict 12- and 18-inch-diameter water mains and associated laterals within roadways.

Wastewater

Wastewater Treatment

Sewage from the South Campus Specific Plan is currently conveyed to the Western Water Recycling Facility (WWRF), formerly the March Wastewater Treatment Plant, located west of Interstate (I) 215 and north of Nandina Avenue. Historically, the WWRF was designed to treat flows from the former March Air Force Base. With the realignment of the Base, the facility came under the ownership of Western Municipal Water District. Construction of new residential development to the west of the WWRF, as well as major industrial development to the north, has expanded the WWRF service area (Western 2014a). In 2003, the capacity of the WWRF was 0.75 million gallons per day (mgd). At that time, it was determined that planned treatment plant expansion, capable of treating 2 mgd, would be adequate to serve the March Business Center (Kimley-Horn and Associates 2003a). By 2011, Western Municipal Water District expanded the capacity of the WWRF to treat 3 mgd of wastewater at a tertiary level (Western 2014a, 2019). This treated water is then discharged to an impoundment and pumped to a recycled water system. The recycled water is currently provided to the Riverside National Cemetery, General Old Golf Course, and various landscaping, agricultural and commercial use sites. When supply exceeds demand, such as during wet winter months, excess recycled water is stored in the on-site impoundment until needed. If recycled water demands exceed supply, March Air Force Base's Expanded Groundwater Extractions and Treatment System may operate and send

groundwater flows to blend with recycled water in Western Municipal Water District’s on-site storage ponds at the WWRF. If there is a large discrepancy between recycled water demand and recycled water supply, excess recycled water from the WWRF can be placed in Western Municipal Water District’s existing sewer collection system for conveyance and treatment at the Western Riverside County Regional Wastewater Authority (WRCRWA) plant, where it is eventually discharged to the Santa Ana River. Current wastewater generation and recycled water demand projections indicate that most of the recycled water generated at the WWRF can be used, except during unusually wet winter weather events (Western 2014a, 2016; WRCRWA 2019). Additionally, Western Municipal Water District owns 1.95 mgd of treatment capacity at the WRCRWA (Western 2014b).

Utilizing the retail wastewater generation rates included within the Western Municipal Water District Sewer Master Plan (Western 2014b), Table 4.14-3 shows that current wastewater generated by existing and approved on-site uses is 0.44 mgd.

Table 4.14-3. Existing and Approved Wastewater Generation

Built/Entitled Land Uses	Land Use	Acreage	Wastewater Generation Factor (gallons per day per acre)	Wastewater Generated (gallons per day)
Building A	Industrial	48.05	2,000	96,100
Building B + Parking Lot	Industrial	146.01	2,000	292,020
Building C	Industrial	23.0	2,000	46,000
Approved Commercial	Commercial	3.5	1,700	5,950
Total				440,070

Source: Table 3-2, Summary of Wastewater Generation Factors within Western Municipal Water District’s Sewer Master Plan, in Western 2014b.

Wastewater Conveyance

As shown in Figure 3-2 and summarized in Table 3-1 in Chapter 3, a portion of the South Campus Specific Plan is constructed or currently under construction. Figure 4.14-2 shows the existing sewer lines within Village West Drive, Krameria Avenue, and Coyote Bush Road.

Stormwater Drainage

Within western Riverside County, the Riverside County Flood Control and Water Conservation District oversees implementation and compliance of both General and MS4 permits. In addition, this agency, in part with the Coachella Valley Water District, oversees Riverside County’s municipal storm drain system for conveying stormwater flows. This is done by two main planning instruments: the Master Drainage Plan (MDP) and the Area Drainage Plan (County of Riverside 2014).

According to Riverside County Flood Control, a MDP addresses the current and future drainage needs of a given community. The boundary of the plan usually follows regional watershed limits. The facilities proposed or covered by an MDP may include channels, storm drains, levees, basins, dams, wetlands, or any other conveyance capable of economically relieving flooding problems within the plan area. The plans also include estimates of facility capacities, sizes, and costs. MDPs are prepared for a variety of purposes. First, the plans provide a guide for the orderly development of Riverside County. Second, these plans provide an estimate of costs to resolve flooding issues within a community and are used by Riverside County to determine capital project expenditures for each budget year. In addition, MDPs can be used to establish Area Drainage Plan fees for a given community, which

prevents existing taxpayers from having to shoulder the burden of land development costs (County of Riverside 2014). According to these plans, most of the southwest, central, and eastern portions of the South Campus Specific Plan area are encompassed within the Perris Valley MDP and Mead Valley MDP (RCFlood 2014). For the northwest segment of the South Campus Specific Plan, DRC Engineering (Appendix I2) evaluated the current hydrological drainage area for the region known as the South Campus Phase II Area (Phase II Watershed). Most, if not all of the South Campus Specific Plan, including Village West Drive, is incorporated into these three areas. As such, drainage within the South Campus Specific Plan has been divided into three regions: the South Campus Phase II Watershed, the Perris Valley MDP, and the Mead Valley MDP. Village West Drive is located within the Perris Valley MDP. See Figure 4.14-3, Storm Drain System, for the existing and planned storm drainage system within the South Campus Specific Plan area.

South Campus Phase II Watershed

As discussed in Section 4.8, Hydrology and Water Quality, of this SEIR, a hydrology analysis was completed for the approximate 95-acre, northwest portion of the South Campus Specific Plan area, which is roughly located between Barton Street, Coyote Bush Road, Krameria Avenue, and Van Buren Boulevard (Appendix I2). As shown in Figure 4.14-3 as well as on Sheet 1, Existing Hydrology Map in Appendix I2, stormwater from the northwest portion of the South Campus Specific Plan area is currently conveyed off-site via six drainage areas, including Drainage Area A, Drainage Area B-1, Drainage Area B-2, Drainage Area C, and Drainage Area E. Drainage Area D is less than 0.1 acres and therefore was not evaluated in the hydrology report.

The west portion of this site (Drainage Area A) consists of 41.2 acres currently surface flowing to the west toward an existing catch basin, located on Barton Street near the intersection of Gless Ranch Road. The storm drain line is routed through the existing residential development to open spaces used for detention basins in the development. Downstream runoff is routed to a storm drain line that passes under Van Buren Boulevard and outlets to natural stream beds leading to Mockingbird Canyon and eventually the Santa Ana River.

The northeast portion of the site (Drainage Area B) consists of 47.1 acres currently surface flowing to the east into an existing conservation channel. This sub-watershed was divided into two subareas (B-1 and B-2). Each subarea flows to an existing desilting basin. Watershed B-1 accounts for 28.9 acres and directs excess flows from the desilting basin underneath Coyote Bush Road, through an existing 36-inch-diameter reinforced concrete pipe and into the conservation channel. Drainage Area B-2 accounts for 18.2 acres and directs excess flows from the desilting basin to an existing 24-inch-diameter reinforced concrete pipe on Krameria Avenue, and further downstream to the conservation channel. The conservation channel is a natural stream bed that crosses under Van Buren Boulevard and is directed to three regional basins (Lot E/49 located at Meridian Parkway and Opportunity Way and East Detention Basin and South Basin, located along I-215). These basins have been designed to accept the post-development 100-year storm volumes from both the North Campus and South Campus areas for the entire Meridian Business Center Specific Plan area and detain the runoff down to existing flow rates. Downstream of the basin, runoff is routed to the Heacock Channel and eventually to the Perris Valley Storm Drain Channel. Runoff continues to flow south converging with the San Jacinto River, Canyon Lake, Lake Elsinore, and the Santa Ana River.

The Southwest portion of the site (Drainage Area C) consists of 4.7 acres currently surface flowing to the west across Barton Street and into the existing residential development to the west. The storm drain line is routed through the residential development to open spaces in the development used for detention basins. Downstream runoff is routed to a storm drain line that passes under Van Buren Boulevard and outlets to natural stream beds leading to Mockingbird Canyon and, downstream, the Santa Ana River.

The Northwest portion of the site (Drainage Area E) consists of 1.7 acres that sheet flows across Barton Street toward Van Buren Boulevard to the northeast. Stormwater is routed to the City of Riverside storm drain lines leading to the Santa Ana River.

Perris Valley and Mead Valley Master Drainage Plan

As discussed in Section 4.8 of this SEIR, the Perris Valley and Mead Valley MDP is approximately 472.2 acres of land. This region encompasses most of the central, southwest, and eastern segment of the South Campus Specific Plan area. Development currently consists of surrounding and intersecting roadways as well as three industrial buildings (one of which is currently being constructed) within the south and southwest quadrant. The remainder of the region consists of rolling hills, grasslands, bushes, and an open conservation channel.

According to the Perris Valley MDP, the drainage plan encompasses the central and eastern segment of the South Campus Specific Plan area. Currently in the north portion of this region, surface water flows to the east and the remainder of the region flows toward the northeast. This runoff flows to either existing storm drain infrastructure or the existing open conservation channel in the northern portion of the South Campus Specific Plan area. Captured stormwater is then discharged into the open channel to the south of Van Buren Boulevard. Similar to Drainage Area B-2, flows are channeled under Van Buren Boulevard to three regional basins (Lot E/49 located at Meridian Parkway and Opportunity Way and East Detention Basin and South Basin, located along I-215). These basins have been designed to accept the post-development 100-year storm volumes from both the North Campus and South Campus areas for the entire Meridian Business Center Specific Plan area and detain the runoff down to existing flow rates. Downstream of the basin, runoff is routed to the Heacock Channel and eventually to the Perris Valley Storm Drain Channel.

According to the Mead Valley MDP, the drainage plan encompasses the south-central and southwest region of the South Campus Specific Plan area. Surface Water from the South Campus Specific Plan area generally flows southeast toward the Ben Clark Training Facility. From there, runoff is collected in one of three stormwater culverts and is conveyed to a detention basin. Downstream of the basin, runoff is routed to the southeast to the San Jacinto Basin (Kimley-Horn and Associates 2003b).

Electric Power

Electric power is currently served by the March Joint Powers Authority (JPA) Utility Authority in the western portion of the South Campus Specific Plan, and by Southern California Edison (SCE) for the eastern portion of the South Campus Specific Plan. The March JPA Utility Authority has been formed to provide electrical power to the site. The Authority's members include the Cities of Riverside, Moreno Valley, and Perris (Riverside County is prohibited by state law from participating). The Authority currently receives electric power directly from the City of Riverside, which has distribution facilities adjacent to the South Campus Specific Plan area (MBCSP 2016).

As shown in Figure 3-2 and summarized in Table 3-1 in Chapter 3, a portion of the South Campus Specific Plan is constructed or currently under construction. Conceptual utility plans provided for the South Campus Specific Plan area depict SCE electric lines buried within roadways.

Natural Gas

Natural gas currently serving the South Campus Specific Plan is provided by Southern California Gas Company (SoCalGas), which owns and operates two natural gas storage fields in Southern California. These storage fields help meet peak seasonal demand and allow Southern California customers to secure natural gas supplies more

efficiently. SoCalGas also owns and operates four underground storage facilities located around Southern California (none in Riverside County). SoCalGas provides natural gas to Riverside County through three major natural gas pipelines traversing Riverside County from east to west (County of Riverside 2014). From there, natural gas within the proposed Project is served by a 10-inch-diameter transmission line located west of I-215 (MBCSP 2016).

Conceptual utility plans provided for the South Campus Specific Plan area depict SoCalGas main lines within roadways.

Telecommunications Facilities

Telecommunication services to the South Campus Specific Plan area are provided by Frontier Communications and Charter Communications. Conceptual utility plans provided for the South Campus Specific Plan area depict telecommunications utility lines within roadways.

Solid Waste

The collection, transport, and disposal of solid waste and recyclables from businesses within the South Campus Specific Plan area is provided by Waste Management of the Inland Empire. Once collected, waste is transferred to the Robert A. Nelson Transfer Station, which is owned by the County of Riverside but operated by a private company. From there, solid waste is disposed of at El Sobrante, Lamb Canyon, and Badlands landfills. Based on California Department of Resources Recycling and Recovery (CalRecycle 2019), information pertaining to the landfills is as follows:

- El Sobrante Landfill, located at 10910 Dawson Canyon Road, in Corona, is approximately 10 miles southwest of the South Campus Specific Plan area. As of 2018, El Sobrante Landfill had an estimated remaining capacity of 143,977,170 cubic yards; had a maximum daily throughput of 16,054 tons per day; and has a cease operation date of January 2051.
- The Lamb Canyon Sanitary Landfill, located at 16411 State Hwy 79, in Beaumont, is located approximately 16 miles to the east of the South Campus Specific Plan area. As of 2015, the Lamb Canyon Sanitary Landfill had an estimated remaining capacity of 19,242,950 cubic yards; had a maximum daily throughput of 5,000 tons per day; and has a cease operation date of April 2029.
- The Badlands Sanitary Landfill, located at 31125 Ironwood Avenue, in Moreno Valley, is located approximately 10.5 miles to the northeast of the South Campus Specific Plan area. As of 2015, the Badlands Sanitary Landfill had an estimated remaining capacity of 15,748,799 cubic yards; had a maximum daily throughput of 4,800 tons per day; and has a cease operation date of January 2022.

As summarized in Table 4.14-4, current on-site solid waste production is approximately 6.48 tons per day.

Table 4.14-4. Existing On-Site Solid Waste Output

Built/Entitled Land Uses	Solid Waste (tons per year)
LGB6 (Building A)	940.00
Commercial (Parcel 72)	16.25
Parcel Delivery Site (Building B + Parking Lot)	940.00
Warehousing (Building C)	470.00
Total: tons per year	2,366.25
Total: tons per day	6.48

Source: See Appendix G, Greenhouse Gas Report, Table 5-2, Built/Entitled Land Uses, and Appendix 5.4, CalEEMod Annual Operational (Trucks) Emissions Model Outputs (Built/Entitled), Section 1.1, Land Uses, and Section 8.1/8.2, Waste by Land Use.

Village West Drive Extension

Utilities and service systems pertaining to the Village West Drive Extension would be the same as those described for the South Campus Specific Plan Area. Conceptual utility plans have not been provided for the existing roadway. Similarly, stormwater infrastructure plans have not been provided for the existing roadway.

4.14.2 Relevant Plans, Policies, and Ordinances

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (Code of Federal Regulations, Title 40, Section 268, Subpart D), contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs that include federal landfill criteria. The federal regulations address the location, operation, design, and closure of landfills, as well as groundwater monitoring requirements.

State

Senate Bill X7-7

SB X7-7, effective February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance/Delta Plan). It seeks to implement water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 UWMPs.

Sanitary Sewer General Waste Discharge Requirements

On May 2, 2006, the State Water Resources Control Board adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The Order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system in order to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan. The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the State Water Resources Control Board, using an online reporting system.

California Code of Regulations Title 24, Part 11

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code, Part 11 of Title 24, is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The

CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all new construction of residential and non-residential buildings. CALGreen standards are updated periodically. The latest version became effective on January 1, 2020.

Mandatory CALGreen standards pertaining to water, wastewater, and solid waste include the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- Diversion of 65% of construction and demolition waste from landfills.

Executive Order B-29-15

In response to droughts in California, Executive Order B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the Executive Order extended through February 28, 2016, although many of the directives became permanent water-efficiency standards and requirements. The Executive Order includes specific directives that set strict limits on water usage in the state. In response to Executive Order B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Assembly Bills 939 and 341

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) was enacted as a result of a national crisis in landfill capacity, as well as a broad acceptance of a desired approach to solid waste management of reducing, reusing, and recycling. AB 939 mandated local jurisdictions to meet waste diversion goals of 25% by 1995 and 50% by 2000 and established an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. AB 939 requires cities and counties to prepare, adopt, and submit to CalRecycle a source reduction and recycling element to demonstrate how the jurisdiction will meet the diversion goals. Other elements included encouraging resource conservation and considering the effects of waste management operations. The diversion goals and program requirements are implemented through a disposal-based reporting system by local jurisdictions, under California Integrated Waste Management Board (CIWMB) regulatory oversight. Since the adoption of AB 939, landfill capacity is no longer considered a statewide crisis. AB 939 has achieved substantial progress in waste diversion, program implementation, solid waste planning, and protection of public health, safety, and the environment, from landfills operations and solid waste facilities.

In 2011, AB 341 was passed, requiring CalRecycle to require that local agencies adopt strategies that will enable 75% diversion of all solid waste by 2020.

Assembly Bill 1327: California Solid Waste Reuse and Recycling Access Act of 1991

AB 1327, which was established in 1991, required CalRecycle to develop a model ordinance for the use of recyclable materials in development projects. Local agencies were then required to adopt the model ordinance, or an ordinance of their own, governing adequate areas for collection and loading of recyclable materials in development projects.

Senate Bill 1374: Construction and Demolition Waste Reduction

SB 1374 requires that annual reports submitted by local jurisdictions to the CIWMB include a summary of the progress made in diversion of construction and demolition waste materials. In addition, SB 1374 requires the CIWMB to adopt a model ordinance suitable for adoption by any local agency that required 50% to 75% diversion of construction and demolition waste materials from landfills by March 1, 2004. Local jurisdictions are not required to adopt their own construction and demolition ordinances, nor are they required to adopt CIWMB's model by default.

Assembly Bill 1826: Mandatory Commercial Organics Recycling

In October 2014, Governor Brown signed AB 1826 (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste generated per week. (Organic waste is defined as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.) This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consists of five or more units. This law phases in the mandatory recycling of commercial organics over time. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to recycle organic waste.

California Code of Regulations, Titles 14 and 27

Title 14 (Natural Resources, Division 7) and Title 27 (Environmental Protection, Division 2 [Solid Waste]) of the California Code of Regulations govern the handling and disposal of solid waste and operation of landfills, transfer stations, and recycling facilities.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)—collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically overdrafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins sustainably, and requires those Groundwater Sustainability Agencies to adopt Groundwater Sustainability Plans for crucial groundwater basins in California.

California Water Code Sections 1610–10656, Urban Water Management Planning Act

California urban water providers are required by state law to develop a UWMP to ensure sufficient water supplies available to meet the long-term needs of its customers during normal, dry, or multiple-dry years. The Urban Water Management Plan Act requires urban water suppliers, which provide water for municipal purposes to more than 3,000 customers or supply more than 3,000 acre-feet of water annually, to develop an UWMP every 5 years, in the years ending in 0 and 5 (Western 2016).

In the Act, the California Legislature declared that the waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of a statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use (Western 2016).

The Western Municipal Water District 2015 UWMP has been prepared in compliance with these requirements of the Act, as well as the additional reporting requirements of the Water Conservation Act of 2009. The Western Municipal Water District 2015 UWMP is an update of its 2010 UWMP and incorporates substantial information from the Western Municipal Water District 2008 Water Master Plan, 2011 Recycled Water Master Plan, and other local and regional planning documents. The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in regional water supply trends, conservation policies, and water use efficiency policies (Western 2016).

Senate Bill 610 and Senate Bill 221: Water Supply Assessments and Water Supply Verifications

SB 610 and SB 221, amended into state law effective January 1, 2002, improve the linkage between certain land use decisions made by cities and counties and water supply availability. The statutes require detailed information regarding water availability and reliability with respect to certain developments to be included in the administrative record, to serve as evidentiary basis for an approval action by the City or County on such projects. Under Water Code Section 10912(a), projects subject to the California Environmental Quality Act (CEQA) requiring a water supply assessment include: residential development of more than 500 dwelling units; shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space; commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; hotel, motel or both, having more than 500 rooms; industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land or having more than 650,000 square feet of floor area; mixed-use projects that include one or more of the projects specified; or a project that would demand an amount of water equivalent to or greater than the amount required by a 500 dwelling unit project. A fundamental source document for compliance with SB 610 is the UWMP. The UWMP can be used by the water supplier to meet the standard for SB 610. SB 221 applies to the applicant of a subdivision map of 500 dwelling units or more to verify that the public water supplier has sufficient water available to serve the proposed development.

Distribution and Water Rights

California Water Code Section 10910(d)(2) requires the identification of existing water supply entitlements, water rights, or water service contracts; federal, state, and local permits for construction of necessary infrastructure, and any regulatory approvals required in order to be able to deliver the water supply. Extraction and distribution of groundwater resources is governed by common law and the California constitution rather than a particular agency, such as the State Water Resources Control Board, which exercises control over surface waters. However, if the groundwater basin has been adjudicated, there is a determination of specific rights to groundwater resources under the jurisdiction of a court-appointed Watermaster.

Local

March Business Center Specific Plan

The March Business Center Specific Plan, adopted in 2003, guides land use decisions within a 1,290-acre portion of the March JPA planning area. Within the March Business Center Specific Plan, two separate “campuses,” North Campus and South Campus, were identified, along with the potential for a possible third campus. The Project site is located in the South Campus of the March Business Center in unincorporated Riverside County, California.

Solid Waste

Policies and goals of the County of Riverside Source Reduction and Recycling Element would apply to the South Campus Specific Plan. The Source Reduction and Recycling Element is composed of the following nine components: Waste Generation Study Analysis, Source Reduction, Recycling, Composting, Special Wastes, Education and Public Information, Disposal Facility Capacity, Funding, and Integration. Each component includes specific goals and objectives. The goals are broad targets, whereas the objectives provide short and/or medium term targets that are quantifiable. The alternative programs contained within each component provides the mechanism for attaining the selected objectives and the broader goal.

Grading and Utility Installation

Goals and policies of the March JPA General Plan would apply to the South Campus Specific Plan with respect to grading and underground utility installation. Grading Plan Development Standards of the March Business Center Specific Plan would apply to the South Campus Specific Plan, and would consist of the following:

1. All grading activities shall be in substantial conformance with the approved tentative map or development permit and shall implement any grading related mitigation measures outlined in the accompanying EIR for the March Business Center.
2. Prior to any development within any area of the Specific Plan, an overall grading plan for the portion in process shall be submitted for approval by the JPA. The grading plan for each area shall be used as a guideline for subsequent grading plans for individual stages of development.
3. Grading operations within the confines of the Specific Plan Area shall conform to all applicable March JPA Development Code standards.

March JPA General Plan

The Land Use Element of the March JPA General Plan includes goals and policies related to utilities and service systems. The following goals and policies from the March JPA General Plan apply to the Project (March JPA 1999). Consistency with these goals and policies is discussed in Section 4.9, Land Use and Planning, of this SEIR.

Goal 10: Avoid undue burdening of infrastructure, public facilities, and services requiring new development to contribute to the improvement and development of the March JPA Planning Area.

Policy 10.1: Require new construction to pay its “fair share” of the cost of providing adequate public services, infrastructure, and facilities for the development.

Policy 10.2: Require new construction to provide adequate infrastructure to serve the development (i.e., curbs and gutters, sidewalks, street lights, water service, sewer service or septic systems, etc.) prior to initiation of use.

Policy 10.3: Locate commercial and industrial development in areas where street rights-of-way and capacity are available, as well as sufficient infrastructure and public services.

Policy 10.4: Facilitate the provision of public services (i.e., sewer, water, streets, and public safety) to be provided in an efficient and cost-effective manner.

Goal 12: Ensure, plan, and provide adequate infrastructure for all facility reuse and new development, including but not limited to, integrated infrastructure planning, financing, and implementation.

Policy 12.1: Coordinate the provision of all public utilities and services to ensure a consistent, complete and efficient system of service to development.

Policy 12.2: Require new construction to pay its “fair share” for the regional infrastructure system by providing appropriate dedications, improvements, and/or fee assessment districts or other financing mechanisms.

Policy 12.3: Require new development projects to provide for the extension of infrastructure to serve the development, including over-sizing facilities for future needs.

Policy 12.4: Preserve options and facilities to accommodate new and advanced technologies, inclusive of communication systems.

Goal 13: Secure adequate water supply system capable of meeting normal and emergency demands for existing and future land uses.

Policy 13.1: Only approve development which can demonstrate an adequate and secure water supply for the proposed use.

Policy 13.2: Enhance local groundwater supplies through development designs which promote an on-site recharge and minimize permeable ground coverage with landscaped areas, open space or recreation areas.

Policy 13.3: Design and operate March JPA facilities in compliance with established water conservation practices and programs.

Goal 14: Establish, extend, maintain, and finance a safe and efficient wastewater collection, treatment, and disposal system which maximizes treatment and water recharges, minimizes water use, and prevents groundwater contamination.

Policy 14.1: Require all development to adequately collect, treat, and dispose of wastewater in accordance with the Santa Ana Regional Water Quality Control Board requirements.

Policy 14.2: Require connection to the sewer system for any development occurring on land formerly part of March AFB.

Policy 14.3: Encourage reuse of reclaimed and treated non-potable water for irrigation and maintenance of recreation areas, landscaping, and open space preservation.

Goal 15: In compliance with state law, ensure solid waste collection, siting and construction of transfer and/or disposal facilities, operation of waste reduction and recycling programs, and household hazardous waste disposal programs and education are consistent with the County Solid Waste Management Plan.

Policy 15.1: Ensure all hazardous materials are stored, treated, and disposed in accordance with state and federal law.

Policy 15.2: Support programs to promote greater awareness and involvement in waste reduction and recycling.

Goal 16: Adequate supplies of natural gas and electricity from utility purveyors and the availability of communication services shall be provided within the March JPA Planning Area.

Policy 16.1: Where feasible, require new development to underground on-site telecommunication connections.

Policy 16.2: Encourage and support the under grounding of existing overhead utilities.

Policy 16.3: Accommodate advancing technologies with communication systems, inclusive of fiber-optics and high speed transmission lines.

Policy 16.4: Prepare a capital improvement program (CIP) which provides for the maintenance and upgrading of existing infrastructure to adequate levels of service and the installation of new facilities, as needed.

Policy 16.5: Encourage the preparation and adoption of CIPs for other agencies and districts responsible for the provision of infrastructure systems in the March JPA Planning Area.

Goal 17: Adequate flood control facilities shall be provided prior to, or concurrent with, development in order to protect the lives and property within the March JPA Planning Area.

Policy 17.1: Provide for the adequate drainage of storm runoff to protect the lives and property within the Planning Area.

Policy 17.2: Monitor and maintain drainage and flood control facilities to ensure adequate capacity to support the land use plan.

Policy 17.3: Require new development to construct new or upgrade existing drainage facilities to accommodate the additional storm runoff caused by the development.

Policy 17.4: Require all storm drain and flood control facilities to be approved and operational prior to the issuance of certificates of occupancy for the associated development.

Policy 17.5: Designate and preserve land for necessary flood control facilities, in accordance with a certified hydrology study and master plan for March JPA Planning Area.

Policy 17.6: Ensure development within the 100-year flood plain, as designated by the Federal Emergency Management Agency (FEMA), shall be consistent with the requirements established by FEMA.

Policy 17.7: Seek to preserve drainage courses in their natural condition, while providing adequate safety and protection of property.

4.14.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to utilities and service systems are based on the 2019 March JPA CEQA Guidelines. These thresholds include the following; would the Project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?
- c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Through the analysis in the Initial Study (Appendix A), it was determined that the proposed Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. As such, this issue is not further analyzed in this SEIR. Based on the remaining thresholds, a significant impact related to the proposed Project would occur if the Project would:

UTL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

UTL-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

UTL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

UTL-4: Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

4.14.4 Impacts Analysis

UTL-1. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

South Campus Specific Plan

The South Campus Specific Plan is currently developed with three industrial buildings within the southern quadrant, as well as five roadways intersecting and surrounding the South Campus Specific Plan area. The proposed Project involves amending the South Campus Specific Plan to shift land uses aimed at reducing the environmental impacts compared to the 2003 Approved South Campus and the currently approved Specific Plan.

Within these changes would be five additional components of the South Campus Specific Plan buildout. These additional components include an additional commercial development, Building D – a new industrial building, a dog park and paseo, an additional roadway – Caroline Way, and the extension of Village West Drive providing a through connection southward to Nandina Avenue. As such, impacts related to relocation or construction of new or expanded utilities are evaluated below.

Water Facilities

Western Municipal Water District provides water service to a majority of unincorporated Riverside County, including the South Campus Specific Plan area. Water service for the proposed Project area is currently provided by existing 24-inch-diameter water lines located in surrounding streets, as well as water mains and associated laterals to recently constructed buildings within the South Campus Specific Plan area. Figure 3-2 shows the status of current development on the South Campus. Conceptual utility plans provided for the South Campus Specific Plan area depict water lines buried within roadways. Conceptual utility plans have also been completed for the northwest portion of the Specific Plan area, which has not been developed. Based on this plan, 18-inch-diameter domestic water lines would be installed in streets in this area. Additional water lines would be required for the remainder of the Specific Plan area that has not been built-out.

Based on the March Business Center Specific Plan Amendment (Figure VI-2, Water System), 12- to 18-inch-diameter water mains would be installed within the South Campus Specific Plan area. Existing water mains are located along Van Buren Boulevard (24-inch diameter), Village West Drive (18-inch diameter), Krameria Avenue (18-inch diameter), Bundy Avenue (18-inch diameter), and Coyote Bush Road (18-inch diameter). These water mains already provide potable water to the South Campus Specific Plan area. As part of the Project, 18-inch-diameter water mains would be installed during the construction of Gless Ranch Road and Caroline Way, both in the northwestern portion of the South Campus Specific Plan area. Similarly, based on the March Business Center Specific Plan Amendment (Figure VI-3, Reclaimed Water System), 8- to 12-inch-diameter reclaimed water mains would be installed within the South Campus Specific Plan area. These reclaimed water mains would provide non-potable water to the South Campus Specific Plan area.

On-site water infrastructure would include new water meters and connections to existing water systems, as well as installation of new water mains throughout the undeveloped portions of the South Campus Specific Plan area. These water mains would provide domestic water, fire-fighting water, and potable irrigation water

to the proposed Project. Installation of new water mains and laterals would consist of either trenching to the depth of pipe placement or using a variety of different trenchless technology, which causes substantially less ground disturbance. Trenching results in a temporary stockpiling of soil along the length of the trench, pending backfilling, which could result in potential short-term soil erosion. However, Project construction would occur in accordance with the requirements of the Construction General Permit (National Pollutant Discharge Elimination System [NPDES] General Permit for Storm Water Associated with Construction Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002), including Attachment A, Linear Underground/Overhead Requirements (see Section 4.8 of this SEIR). In accordance with this permit, best management practices (BMPs) and pollutant control measures would be employed during Project construction to minimize pollutants, including erosion-induced siltation of downstream drainages and incidental spills of petroleum products from construction equipment. As a result of implementing current regulations, adverse impacts associated with upgrades of water lateral connections to the Specific Plan area would be **less than significant**, and no mitigation is required.

Wastewater Facilities

Wastewater Conveyance

The South Campus Specific Plan area is currently served by existing sewer mains and associated laterals for currently and recently constructed buildings. Implementation of the South Campus Specific Plan would result in the buildout of additional on-site wastewater infrastructure. A conceptual utility plan completed for the northwest portion of the Specific Plan area indicates that 8-inch-diameter sewer lines would be installed in streets in this area. Additional sewer lines would be required for the remainder of the undeveloped portions of the Specific Plan area. Based on the March Business Center Specific Plan Amendment (Figure VI-1, Sewer System), 8-, 12-, and 15-inch-diameter sewer lines would be installed within the Specific Plan area. The on-site 15-inch-diameter sewer line would feed into a 15-inch-diameter sewer line on Van Buren Boulevard, which in turn would feed into a 24-inch-diameter sewer line located parallel to I-215. The 24-inch-diameter sewer line would carry wastewater from the Project site into the WWRF.

Installation of new sewer lines would include trenching and temporary stockpiling of soils, which in turn could result in potential short-term soil erosion. However, Project construction would occur in accordance with the requirements of the Construction General Permit (see Section 4.8). In accordance with this permit, BMPs and pollutant control measures would be employed during Project construction to minimize pollutants, including erosion-induced siltation and incidental spills of petroleum products from construction equipment. As a result, impacts associated with upgrades of sewer conveyance infrastructure would be **less than significant**, and no mitigation is required.

Wastewater Treatment

As shown in Table 4.14-3, the wastewater currently generated in the Specific Plan area is estimated to be 0.48 mgd. Wastewater assumed to be generated by the proposed Project is shown in Table 4.14-5, and as summarized therein, would be approximately 847,850 gallons per day, or 0.85 mgd.

Table 4.14-5. Projected On-Site Wastewater Generation

Land Use	Proposed Acreage	Wastewater Generation Factor (gallons per day per acre)	Wastewater Generated (gallons per year)
Office	4.6	2,000	9,200
Commercial	23.5	1,700	39,950
Mixed Use	27.8	2,000	55,600
Business Park	170.8	2,000	341,600
Industrial	200.3	2,000	400,600
Park/Open Space	140.3	0	0
Public Facilities	0.9	1,000	900
Total			847,850

Source: Table 3-2, Summary of Wastewater Generation Factors within Western Municipal Water District's Sewer Master Plan, in Western 2014b.

To determine the difference between the environmental impacts that were already evaluated and accounted for in the 2003 Focused EIR and the proposed Project, the wastewater demand of the 2003 Approved South Campus land uses were subtracted from the projected on-site wastewater generation. Table 4.14-6, 2003 summarizes wastewater generation associated with the 2003 Approved South Campus land uses.

Table 4.14-6. 2003 Approved South Campus Wastewater Generation

Land Use	Proposed Acreage	Wastewater Generation Factor (gallons per day per acre)	Wastewater Generated (gallons per day)
Office	43.9	2,000	87,800
Commercial	12.5	1,700	21,250
Mixed Use	48.5	2,000	97,000
Business Park	263.2	2,000	526,400
Industrial	146.8	2,000	293,600
Park/Open Space	111.6	0	0
Public Facilities	0	1,000	0
Total			1,026,050

Source: Table 3-2, Summary of Wastewater Generation Factors within Western Municipal Water District's Sewer Master Plan, in Western 2014b.

As shown in Table 4.14-7, the Project's net change in wastewater generation associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would result in a net decrease in estimated wastewater of 178,200 gallons per day, or 0.18 mgd. The permitted design capacity of the WWRF is 3 mgd, and when the WWRF was upgraded in 2011, the wastewater generated from buildout of the 2003 Approved South Campus was taken into account. Additionally, Western Municipal Water District owns 1.95 mgd of treatment capacity at the WRCRWA (Western 2014b). Therefore, between the combined capacity of the WWRF and the WRCRWA, adequate capacity exists to serve the proposed Project. Given that the proposed Project would result in the generation of less wastewater than that of the 2003 Approved South Campus, fewer demands for wastewater services would occur, and the Project-related decrease in wastewater generation would result in **beneficial impacts**.

Table 4.14-7. Proposed Project Net Wastewater Generation

Use	2003 Approved South Campus Wastewater (gallons per day)	Proposed South Campus Wastewater (gallons per day)	Net Difference (gallons per day)
Office	87,800	9,200	-78,600
Commercial	21,250	39,950	+18,700
Mixed Use	97,000	55,600	-41,400
Business Park	526,400	341,600	-184,800
Industrial	293,600	400,600	+107,000
Park/Open Space	0	0	0
Public Facilities	0	900	+900
Totals	1,026,050	847,850	-178,200

Source: Table 3-2, Summary of Wastewater Generation Factors within Western Municipal Water District's Sewer Master Plan, in Western 2014b.

Stormwater Drainage Facilities

Implementation of the proposed Project would not increase impermeable surfaces compared to that which was analyzed in the 2003 Approved South Campus, as overall the proposed Project would result in an increase in permeable surfaces through the increase in the amount of open space. The increase in open spaces and parks as compared to the 2003 Approved South Campus would decrease the amount of runoff from the site. In addition, the Project would incorporate low-impact design features into each parcel, designed to minimize the long-term effects in post-storm runoff patterns. Stormwater management practices mandated by the County's Low-Impact Design BMP Design Manual are intended to encourage stormwater capture, infiltration, and reuse, resulting in a decrease in the rate and amount of surface runoff from the proposed Project.

As part of the overall Meridian Business Park development, a March Business Center Drainage Master Plan was created. Since the 2003 completion of this Drainage Master Plan, the master drainage facilities and infrastructure have been installed throughout the South Campus Specific Plan area. A conceptual utility plan completed for the northwest portion of the Specific Plan area indicates that 24-inch-diameter storm drains would be installed in streets in this area. Additional storm drains would be required for the remainder of the undeveloped portions of the Specific Plan area. Based on the March Business Center Specific Plan Amendment (Figure VI-4, Storm Drain System), the remaining components of the approved Drainage Master Plan would be installed throughout the South Campus Specific Plan area.

Similar to that discussed for water line and sewer line upgrades, installation of new storm drains could result in potential short-term soil erosion. However, most of the storm drainage facilities required for the South Campus Specific Plan area have already been installed, and for utility lines to be installed as part of the proposed Project, Project construction would occur in accordance with the requirements of the Construction General Permit (see Section 4.8). In accordance with this permit, BMPs and pollutant control measures would be employed during Project construction to minimize pollutants, including erosion induced siltation and incidental spills of petroleum products from construction equipment. As a result, impacts associated with upgrades of storm drains would be **less than significant**, and no mitigation is required.

Electric Power

As previously discussed, the March JPA Utility Authority provides electrical power to the western portion of the Specific Plan. For the eastern portion of the Specific Plan, the area is currently served by SCE. Conceptual utility plans indicate that the South Campus Specific Plan area is currently served by electric utility lines for recently constructed buildings. Implementation of the South Campus Specific Plan would result in the buildout of additional on-site electric power infrastructure. A conceptual utility plan completed for the northwest portion of the Specific Plan area indicates that electric utility lines would be installed in streets in this area. Additional infrastructure would be required for the remainder of the undeveloped portions of the Specific Plan area.

As each building is proposed, a Project-specific will-serve letter from SCE indicating that adequate off-site electric power infrastructure exists would be required as part of Plot Plan approval. Point of connection to the Specific Plan area would be submitted to SCE. Upgrades would be confined to the Specific Plan area and not to any centralized facilities.

Similar to water and wastewater, installation of new underground electrical distribution lines could result in potential short-term soil erosion, as excavated and temporarily stockpiled soils would be susceptible to rainfall. However, standard BMPs, installed as part of an NPDES-mandated Storm Water Pollution Prevention Plan (SWPPP), would reduce potential water quality impacts to **less than significant**, and no mitigation is required.

Natural Gas

The Specific Plan area is currently served by SoCalGas. Conceptual utility plans indicate that the South Campus Specific Plan area is currently served by gas main lines for recently constructed buildings. Implementation of the South Campus Specific Plan would result in the buildout of additional on-site natural gas infrastructure. A conceptual utility plan completed for the northwest portion of the Specific Plan area indicates that gas lines would be installed in streets in this area. Additional infrastructure would be required for the remainder of the undeveloped portions of the Specific Plan area.

As each building is proposed, a Project-specific will-serve letter from SoCalGas indicating that adequate off-site natural gas infrastructure exists would be required as part of Plot Plan approval. Point of connection to the Specific Plan area would be submitted to SoCalGas. Upgrades would be confined to the Specific Plan area and not to any centralized facilities.

Upgrades would likely be either trenchless technology or completion of open trenching, to the depth of the underground utilities. Similar to water and wastewater, installation of new underground natural gas distribution lines could result in potential short-term soil erosion, as excavated and temporarily stockpiled soils would be susceptible to rainfall. However, standard BMPs, installed as part of an NPDES-mandated SWPPP, would reduce potential water quality impacts to **less than significant**, and no mitigation is required.

Telecommunications

The Specific Plan area would be served by Frontier Communications and Charter Communications. Conceptual utility plans indicate that the South Campus Specific Plan area is currently served by telecommunication lines for recently constructed buildings. Implementation of the South Campus Specific

Plan would result in the buildout of additional on-site infrastructure. A conceptual utility plan completed for the northwest portion of the Specific Plan area indicates that telecommunication lines would be installed in streets in this area. Additional infrastructure would be required for the remainder of the undeveloped portions of the Specific Plan area.

As each building is proposed, a Project-specific will-serve letter from the local telecommunications provider indicating that adequate off-site telecommunication infrastructure exists would be required as part of Plot Plan approval. Upgrades would be confined to the Specific Plan area and not to any centralized facilities.

Installation of telecommunication infrastructure would likely be either trenchless technology or completion of open trenching, to the depth of the underground utilities. Similar to water and wastewater, installation of new underground natural gas distribution lines could result in potential short-term soil erosion, as excavated and temporarily stockpiled soils would be susceptible to rainfall. However, standard BMPs, installed as part of an NPDES-mandated SWPPP, would reduce potential water quality impacts to **less than significant**, and no mitigation is required.

Village West Drive Extension

The improved portions of Village West Drive currently terminate at Lemay Drive to the south. The proposed Project would include improvements to the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. As shown in Figure 3-10 in Chapter 3 of this SEIR, the improvements are expected to be for 4,330 linear feet (approximately 1,720 linear feet of which is the existing roadway that runs in front of the Westmont Village retirement community). Similar to that described for the South Campus Specific Plan, installation of new underground utilities could result in potential short-term soil erosion, as excavated and temporarily stockpiled soils would be susceptible to rainfall. However, standard BMPs, installed as part of an NPDES-mandated SWPPP, would reduce potential water quality impacts to **less than significant**, and no mitigation is required.

UTL-2. Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

South Campus Specific Plan

Project Water Demand

Based on the Project-specific Water Supply Assessment (WSA) (Appendix I3), water demand for the proposed Project was based on information submitted by March JPA (lead agency) and the Project applicant. Based on this information, it is estimated that the total Project water demand is approximately 88 acre-feet per year (AFY), including indoor and landscape use. Indoor water demand was calculated using the total estimated number of Project employees (i.e., 1,100 employees, which does not include the employees of the already built uses in the South Campus), multiplied by 10 gallons per day, which is appropriate for the specified industrial/commercial land use type. To determine the projected annual indoor demand, the daily demand was multiplied by 256 working days (excluding weekends) to reach the total projected indoor water demand associated with the land use changes in the South Campus Specific Plan Amendment. Total projected annual indoor water demand is 8.64 AFY.

The Project landscape demand was determined using the California Water Efficient Landscape Worksheet, which uses landscape area (assumed for this Project to be a total of 1,962,200 square feet throughout the remaining undeveloped area of the South Campus Specific Plan area), irrigation method, and local evapotranspiration to determine efficient water use. The estimated total water use according to the California Water Efficient Landscape Worksheet is 79.16 AFY.

Water Supply Analysis

The 2015 Western Municipal Water District UWMP has planned for growth within the District's service area over the next 20 years. Western Municipal Water District has made an allowance for future demand estimates based on historical growth rates in the service area. Based on these projections, it would appear that Western Municipal Water District has adequately made allowance for retail water supply-demand increases for both domestic and commercial water supply, including groundwater, over the next 20 years. According to Table 4-5: Projected Potable and Raw Water Demands in Western Municipal Water District's Retail Service Areas, of the Western Municipal Water District 2015 UWMP, Western Municipal Water District projects an increase in water demand of 9,790 AFY between 2020 (29,214 AFY) and 2040 (39,004 AFY) (Western 2016). Assuming recycled water is used for landscape irrigation, the net water demand from the proposed South Campus Specific Plan area would represent approximately 0.09% of this projected growth. If recycled water is not available for landscape irrigation, the proposed Project would represent approximately 0.9% of this projected growth. In both scenarios, the South Campus Specific Plan area estimated water demand would not be considered substantial.

The Project-specific WSA (Appendix I3) provides a detailed assessment of whether the total projected water supplies available to Western Municipal Water District during normal, single-dry, and multiple dry years, over the next 20-year period are sufficient to meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses. Western Municipal Water District's calendar year 2019 retail water demand was 18,804 acre-feet, which is significantly lower than projected future demands in the UWMP. Therefore, surplus water supplies calculated in Tables 1, 2, and 3 of the WSA are a conservative measurement when compared to Western Municipal Water District's actual retail demands over the last five years. As an additional conservative measure, the Project WSA specifically analyzes how Western Municipal Water District would address potential shortfalls in the availability and reliability of imported water supplies in demonstrating that sufficient water supplies are available to Western Municipal Water District to serve the proposed Project. Any potential shortfalls in the availability of imported water supplies would place more reliance on groundwater supplies.

Based on the WSA analysis, the projected water demand of 87.8 AFY represents about 0.47% of Western Municipal Water District's retail total water demand in 2019. Based on the information and analysis contained in this WSA, Western Municipal Water District concludes that the total projected water supplies available to Western Municipal Water District during normal, single-dry, and multiple-dry years throughout the next 20-year period are sufficient to meet the projected water demands of the proposed Project, in addition to Western Municipal Water District's existing and planned future uses, in accordance with the standards set forth by SB 610.

The Western Municipal Water District 2015 UWMP also includes a Water Supply Shortage Contingency Plan, which addresses the stages of response to a water shortage, such as a drought, that occurs over a period of time, as well as catastrophic supply interruptions that occur suddenly. The primary objective of the water shortage contingency plan is to ensure that Western Municipal Water District has in place the

necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Furthermore, Western Municipal Water District has planned projects aimed at meeting increase future water demands within its service area. These plans include increasing the groundwater recharge capabilities of the Arlington sub-basin, increasing the use of groundwater banking programs, increasing the use of desalinated water, and conjunctive use programs designed to increase regional water reliability (Western 2016). When coupled with regional groundwater management plans and the regulatory bindings of the basins, the proposed Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. As a result, impacts would be **less than significant**, and no mitigation is required.

Village West Drive Extension

Construction of the Village West Drive Extension would involve the removal of the existing roadway, removal/relocation of the above-ground steel water tank and several power poles, the rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts. Water would be required for dust control and soil compaction during grading; however, the amount of water required for this 0.82-mile road extension would be inconsequential with respect to water supplies provided by Western Municipal Water District. Once constructed, no water would be required during operations. As a result, the Village West Drive Extension would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts would be **less than significant**, and no mitigation is required.

UTL-3. *Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?*

South Campus Specific Plan

As discussed for Threshold UTL-1, the proposed Project would convey wastewater offsite through existing municipal sewage infrastructure to the WWRF, which has an approximate treatment capacity of 3 mgd. No offsite improvements are included in the Project. As shown in Table 4.14-7, Proposed Project Net Wastewater Generation, the Project (net change in wastewater) associated with the shift in mix of uses from the 2003 Approved South Campus to the proposed Project would result in a net decrease in estimated wastewater generated by 178,200 gallons per day, or 0.18 mgd. The permitted design capacity of the WWRF is 3 mgd, and when the WWRF was upgraded in 2011, the wastewater generated from buildout of the 2003 Approved South Campus was taken into account. Additionally, Western Municipal Water District owns 1.95 mgd of treatment capacity at the WRCRWA (Western 2014b). Therefore, between the combined capacity of the WWRF and the WRCRWA, adequate capacity exists to serve the proposed Project. Given that the proposed Project would result in the generation of less wastewater than would the 2003 Approved South Campus, fewer demands for wastewater services would occur, and the Project-related decrease in wastewater generation would result in **beneficial impacts**.

Village West Drive Extension

Construction of the Village West Drive Extension would involve the removal of the existing roadway, removal/relocation of the above-ground steel water tank and several power poles, the rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts. Wastewater generation would not occur as a result of this portion of the proposed Project. Therefore, **no impacts** would occur.

UTL-4. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

South Campus Specific Plan

Construction of the proposed Project would result in the generation of solid waste such as scrap lumber, concrete, residual wastes, packing materials, and plastics. As discussed in Section 4.14.2, Relevant Plans, Policies, and Ordinances, 65% of construction and demolition waste must be diverted from landfills. Compliance with this requirement would reduce the effect of the proposed construction activities on regional landfills. The remaining 35% of construction and demolition material that is not required to be recycled would be disposed of by Waste Management of the Inland Empire at the Robert A. Nelson Transfer Station. From there, the waste would be disposed of at either El Sobrante, Lamb Canyon, or Badlands Landfill, or voluntarily recycled at a solid waste facility with available capacity.

Based on emissions modeling completed for Section 4.6, calculated solid waste generation associated with the Proposed Project is 10.3 tons per day (Table 4.14-8).

Table 4.14-8. Projected On-Site Solid Waste Output

Land Use	Solid Waste (tons per year)
Proposed Dog Park and Paseo	0.13
Office/Office (75% of Mixed Use)	90.21
Office (30% of Business Park)	123.05
High-Cube Cold Storage Warehouse	164.50
Warehousing (70% of Business Park)	290.21
Commercial (25% of Mixed Use)	58.12
Commercial (Grocery Store)	86.49
Warehousing	290.21
High-Cube Transload Short-Term Warehouse (Building D)	290.21
Built/Entitled Land Uses (see Table 4.14-4)	2366.25
Total: tons per year	3,759.38
Total: tons per day	10.3

Source: California Emissions Estimator Model (CalEEMod), see Appendix G, Greenhouse Gas Report, Table 5.1, Vacant Land Uses, and Appendix 5.3, CalEEMod Annual Operational (Trucks) Emissions Model Outputs (Proposed Project), Section 8.2, Waste by Land Use.

The solid waste generated by the 2003 Approved South Campus as compared to the solid waste generated by the proposed Project is shown in Table 4.14-9. As shown in Table 4.14-9, if buildout of the South Campus were to proceed consistent with the 2003 Approved South Campus a total of 19.89 tons per day of solid waste would be generated. As shown in Table 4.14-8 above, the proposed Project would generate a total

of 10.3 tons per day of solid waste, which equates to a net reduction of 9.59 tons per day less solid waste that would be generated under the proposed Project when compared to the 2003 Approved South Campus. As such, because less solid waste would be generated by the proposed Project, solid waste impacts would be beneficial when compared to the 2003 Approved South Campus.

Table 4.14-9. 2003 Approved South Campus vs. Proposed Project Solid Waste

Land Use	Solid Waste (tons per year)
General Office Building	130.73
Research and Development	128.28
Industrial Park	5,317.30
Manufacturing	267.37
Unrefrigerated Warehouse - No Rail	1,296.49
City Park	4.36
Regional Shopping Center	114.35
2003 Approved South Campus Total (tons per year)	7,258.88
2003 Approved South Campus Total (tons per day)	19.89
Proposed Project – 2003 Approved South Campus (tons per day)	–9.59

Source: California Emissions Estimator Model (CalEEMod), see Appendix G, Greenhouse Gas Report, Table 5.1, Vacant Land Uses, and Appendix 5.3, CalEEMod Annual Operational (Trucks) Emissions Model Outputs (Proposed Project), Section 8.2, Waste by Land Use.

As of 2018, El Sobrante Landfill had a throughput capacity of 16,054 tons per day, has a remaining capacity of 143,977,170 cubic yards, and is expected to operate until January 2051. In addition, the Lamb Canyon Sanitary Landfill has a maximum daily throughput of 5,000 tons per day, with an estimated remaining capacity of 19,242,950 cubic yards; and the Badlands Sanitary Landfill has a maximum daily throughput of 4,800 tons per day, with an estimated remaining capacity of 15,748,799 cubic yards. The incremental increase in solid waste produced during operation of the proposed Project would be negligible in a regional context. Furthermore, the proposed Project would be required to comply with all applicable federal, state, and local requirements involving solid waste. Therefore, Project solid waste generation would not be in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts would be **less than significant**, and no mitigation is required.

Village West Drive Extension

Construction of the Village West Drive Extension would involve the removal of the existing roadway, removal/relocation of the above-ground steel water tank and several power poles, the rough grading and widening of the new roadway, and the construction of new curb, gutter, and storm drain culverts. The quantity of demolition debris would be inconsequential in comparison to long-term Project operations of the South Campus Specific Plan. As described for the Specific Plan area, the incremental increase in solid waste produced by demolition of the existing roadway, water tank, and power poles would be negligible in a regional context. Furthermore, this aspect of the proposed Project would be required to comply with all applicable federal, state, and local requirements involving solid waste. Therefore, Project solid waste generation would not be in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts would be **less than significant**, and no mitigation is required.

4.14.5 Mitigation Measures

As discussed in the 2003 Focused EIR, the following mitigation measures are required to reduce utilities and service systems impacts and will be incorporated into the MMRP for the proposed Project:

- H-1** Provide the extension of utility infrastructure to serve the development, including over-sizing facilities for future needs.
- H-2** Construct the storm drain and flood control facilities, in accordance with the approved March Business Center Drainage Plan and Plan for March JPA Planning Area.
- H-3** All storm drain and flood control facilities shall be approved and operational prior to the issuance of certificates of occupancy for the associated development.
- H-4** The project applicant shall incorporate the following measures to help reduce the project’s potential solid waste impacts and to help in the County’s effort to comply with State law in diverting sold waste from landfill disposal:
 - Green waste generated by the project should be kept separate from other waste types in order that it can be recycled through the practice of grass recycling (where lawn clippings from a mulching type mower are left on the lawn) or onsite composting or directed to local wood grinding and/or composting operations.
 - The use of mulch and/or compost in the development and maintenance of landscape areas is recommended.
 - Construction and demolition waste should be reduced and/or diverted from landfill disposal by the use of onsite grinders or by directing the materials to recycling facilities.
- H-5** The proposed project shall comply with the State Model Ordinance, implemented in 9/1/94 in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991, which requires that all commercial, industrial, and multi-family residential projects provide adequate area(s) for the collections and loading of recyclable materials. Prior to building permit issuance, the applicant shall submit a Recyclables Collection and Loading Area plot plan to the March JPA for review and approval.
- H-7** The proposed non-potable water system will meet “Purple” pipe standards for reclaimed water systems.
- H-8** A fireflow standard of 4,000 gallons per minute shall be used for the water distribution network.

Project impacts to utilities and service systems would remain less than significant, and no additional mitigation is required.

4.14.6 Level of Significance After Mitigation

Project impacts to utilities and service systems would be less than significant, and no additional mitigation beyond the measures included in the 2003 Focused EIR are required.

4.14.7 Cumulative Effects

Water Supply

The proposed Project and related projects (as shown in Table 4-1 of this SEIR) would be served by Western Municipal Water District. Based on the WSA analysis, the proposed Project water demand of 87.8 AFY represents about 0.47% of Western Municipal Water District's retail total water demand for 2019. Development of the proposed Project, in combination with related projects, would increase land-use intensities in the area, resulting in increased water usage. Western Municipal Water District has planned projects aimed at meeting increased future water demands within its service area. These plans include increasing the groundwater recharge capabilities of the Arlington sub-basin, increasing the use of groundwater banking programs, increasing the use of desalinated water, and conjunctive use programs designed to increase regional water reliability. In addition, the Western Municipal Water District 2015 UWMP includes a Water Supply Shortage Contingency Plan, which addresses the stages of response to a water shortage, such as a drought, that occurs over a period of time, as well as catastrophic supply interruptions that occur suddenly. The primary objective of the water shortage contingency plan is to ensure that Western Municipal Water District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Based on the information and analysis contained in the Project WSA, Western Municipal Water District concludes that the total projected water supplies available to Western Municipal Water District during normal, single-dry, and multiple-dry years throughout the next 20-year period are sufficient to meet the projected water demands of the proposed Project, in addition to Western Municipal Water District's existing and planned future uses, in accordance with the standards set forth by SB 610. These projections consider land use, water development programs and projects, and water conservation. To the extent that related projects are generally consistent with regional growth patterns and projections, the related projects would not be expected to result in increased water usage causing the need for new entitlements, resources, and/or treatment facilities that are not already being planned to accommodate regional growth forecasts.

Lastly, compliance with the California Green Building Code would be required for new related project development. For redevelopment projects, this generally indicates that newly installed appliances and plumbing would be more efficient than those used within the structures originally located on redevelopment sites. In addition, California Green Building Code standards require a mandatory reduction in outdoor water use, in accordance with the California Department of Water Resources' Model Water Efficient Landscape Ordinance. This would ensure that many of the related projects, as well as the Proposed Project, do not result in wasteful or inefficient use of limited water resources and may, in fact, result in an overall decrease in water use per person. As a result, water supply impacts would not be cumulatively considerable. Impacts would be **less than significant**, and no mitigation is required.

Wastewater

The Specific Plan area and each related project would incrementally increase the amount of wastewater that is being generated in the area. With respect to wastewater conveyance, sewer plans have been provided depicting wastewater lines within the Specific Plan area and off-site leading into the WWRF. Similar to the Project, the capacity of receiving sewer lines associated with cumulative project development would be determined on a project-specific basis. In the event that sewer upgrades are required, all construction work within the county/city public right-of-ways would be subject to local municipal code requirements. As a result, indirect cumulative impacts associated

with off-site upgrades to sewer mains would not be cumulatively considerable. Impacts would be **less than significant**, and no mitigation is required.

As discussed for Threshold UTL-1, the proposed Project would convey wastewater offsite through existing municipal sewage infrastructure to the WWRF, which has an approximate treatment capacity of 3 mgd. When considering the proposed Project in addition to the existing commitments of the WWRF, the South Campus development would require 0.85 mgd of wastewater treatment. The permitted design capacity for the WWRF is 3 mgd, and when the WWRF was upgraded in 2011, the wastewater generated from buildout of the 2003 Approved South Campus was taken into account. Additionally, Western Municipal Water District owns 1.95 mgd of treatment capacity at the WRCRWA (Western 2014b). Therefore, between the combined capacity of the WWRF and the WRCRWA, adequate capacity exists to serve the proposed Project. Given that the proposed Project would result in the generation of less wastewater than that of the 2003 Approved South Campus, and that the Project would result in beneficial impacts when compared to the 2003 Approved South Campus, the Project would not result in cumulatively considerable impacts to wastewater and cumulative impacts would be **less than significant**.

Solid Waste

Development of the proposed Project in combination with related projects would increase land-use intensities in the area, resulting in increased solid waste generation in the service area for El Sobrante, Lamb Canyon, and Badlands Landfills. However, as of 2018, El Sobrante Landfill had a throughput capacity of 16,054 tons per day, has a remaining capacity of 143,977,170 cubic yards, and is expected to operate until January 2051. In addition, the Lamb Canyon Sanitary Landfill has a maximum daily throughput of 5,000 tons per day, with an estimated remaining capacity of 19,242,950 cubic yards; and the Badlands Sanitary Landfill has a maximum daily throughput of 4,800 tons per day, with an estimated remaining capacity of 15,748,799 cubic yards. Further, AB 939, or the Integrated Waste Management Act of 1989, mandates that cities and counties (including entities such as joint powers authorities) divert from landfills 50% of the total solid waste generated to recycling facilities. In order to maintain state requirements of diverting 50% of solid waste and to offset impacts associated with solid waste, the Proposed Project and all related projects would be required to implement waste reduction, diversion, and recycling during both demolition/construction and operation. Through compliance with the aforementioned March JPA General Plan goals and policies for solid waste and state solid waste diversion requirements and due to the recycling collection features that would be part of the proposed Project design and the design of other projects within March JPA jurisdiction pursuant to existing regulations, solid waste impacts would not be cumulatively considerable. Impacts would be **less than significant**, and no mitigation is required.

Electric Power, Natural Gas, and Telecommunication

Approximately half of the Project area has been developed and is provided with existing power, natural gas, and telecommunications facilities and services. Additionally, an electrical substation is already located within the South Campus Specific Plan area to provide electrical services to the full buildout of the South Campus Specific Plan area. As a result, buildout of the proposed Project may require new connections to existing electrical power, natural gas, and telecommunication infrastructure. New connections from the proposed Project to the existing utility infrastructure would occur incrementally during buildout, on a plot-by-plot basis. Trenching and excavations completed for the new connections to existing electric, natural gas, and telecommunication infrastructure could result in potential short-term soil erosion, as excavated and temporarily stockpiled soils would be susceptible to rainfall. However, standard BMPs, required as part of an NPDES-mandated SWPPP, would minimize potential impacts. Individual projects would be required to provide for specific project needs. As a result, cumulative

impacts associated with upgrades of electric, natural gas, and telecommunication facilities would not be cumulatively considerable. Impacts would be **less than significant**, and no mitigation is required.

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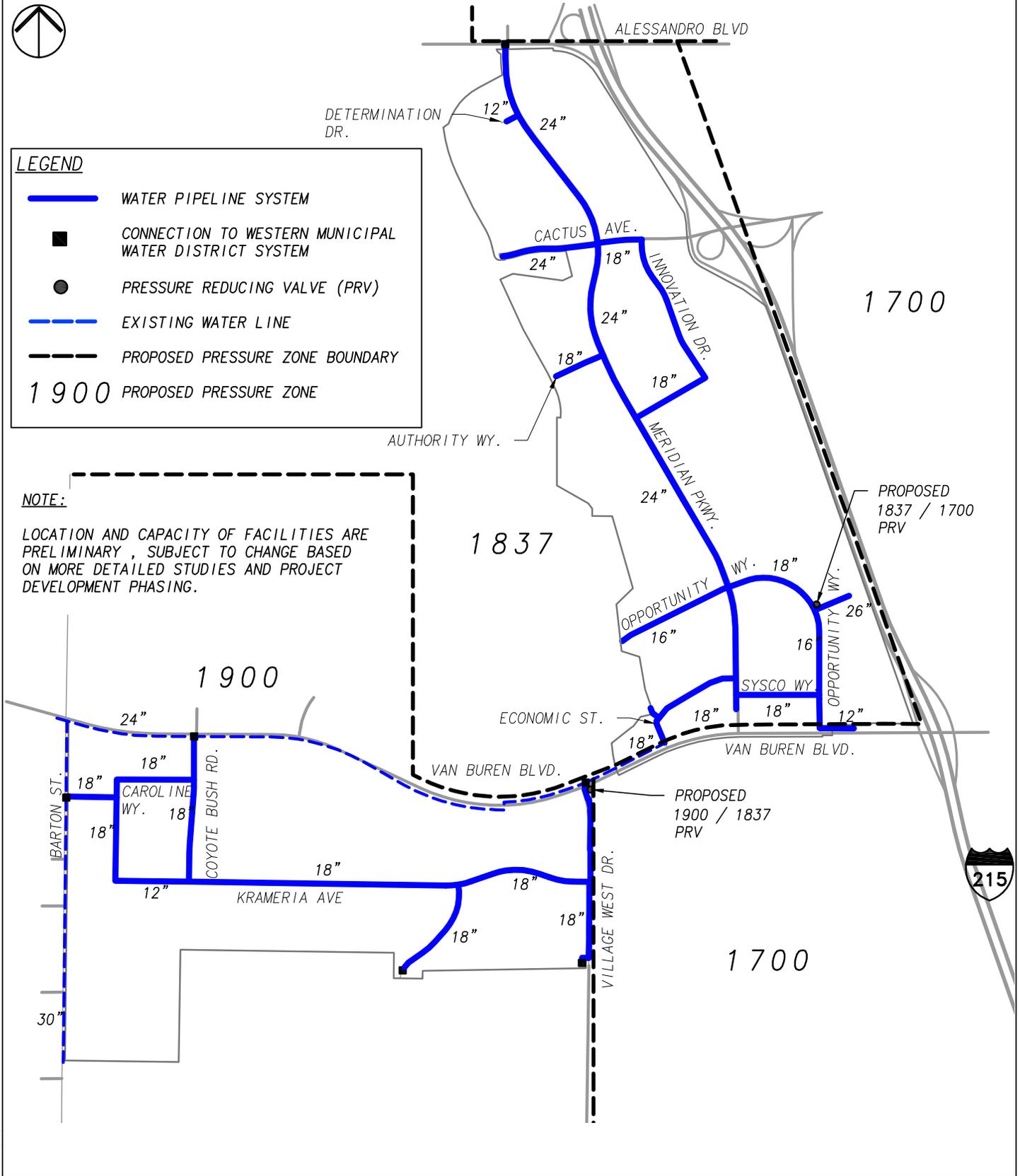


LEGEND

- WATER PIPELINE SYSTEM
 - CONNECTION TO WESTERN MUNICIPAL WATER DISTRICT SYSTEM
 - PRESSURE REDUCING VALVE (PRV)
 - - - EXISTING WATER LINE
 - PROPOSED PRESSURE ZONE BOUNDARY
- 1900 PROPOSED PRESSURE ZONE

NOTE:

LOCATION AND CAPACITY OF FACILITIES ARE PRELIMINARY, SUBJECT TO CHANGE BASED ON MORE DETAILED STUDIES AND PROJECT DEVELOPMENT PHASING.



SOURCE: March Business Center - Specific Plan Amendment 2020

FIGURE 4.14-1

Water System

South Campus Specific Plan and Village West Drive Extension Draft EIR

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EXISTING 18" CITY OF RIVERSIDE SEWER

EXISTING 24" CITY OF RIVERSIDE SEWER

ALESSANDRO BLVD

SEWER LIFT STATION

DETERMINATION DR.

8" 15" 8" FM

REALIGNED CONNECTION TO ORANGECREST SEWER

CACTUS AVE.

10" 18"

18" 10"

AUTHORITY WY.

18" 10"

18" 10"

18" 10"

21" 24"

15" 15"

15" 15"

15" 15"

12" 15"

15" 15"

8" 8" 12" 8" 15"

15" 15" 15"

10" 15"

15"

15"

15"

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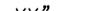
15"

15"

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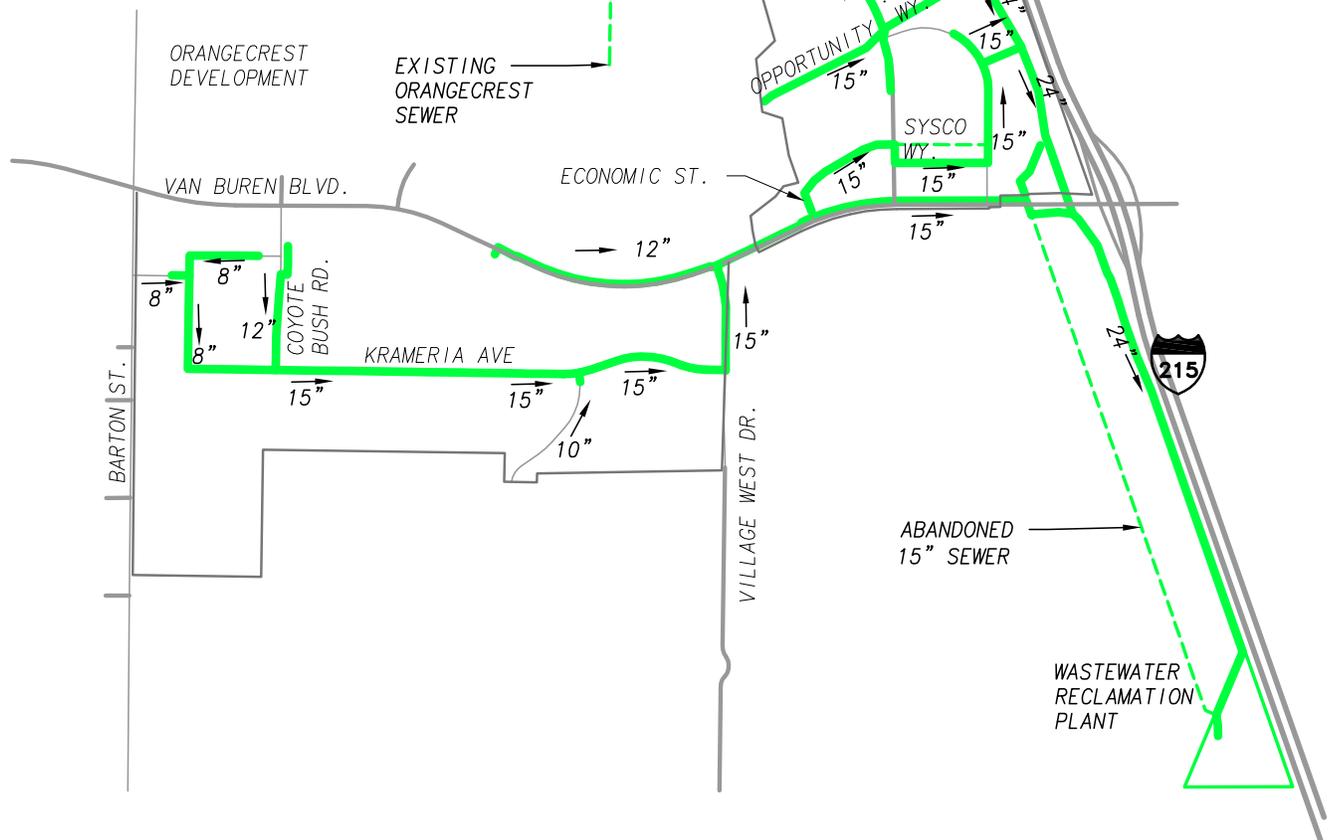
15"

LEGEND

-  SEWER SYSTEM
-  PROPOSED BUILDOUT SIZE
-  EXISTING SEWER

NOTE:

LOCATION AND CAPACITY OF FACILITIES ARE PRELIMINARY, SUBJECT TO CHANGE BASED ON MORE DETAILED STUDIES AND PROJECT DEVELOPMENT PHASING.

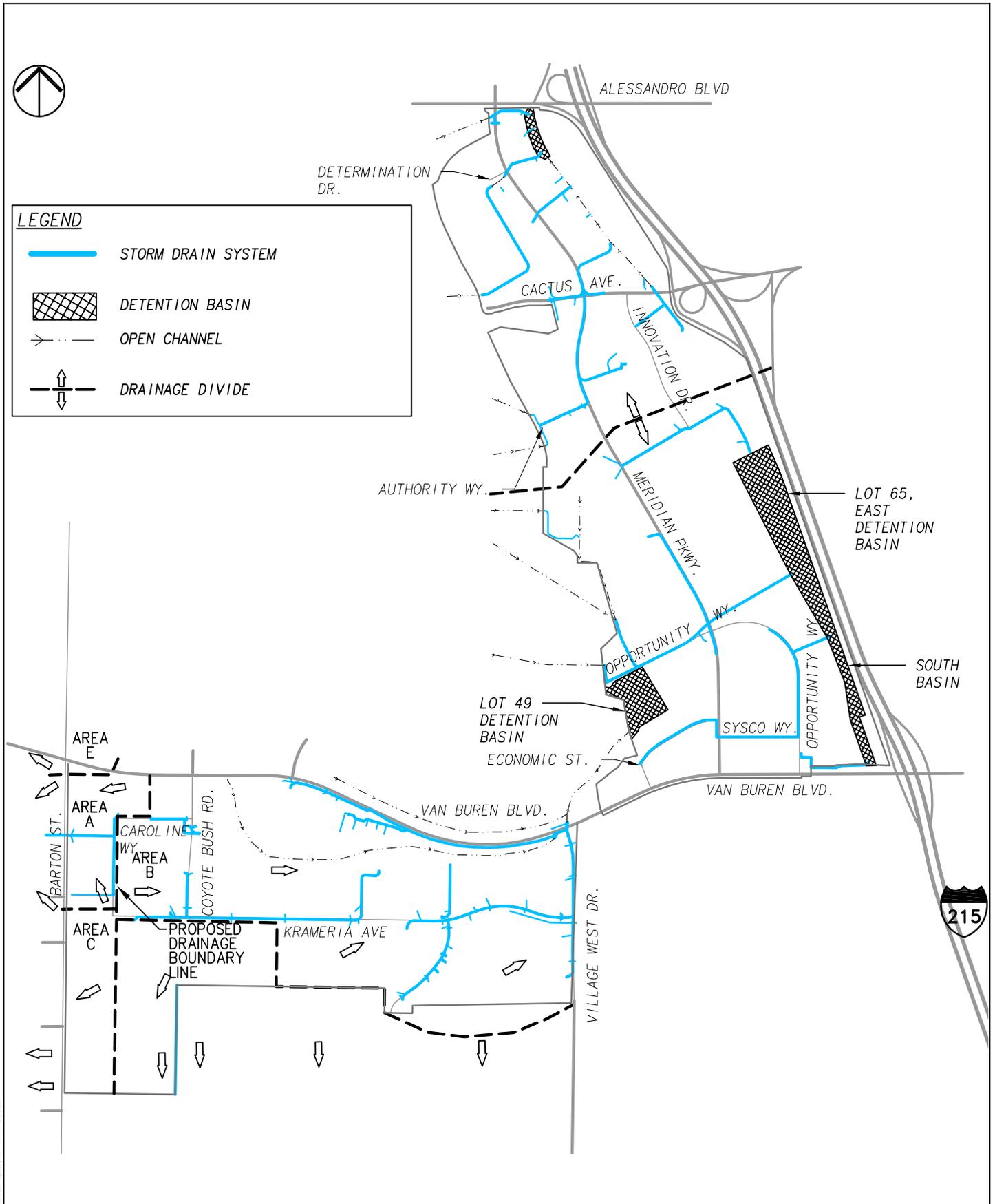


SOURCE: March Business Center - Specific Plan Amendment 2020

FIGURE 4.14-2

Sewer System

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SOURCE: March Business Center - Specific Plan Amendment 2020

FIGURE 4.14-3

Storm Drain System

South Campus Specific Plan and Village West Drive Extension Draft EIR

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4.15 Wildfire

This section describes the existing wildfire conditions of the South Campus Specific Plan and Village West Drive Extension Project (Project) site and surrounding area, identifies the regulatory framework relevant to wildfire conditions, evaluates potential project impacts related to wildfire and contribution to regional wildfire conditions, and identifies mitigation measures related to implementation of the proposed Project. Potential wildfire impacts resulting from construction and operation of the proposed Project were evaluated based on a review of existing resources, data, and applicable laws, regulations, guidelines, and standards. This section focuses on the potential impact of increased wildfire risk that may result from the proposed Project.

As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

4.15.1 Existing Conditions

Regional

Wildfire is a continuous threat in Southern California. Of particular concern is the wildland/urban interface, a geographic area where urban development either abuts or intermingles with wildland or vegetative fuels. Riverside County contains several miles of wildland/urban interface, where established development meets open space areas and canyons within urban and suburban areas. The region’s climate, severe dry periods, vegetative fuel composition, and steep and varied terrain make the region susceptible to both wildland and urban fires. The shrub-dominated plant communities occurring throughout the region are highly flammable. Adaptations to the local dry Mediterranean climate include specialized roots, stems, and leaves. The latter two become available fuels of importance and contribute to wildfire intensity and spread. Santa Ana winds bring hot, dry desert air from the east into the region during late summer and fall, which increases wildland fire hazards during these seasons. Dry vegetation, low humidity, and high air temperature can combine to produce large-scale fire events. As Santa Ana winds blow westward toward denser development, fires driven by these winds have the potential to result in a greater risk of property damage.

Project Location

The South Campus Specific Plan area is located within the southwestern portion of the March Joint Powers Authority (JPA) jurisdiction. More specifically, and as shown in Figure 3-1, Project Location, in Chapter 3 of this SEIR, the South Campus Specific Plan area is located in the South Campus of the March Business Center, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate 215 is located approximately 1 mile east of the Project site.

Much of the development of the March Business Center Specific Plan, and approximately half of the South Campus Specific Plan is constructed or currently under construction. Figure 3-2, Currently Approved South Campus Configuration, in Chapter 3 of this SEIR shows the status of current development on the South Campus.

The Village West Drive Extension extends from Lemay Drive to Nandina Avenue, approximately 0.8 miles to the south. Under existing conditions, south of Lemay Drive adjacent to the Westmont Village retirement community located south of the South Campus, Village West Drive becomes an unpaved roadway.

Vegetation and Land Cover

As discussed in Section 4.3, Biological Resources, of this SEIR, the South Campus Specific Plan area of the Project site is mostly graded with subsequent atypical vegetation conditions. However, vegetation communities and land uses mapped within the South Campus Specific Plan area of the Project site and biological study area are primarily: developed and disturbed habitat; developed/ornamental lands; and non-native grassland. Furthermore, the Village West Drive Extension area of the Project site and biological study area supports vegetation communities and other land covers. However, similar to the South Campus Specific Plan area of the Project site, the Village West Drive Extension area of the Project site is primarily developed and disturbed habitat; developed/ornamental lands; and non-native grassland.

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, non-native grass dominated plant communities become seasonally prone to ignition and produce lower intensity, higher spread rate fires. In comparison, California sagebrush scrub can produce higher heat intensity and higher flame lengths under strong, dry wind patterns, but does not typically ignite or spread as quickly as light, flashy grass fuels. When modeling fire behavior, the corresponding fuel models for each of these vegetation types are designed to capture these differences.

Weather and Wind Patterns

Weather throughout southern California is influenced by the Pacific Ocean and is frequently under the influence of a seasonal, migratory subtropical high pressure cell known as the “Pacific High.” Wet winters and dry summers with mild seasonal changes characterize the Southern California climate. This climate pattern is occasionally interrupted by extreme periods of hot weather, winter storms, or dry, easterly Santa Ana winds.

The prevailing wind pattern is from the west (on-shore), but the presence of the Pacific Ocean causes a diurnal wind pattern known as the land/sea breeze system. During the day, winds are from the west-southwest (sea) and at night, winds are from the northeast (land). During the summer season, the diurnal winds may average slightly higher than the winds during the winter season due to greater pressure gradient forces. Surface winds can also be influenced locally by topography and slope variations. The highest wind velocities are associated with downslope, canyon, and Santa Ana winds. The Project site does not include topography or slope variations that would create unusual weather conditions, such as high wind velocities, which would lead to increased fire risk. However, the site is subject to seasonally strong winds, such as Santa Ana winds, which can result in periodic extreme fire weather conditions that occur throughout Riverside County.

Typically, the highest fire danger is produced by the high-pressure systems that occur in the Great Basin, which result in the Santa Ana winds of Southern California. Sustained wind speeds recorded during recent major fires in Riverside County exceeded 30 miles per hour and sometimes even exceeded 50 miles per hour during extreme

conditions. The Santa Ana wind conditions are a reversal of the prevailing southwesterly winds that usually occur on a region-wide basis during late summer and early fall. Santa Ana winds are warm winds that flow from the higher desert elevations in the north through the mountain passes and canyons. As they converge through the canyons, their velocities increase. Consequently, peak velocities are highest at the mouths of canyons and dissipate as they spread across valley floors. Santa Ana winds generally coincide with the regional drought period and the period of highest fire danger.

Topography

The topography of the South Campus Specific Plan area consists of low rolling hills, with undulating topography. The western portion of the South Campus Specific Plan area consists of two-lying hills, with gentle slope gradients radiating to the north, west, south, and east. The eastern portion of the South Campus Specific Plan area consists of an overall gentle to moderate slope gradient to the east. South Campus Specific Plan area elevations range from approximately 1,780 feet above mean sea level (AMSL), in the western portion of the site, to approximately 1,613 feet AMSL in the northeast area. An east-trending incised drainage is located in the northern portion of the South Campus Specific Plan area and a northeast-trending drainage is located in the southeast portion of the South Campus Specific Plan area. Locally steep slopes are present adjacent to the northern creek. The topography has been altered by cut-and-fill grading for existing large warehouses and associated roadways, resulting in level building pads surrounded by cut and fill slopes.

Similar to the South Campus Specific Plan area, the topography of the West Village Drive Extension consists of low rolling hills with undulating topography. The Village West Drive Extension consists of an overall gentle to moderate slope gradient to the northeast, with elevations ranging from approximately 1,675 feet AMSL in the northern portion of the site to approximately 1,725 feet ASML in the southern portion.

Fire History

Fire history data provides valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. The fire history information presented below comes from California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program (FRAP) database. The FRAP database summarizes fire perimeter data for fires over 10 acres occurring since the late 1800s. Fire history recorded for the Project area is presented in Table 4.15-1.

According to available data from the CAL FIRE FRAP database,¹ 37 fires have burned within a 5-mile vicinity of the Project area tracing back to 1960. Recorded wildfires within 5 miles of the Project area range from 16 acres to 5,277 acres (1960 unnamed fire) and the average fire size is 754 acres (not including fires smaller than 10 acres). According to the FRAP database, there have been no fires that have burned on either the South Campus Specific Plan area or Village West Extension area of the Project site (CAL FIRE 2020).

¹ Based on polygon geographic information system data from CAL FIRE's FRAP, which includes data from CAL FIRE, U.S. Department of Agriculture's Forest Service Region 5, Bureau of Land Management, National Park Service, Contract Counties and other agencies. The data set is a comprehensive fire perimeter geographic information system layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878 and 2018.

Table 4.15-1. Fire History within 5 Miles of the South Campus Specific Plan and Village West Drive Extension Project site

Fire Year	Fire Name	Interval (years)	Total Area Burned (acres)
1960	Gavilan Peak	N/A	1,905
1960	Unnamed	0	5,277
1970	Box #11	10	1,518
1973	Unnamed	3	2,621
1978	Unnamed	5	507
1979	Unnamed	1	213
1979	Unnamed	0	123
1979	Unnamed	0	1,126
1979	Yucca #2	0	421
1979	Unnamed	0	62
1980	Box	1	384
1980	Unnamed	0	720
1980	Railroad	0	1,587
1981	Cherry #2	1	397
1981	Michael	0	1,154
1981	Cherry	0	286
1982	Fox	1	574
1983	Springs	1	225
1985	Gavilan	2	56
1989	Park	4	1,049
1989	Springs	0	225
1991	Unnamed	2	81
1992	Orange	1	268
1992	Water	0	102
1993	Metropolitan 2	1	84
1993	Box Springs	0	2,806
1994	Unknown	1	62
1995	Vista	1	126
1995	Water	0	337
1995	Seaton	0	127
1996	IDA	1	359
1997	Perris Lake	1	523
1997	Browns	0	268
2001	Watkins	4	1,404
2005	Fox	4	16
2007	Mockingbird	2	737
2011	Garza	4	167

Source: CAL FIRE FRAP database (2020).

Based on fire history, wildfire risk for the Project area is associated primarily with a Santa Ana wind-driven wildfire burning or spotting onto the site from the north or east, although a fire approaching from the south during more typical on-shore weather patterns is possible.

Fire Hazard Mapping

CAL FIRE's FRAP database also includes map data documenting areas of significant fire hazards in the state. These maps categorize geographic areas of the state into different fire hazard severity zones (FHSZs). The classifications include Non-Wildland, Non-Urban, Moderate, High, and Very High. CAL FIRE uses FHSZs to classify anticipated fire-related hazards for the entire state, and includes classifications for State Responsibility Areas, Local Responsibility Areas, and Federal Responsibility Areas. Fire hazard severity classifications account for vegetation, topography, weather, crown fire production, and ember production and movement. The Project area lies within a Federal Responsibility Area, but is not located within a State Responsibility Area or Local Responsibility Area. Furthermore, the Project area is not within a Very High FHSZ. The nearest mapped FHSZ is located over 2 miles southwest of the Project area, with the nearest Very High FHSZ located approximately 5 miles southwest of the Project area (CAL FIRE 2007).

Emergency Response

The Project site is located within the jurisdiction of the Riverside County Fire Department (RCFD), and consequently, RCFD provides initial response. The County of Riverside contracts for emergency response from CAL FIRE, to serve as the RCFD (Riverside County Fire Department 2020).

The RCFD currently operates 94 fire stations, 9 of which are within 10 miles of the Project site. Primary response would be from Station 59 (Mead Valley). Station 59 (Mead Valley) is located at 21510 Pinewood Street, Perris, California, approximately 3.2 miles south of the Project site. Station 6 (Towngate) is located at 22250 Eucalyptus Avenue, Moreno Valley, California, approximately 3.4 miles northeast of the Project site. Station 8 (Woodcrest) is located at 16533 Trisha Way, Riverside, California, approximately 3.4 miles to the west of the Project site.

In addition, the Project site is located within the March JPA, a public entity, created for addressing the use, reuse, and joint use of realigned March Air Force Base (March JPA 2020). In addition, the County of Riverside's Emergency Management Department is responsible for the operation of the County of Riverside's Emergency Operations Centers. There are two Riverside County Emergency Operations Centers situated in the cities of Riverside and Indio. The Emergency Operations Centers are maintained in a constant state of readiness to activate quickly once the need arises in order to share information, coordinate resources, and create situational awareness among response agencies and local jurisdictions. The County of Riverside has a Local Hazard Mitigation Plan, which was last revised in 2018. The Local Hazard Mitigation Plan aims to reduce the impact of a disaster by identifying hazards and developing ways to decrease their impact (County of Riverside Emergency Management Department 2018).

Environmental Effects of Wildfires

Wildfire risk can be detrimental to people and structures indirectly through the exposure of pollutant concentrations.

Air Quality

Carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, and other constituent materials are all present in wildfire smoke. The specific composition of smoke depends largely on the fuel type (vegetation types contain different amounts of cellulose, oils, waxes, and starches, which when ignited produce different compounds). In addition, hazardous air pollutants and toxic air contaminants, such as benzene and formaldehyde,

are also present in smoke. However, the principal pollutant of concern from wildfire smoke is particulate matter. In general, particulate matter from smoke is very small in size and can be inhaled into the deepest recesses of the lungs, presenting a serious health concern (CARB et al. 2019).

Factors including weather, stage of fire, and terrain can all dictate fire behavior and the impact of smoke on the ground. Wind, for instance, generally results in lower smoke concentrations because wind causes smoke to mix with a larger volume of air. Regional weather systems, such as the Santa Ana winds of Southern California, on the other hand, can spread fire quickly and result in numerous devastating impacts. The Santa Ana winds effectively work to reverse the typical onshore flow patterns and blow winds from dry, desert Great Basin areas westward toward the coast. As a result, coastal communities can be impacted by fires originating in inland areas (CARB et al. 2019).

Large quantities of pollutants can be released by wildland fires over a relatively short period of time. Air quality during large fires can become severely hazardous and can remain impaired for several days after the fire is ignited.

Water Quality

Fire can impact water quality by increasing potential for erosion and sedimentation in areas where vegetation has been burned by fire, resulting in increased water temperature through removal or drastic modification of shade-providing trees and vegetation. Water chemistry can also be altered through the introduction of pollutants and chemical constituents. Aquatic environments may also be impacted through the introduction of fire retardant chemicals used during firefighting activities.

Erosion and Sedimentation

Watersheds severely burned by wildfire are vulnerable to accelerated rates of soil erosion and can experience large amounts of post-fire sediment deposits. Increases in post-fire suspended sediments in streams and lakes (in addition to possible increases in turbidity) can result from erosion and overland flow, channel scouring, and creep accumulations in stream channels after an event (USDA 2005). While less is known regarding the effect of fire on turbidity, it has been observed that post-fire turbidity levels in stream water are affected by the steepness of the devastated watershed (USDA 2005). The little data available regarding post-fire turbidity levels has indicated that U.S. Environmental Protection Agency water quality standard for turbidity can be exceeded after a fire event (USDA 2005). The threat to water quality from erosion following wildfire was analyzed by CAL FIRE (2009). This analysis provides an estimated expected erosion rate if an area experiences a high severity fire and considers information on fire rotation to better identify locations that are more likely to experience frequent high severity fires (CAL FIRE 2009).

4.15.2 Relevant Plans, Policies, and Ordinances

This section discusses federal, state, and regional environmental regulations, plans, and standards related to wildfire that may be applicable to the proposed Project.

Federal

National Fire Protection Association Codes, Standards, Practices, and Guides

National Fire Protection Association codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together professionals representing varied viewpoints and interests to achieve consensus on fire and other

safety issues. National Fire Protection Association standards are recommended guidelines and nationally accepted good practices in fire protection, but do not constitute binding laws or codes unless adopted as such or referenced as such by the California Fire Code or the local fire agency.

Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy was developed in 1995, updated in 2001, and again in 2009 by the National Wildfire Coordinating Group, a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. An important component of the Federal Wildland Fire Management Policy is the acknowledgement of the essential role of fire in maintaining natural ecosystems. The Federal Wildland Fire Management Policy and its implementation are founded on guiding principles, found in the Guidance for Implementation of Federal Wildland Fire Management Policy (National Wildfire Coordinating Group 2009). The Federal Wildland Fire Management Policy provides recommended guidelines and nationally accepted good practices in fire protection; however, these do not constitute binding laws or codes unless adopted as such or referenced as such by the California Fire Code or the local fire agency.

National Fire Plan

The National Fire Plan, officially titled *Managing the Impacts of Wildfire on Communities and the Environment: A Report to the President In Response to the Wildfires of 2000*, was a presidential directive in 2000 in response to severe wildland fires that had burned throughout the United States. The National Fire Plan focuses on reducing fire impacts on rural communities and providing assurances of sufficient firefighting capacity in the future. The plan addresses five key points: Firefighting, Rehabilitation, Hazardous Fuels Reduction, Community Assistance, and Accountability. The plan continues to provide invaluable technical, financial, and resource guidance and support for wildland fire management across the United States. The U.S. Forest Service and the Department of the Interior are working to successfully implement the key points outlined in the plan (USFS 2000). The National Fire Plan provides recommended guidelines and nationally accepted good practices in fire protection; however, these do not constitute binding laws or codes unless adopted as such or referenced as such by the California Fire Code or the local fire agency.

International Fire Code

Created by the International Code Council, the International Fire Code addresses a wide array of conditions hazardous to life and property, including fire, explosions, and hazardous materials handling or usage (note: the International Fire Code is not a federal regulation, but rather a system of international requirements set by the International Code Council). The International Fire Code places an emphasis on prescriptive and performance-based approaches to fire prevention and fire protection systems. Updated every 3 years, the International Fire Code uses a hazards classification system to determine the appropriate measures to be incorporated to protect life and property (often times these measures include construction standards and specialized equipment). The International Fire Code uses a permit system (based on hazard classification) to ensure that required measures are instituted where applicable (International Code Council 2018). The International Fire Code provides recommended guidelines and accepted good practices in fire protection; however, these do not constitute binding laws or codes unless adopted as such or referenced as such by the California Fire Code or the local fire agency.

International Wildland–Urban Interface Code

The International Wildland–Urban Interface Code is published by the International Code Council and is a model code addressing wildfire issues. The International Wildland–Urban Interface Code provides recommended

guidelines and accepted good practices in fire protection; however, these do not constitute binding laws or codes unless adopted as such or referenced as such by the California Fire Code or the local fire agency.

Uniform Fire Code

The Uniform Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The code contains specialized technical regulations related to fire and life safety.

State

California Government Code

California Government Code Sections 51175 through 51189 provide guidance for classifying lands in California as fire hazard areas and provide requirements for management of property within those lands. CAL FIRE is responsible for classifying FHSZs based on statewide criteria, and makes the information available for public review. Further, local agencies must designate, by ordinance, Very High FHSZs within their jurisdiction based on the recommendations of CAL FIRE.

Section 51182 sets forth requirements for maintaining property within fire hazard areas, such as defensible space, vegetative fuels management, and building materials and standards. Among other requirements, defensible space consisting of 100 feet of fuel modification must be maintained on each side of a structure, but not beyond the property line unless findings conclude that the clearing is necessary to significantly reduce the risk of structure ignition in the event of a wildfire. Clearance on adjacent property shall only be conducted following written consent by the adjacent owner. Further, trees must be trimmed from within 10 feet of the outlet of a chimney or stovepipe, vegetation near buildings must be maintained, and roofs of structures must be cleared of vegetative materials. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

California Code of Regulations

Title 14 Natural Resources

Title 14, Division 1.5, Chapter 7, Subchapter 3, Fire Hazard, also sets forth requirements for defensible space if the distances specified above cannot be met. For example, options with similar practical effects include noncombustible block walls or fences, the placement of 5 feet of noncombustible material horizontally around the structure, installing hardscape landscaping or reducing exposed windows on the side of the structure with a less than 30-foot setback, or additional structure hardening such as those required in the California Building Code (CBC), (California Code of Regulations Title 24, Part 2, Chapter 7A).

Title 24 California Building Standards Code

California Building Code

Part 2 of Title 24 contains the CBC. Chapter 7A of Part 2 of Title 24 of the CBC regulates building materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a wildland/urban interface fire area. The purpose of Chapter 7A of the CBC is to establish minimum standards for the protection of

life and property by increasing the ability of a building located in any FHSZ within a State Responsibility Area or a wildland/urban interface fire area to resist the intrusion of flames or burning embers projected by a vegetation fire, and to contribute to a systematic reduction in conflagration losses. New buildings located in such areas must comply with the ignition-resistant construction standards outlined in CBC Chapter 7A.

California Fire Code

Chapter 9 of Title 24 contains the California Fire Code, which incorporates by adoption the International Fire Code with necessary California amendments. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. Chapter 49 of the California Fire Code contains minimum standards for development in the wildland–urban interface and fire hazard areas.

The California Fire Code and Office of the State Fire Marshal provide regulations and guidance for local agencies in the development and enforcement of fire safety standards. The California Fire Code is updated and republished every 3 years by the California Building Standards Commission.

California Public Resources Code

California Public Resource Code (PRC) Section 4290 requires minimum fire safety standards related to defensible space and is applicable to residential, commercial and industrial building construction in State Responsibility Area lands and lands classified and designated as Very High FHSZs. These regulations include road standards for fire apparatus access, standards for signs identifying roads and buildings, standards for fuel breaks and green belts, and minimum water supply requirements. It should be noted that these regulations do not supersede local regulations which equal or exceed minimum regulations required by the state.

PRC Section 4291 requires a reduction of fire hazards around buildings located adjacent to mountainous areas, forest-covered lands, brush-covered lands, grass-covered lands or land that is covered in flammable material. It is required to maintain a minimum 100 feet of vegetation management around all buildings and is the primary mechanism for conducting fire prevention activities on private property within CAL FIRE jurisdiction. Further, PRC Section 4291 requires the removal of dead or dying vegetative materials from the roof of a structure, and requires that trees and shrubs be trimmed from within 10 feet of the outlet of a chimney or stovepipe. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

California Department of Forestry and Fire Protection

CAL FIRE is tasked with reducing wildfire-related impacts and enhancing California's resources. CAL FIRE responds to all types of emergencies including wildland fires and residential/commercial structure fires. In addition, CAL FIRE is responsible for the protection of approximately 31 million acres of private land within the state and, at the local level, is responsible for inspecting defensible space around private residences. CAL FIRE is responsible for enforcing State of California fire safety codes included in the California Code of Regulations and California Public Resources Code. Public Resources Code Section 4291 states generally that any person operating or owning any structure located on brush-covered lands or land covered with flammable material is required to maintain defensible space around the structure. California Code of Regulations Title 14 Section 1254 identifies minimum clearance requirements required around utility poles. In State Responsibility Areas within the jurisdiction of CAL FIRE, the Fire Safety Inspection Program is an important tool for community outreach and enforcement of state fire codes.

CAL FIRE also inspects utility facilities and makes recommendations regarding improvements in facility design and infrastructure. Joint inspections of facilities by CAL FIRE and the utility owner are recommended by CAL FIRE so that each entity may assess the current state of the facility and successfully implement fire prevention techniques and policies. Violations of state fire codes discovered during inspections are required to be brought into compliance with the established codes. If a CAL FIRE investigation reveals that a wildfire occurred as a result of a violation of a law or as a result of negligence, the responsible party could face criminal and/or civil penalties. In cases where a violation of a law or negligence has occurred, CAL FIRE has established the Civil Cost Recovery Program, which requires parties liable for wildfires to pay for wildfire-related damages.

Fire Hazard Severity Zoning

CAL FIRE mapped FHSZs in Riverside County based on fuel loading, slope, fire history, weather, and other relevant factors as directed by Public Resources Code Sections 4201–4204 and Government Code Sections 51175–51189. FHSZs are ranked from Moderate to Very High, and are categorized for fire protection within a Federal Responsibility Area, State Responsibility Area, or Local Responsibility Area under the jurisdiction of a federal agency, CAL FIRE, or a local agency, respectively.

California Strategic Fire Plan

The 2018 Strategic Fire Plan for California reflects CAL FIRE's focus on (1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and (2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation. The Strategic Fire Plan for California provides a vision for a natural environment that is more fire resilient; buildings and infrastructure that are more fire resistant; and a society that is more aware of and responsive to the benefits and threats of wildland fire; all achieved through local, state, federal, tribal, and private partnerships (CAL FIRE 2018). Plan goals include the following:

1. Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.
2. Promote and support local land use planning processes as they relate to: (a) protection of life, property, and natural resources from risks associated with wildland fire, and (b) individual landowner objectives and responsibilities.
3. Support and participate in the collaborative development and implementation of local, county and regional plans that address fire protection and landowner objectives.
4. Increase fire prevention awareness, knowledge and actions implemented by individuals and communities to reduce human loss, property damage and impacts to natural resources from wildland fires.
5. Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
6. Determine the level of resources necessary to effectively identify, plan and implement fire prevention using adaptive management strategies.
7. Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
8. Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

California Emergency Services Act

The California Emergency Services Act was adopted to establish the state's roles and responsibilities during human-caused or natural emergencies that result in conditions of disaster and/or extreme peril to life, property, or resources of the state. This act is intended to protect health and safety by preserving the lives and property of the people of the state.

California Natural Disaster Assistance Act

The California Natural Disaster Assistance Act provides financial aid to local agencies to assist in the permanent restoration of public real property, other than facilities used solely for recreational purposes, when such real property has been damaged or destroyed by a natural disaster. The California Natural Disaster Assistance Act is activated after a local declaration of emergency and the California Emergency Management Agency gives concurrence with the local declaration, or after the governor issues a proclamation of a state emergency. Once the act is activated, the local government is eligible for certain types of assistance, depending on the specific declaration or proclamation issued.

Mutual Aid Agreements

The California Disaster and Civil Defense Master Mutual Aid Agreement, as provided by the California Emergency Services Act, provides statewide mutual aid between and among local jurisdictions and the state. The statewide mutual aid system exists to ensure that adequate resources, facilities, and other supports are provided to jurisdictions whenever local resources prove to be inadequate for a given situation. Each jurisdiction controls its own personnel and facilities but can give and receive help whenever needed. The RCFD participates in these mutual aid, automatic aid and other agreements with CAL FIRE and surrounding fire departments. In some instances, the closest available resource may come from another fire department.

Local

The Project would be subject to state and federal agency planning documents described above, as well as the local planning documents such as the March JPA General Plan and the March JPA Development Code.

March JPA General Plan***Safety/Risk Management Element***

The Safety/Risk Management Element of the March JPA General Plan is intended to provide a broad approach for preventing hazardous conditions in the Planning Area and reducing and/or managing existing hazards to acceptable levels. The Safety/Risk Management Element includes an analysis and sets forth goals and policies related to wildland and urban fires and evacuation routes and water supply for firefighting efforts (March JPA 1999).

March JPA Development Code***Section 9.10.070 – Fire and Explosive Hazards***

The March JPA contains specific development standards and regulations, including Section 9.10.070, which outlines fire and explosive hazard regulations for operation and activities in accordance with the Uniform Fire Code.

Riverside County Fire Department Fire Prevention Standard No. 06-01

Fire Prevention Standard No. 06-01 refers to sprinkler system design density in speculative use buildings. This standard was developed to assist in determining the minimum requirements for fire sprinkler system design densities for buildings where the specific tenant and use of the building have not been defined at the time a permit is issued. The actual design of fire sprinkler systems must be based on the National Fire Protection Association Standard for the Installation of Sprinkler Systems (NFPA 13), adopted by the current California Building and Fire Code. When fire sprinkler systems are required in buildings of undetermined use, they shall be designed with a sprinkler density of not less than that required for Ordinary Hazard Group 2 use with a minimum fire sprinkler design area of 3,000 square feet.

Riverside County Ordinances No. 460 and No. 787

A minimum fire flow standard of 4,000 gallons per minute at 20 pounds per square inch residual operating pressure is required for planning purposes. All water mains and fire hydrants providing required fire flows shall be constructed in accordance with the appropriate sections of Riverside County Ordinances No. 460 and/or No. 787, and are subject to review and approval by the Riverside County Fire Department. Until specific users for proposed speculative use buildings are defined for each lot, the required parcel specific fire flow requirements cannot be determined by the fire department. For uses with a larger floor area, such as warehouses, this fire flow standard may need to be greater and will be determined by the Riverside County Fire Department during final design for each lot. Each proposed user will be required to perform a fire flow analysis for the parcel to confirm the fire flow rates (velocities and pressures) meet the thresholds in accordance with the Riverside County Fire Department requirements. If the required fire flow is higher than the 4,000-gallons-per-minute planning guideline, as determined by the fire department, the user may need to incorporate additional measures.

County of Riverside Multi-Jurisdictional Local Hazard Mitigation Plan

The County of Riverside's Multi-Jurisdictional Local Hazard Mitigation Plan is implemented by the County of Riverside Emergency Management Department. The Multi-Jurisdictional Hazard Mitigation Plan is a County-wide plan that identifies hazards, reviews and assesses past disaster occurrences, estimates the probability of future occurrences and sets goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards. The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, provides future mitigation planning, and maintenance of existing plan (County of Riverside Emergency Management Department 2018).

County of Riverside Emergency Operations Plan Template

The County of Riverside Emergency Management Department develops the Emergency Operations Plan Template. The Emergency Operations Plan Template is for use by the local entities within Riverside County to coordinate localized emergencies as well as catastrophic disasters. As amended by individual local entities, the Emergency Operations Plan establishes the emergency organization, assigns tasks, and specifies policies and general procedures during both response and recovery (County of Riverside 2017). The Riverside County Fire Department serves the March JPA for fire protection services. As such, RCFD utilizes the County of Riverside's Emergency Operations Plan for the March JPA area.

4.15.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to wildfire are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to wildfire would occur if the project is located in or near State Responsibility Areas or lands classified as very high FHSZs and would:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan.
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The Project site is not located within State Responsibility Area or a very high FHSZ. The nearest very high FHSZ is located more than 5 miles southwest of the Project site; therefore, the Project site is not located near a very high FHSZ.

The Initial Study prepared for the proposed Project (Appendix A) determined that Project implementation would not impair an updated emergency response plan or emergency evacuation plan. Project implementation would also not exacerbate wildfire risks and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. As such, the following two thresholds are evaluated below:

- FIRE-1:** In or near a State Responsibility Area or lands classified as very high FHSZ, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- FIRE-2:** In or near a State Responsibility Area or lands classified as very high FHSZ, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

4.15.4 Impacts Analysis

FIRE-1. In or near a State Responsibility Area or lands classified as very high FHSZ, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

South Campus Specific Plan

The proposed Project would result in changes to land use designations as well as development of graded yet vacant land within the Specific Plan area. The South Campus Specific Plan area is currently served by existing roadways, water, electric, and other utility infrastructure. The South Campus Specific Plan area is not located within a very high FHSZ; the closest such zone is located more than 5 miles to the southwest. As such, the shift

of land use designations within the South Campus Specific Plan area would not exacerbate fire risk when compared to existing conditions. Furthermore, the construction and operation of the proposed development components within the South Campus Specific Plan area would not exacerbate fire risk because the Specific Plan area is not located within a State Responsibility Area and not near a very high FHSZ. As such, while the Project would result in the installation of new roadway and utility infrastructure, the installation and maintenance of these would not exacerbate fire risk given the Project's location outside of an identified very high FHSZ. Impacts would be **less than significant**, and no mitigation is required.

Village West Drive Extension

The Village West Drive Extension component of the proposed Project involves the improvement an existing unpaved roadway. The Project would result in an improved roadway which would provide a through connection between Lemay Drive to the north and Nandina Avenue to the south. The Village West Drive Extension area is classified as a non-very high FHSZ within a designated Federal Responsibility Area. The Project site is not located within a State Responsibility Area and not near a very high FHSZ. The nearest very high FHSZ is located more than 5 miles to the southwest of the Project site. As such, development of the Village West Drive Extension would not exacerbate fire risk. Additionally, by constructing the roadway, this would serve as a buffer and fire break in an area with partially undeveloped land. As such, extension of Village West Drive would result in **less-than-significant** impacts, no mitigation is required.

FIRE-2. In or near a State Responsibility Area or lands classified as very high FHSZ, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The proposed Project (South Campus Specific Plan and Village West Drive Extension) would not expose people or structures to significant risk related to the Project's susceptibility to wildfires. The nearest very high FHSZ to the Project site is over 5 miles to the southwest. The nearest State Responsibility Area is approximately 1.25 miles to the west of the Project site, with a mixture of moderate and high FHSZs. Therefore, the Project area is not located within or near a State Responsibility Area or very high FHSZ. Furthermore, the topography of the Project site consists of low rolling hills, with undulating topography. Under existing conditions an east-trending incised drainage is located in the northern portion of the South Campus Specific Plan area and a northeast-trending drainage is located in the southeast portion of the South Campus Specific Plan area. Locally steep slopes are present adjacent to the northern creek.

The proposed Project would not substantially alter the topography of the existing conditions. The topography has been altered by cut-and-fill grading for existing warehouses and associated roadways, resulting in level building pads surrounded by cut and fill slopes. As discussed in Section 4.5, Geology and Soils, Project grading would result in the creation of cuts up to 15 feet and fill slopes up to 31 feet to create finished site grades. However, the Project area is not susceptible to landslides. In addition, the South Campus Specific Plan and Village West Drive Extension geotechnical studies determined that there was no evidence of on-site landslides, debris flows, or thick surficial deposits typically associated with landslides (Appendix F1; Appendix F2). As such, the potential for on-site landslides is considered low as a result of the proposed Project.

Regarding flooding, on-site geotechnical evaluations of the South Campus Specific Plan area performed by Leighton Consulting, Inc. concluded that the South Campus area is not within a flood plain and the potential for flooding is considered very low (Appendix F1; Appendix F2). In addition, implementation of the Village West Drive Extension would involve rough grading and widening of the new roadway, and the construction

of new curb, gutter, and storm drain culverts (Appendix F3). Once constructed, the proposed roadway would divert stormwater to flow along the paved roadway and into either the existing or new gutters and storm drain culverts, rather than into the neighboring properties, resulting in beneficial impacts with respect to potential flooding during high-intensity rain events.

Therefore, the proposed Project would not result in the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Neither the South Campus Specific Plan area nor the Village West Drive Extension are located within or near a State Responsibility Area or a very high FHSZ. As such, wildfire-related risk including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be minimal. Impacts would be **less than significant**, and no mitigation is required.

4.15.5 Mitigation Measures

Impacts would be less than significant, and no mitigation measures are required.

4.15.6 Level of Significance After Mitigation

Impacts would be less than significant, and no mitigation is required.

4.15.7 Cumulative Effects

A cumulatively significant impact related to wildfire risks could occur as a result of the proposed Project, when considered in combination with the construction and operation of the projects shown in Table 4-1 of this SEIR, if it were within or near a very high FHSZ exacerbating wildfire risk based on topography and/or relationship to an emergency evacuation plan. As such, adverse effects of wildfire risk tend to be localized; therefore, as explained below, impacts from nearby projects would be limited, if any, and the Project site would be primarily affected by proposed Project activities.

The Project site is not located within a very high FHSZ. The nearest very high FHSZ to the Project site is more than 5 miles southwest of the Project site. As mentioned previously, Project-related impacts regarding the exposure of people or structures to significant risk of runoff, post-fire slope instability, or drainage changes would be less than significant based on discussions within Section 4.5, Geology and Soils, and Section 4.8, Hydrology and Water Quality. As such, Project-related impacts are specific to the Project site and would not contribute to (or be shared with an additive sense) the impacts on other project sites. Therefore, the proposed Project would contribute a less than significant cumulative impact.

Each related project would be required to satisfy the policies and regulations within the California Fire Code and its respective jurisdiction's regulations to reduce impacts related to emergency access, fire flow, and proximity to wildfire zones. Similar to the proposed Project, each of the related projects would be individually subject to either RCFD review or review by its own fire department, and would be required to comply with all applicable construction-related and operational fire safety requirements of the RCFD in order to adequately reduce potential wildfire impacts. Therefore, the proposed Project would not contribute to any significant cumulative wildfire impacts. Impacts would be less than significant.

With respect to emergency plans, the design of each related project would be evaluated individually in coordination with its respective jurisdiction’s applicable department (such as RCFD and the Sheriff’s Department) to minimize any potential impacts. As such, cumulative impacts related to wildfire risk would be **less than significant**.

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5 Other CEQA Considerations

5.1 Introduction

California Environmental Quality Act (CEQA) Guidelines Section 15126 requires environmental impact reports (EIRs) to include a discussion of (1) the significant environmental effects of a project, (2) the unavoidable significant environmental effects if the project is implemented, (3) any irreversible changes should the project be implemented, and (4) growth-inducing impacts (14 CCR 15000 et seq.). The following section incorporates these analyses, as required by CEQA.

5.2 Effects Found Not to Be Significant

CEQA Guidelines Section 15128 requires that an EIR contain a statement indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Given the nature of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project), the location of the Project site, and current uses as the Project site, the following issue areas are not discussed in detail in this Subsequent Environmental Impact Report (SEIR) and a discussed in greater detail in the Initial Study included in Appendix A to this SEIR. Below are statements indicating the reasons that the proposed Project would not result in significant impacts to agricultural resources, mineral resources, and population and housing.

5.2.1 Agricultural Resources

The Project site does not contain land under or is zoned for Williamson Act Contract or farmland recognized as prime, unique, statewide, or locally important; therefore agricultural land will not be adversely impacted by the proposed Project, nor is the site utilized for agricultural purposes. Additionally, the Project area does not contain any forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or land zoned for Timberland Production (as defined by Government Code Section 51104[g]). The Project site is instead zoned for Commercial, Business Park, Mixed Use, and Industrial use. As such, **no impact** would occur.

5.2.2 Cultural Resources

The Project site does not contain any historical resources pursuant to Section 15064.5 of the CEQA Guidelines. Additionally, as discussed in the Initial Study included as Appendix A to this SEIR, with implementation of the 2003 Focused EIR mitigation measure L-1, which states “If archaeological or paleontological resources are encountered at the time of grading or Project construction, all Project work in the area of the resource shall cease until the area has been surveyed by a qualified archaeologist or paleontologist in conformance with the Cultural Resource Management Plan,” any potential impacts to previously undiscovered archaeological resources and/or human remains would be reduced to **less than significant**.

5.2.3 Mineral Resources

The Project site is not located within a known mineral resources area. As such, **no impact** would occur.

5.2.4 Population and Housing

The proposed Project does not include new housing nor would housing be removed. Because the proposed Project would not remove or otherwise displace any housing, no impacts to population and housing would occur. As discussed in the 2003 Focused EIR, the Project would help address the existing jobs/housing imbalance in western Riverside County. With the majority of land being developed within Riverside County planned for residential land uses, the land designations of the March Joint Powers Authority (JPA) General Plan, upon full build-out, would contribute upward of 10% of the employment opportunities of the sub-region. The March JPA Planning Area, based upon the General Plan Land Use, would contribute greatly to the employment opportunities currently deficient within the sub-region. The creation of jobs within an area that has an imbalanced jobs/housing ratio contributes to improving the regional environment (i.e., reduced vehicle miles traveled). Implementation of the South Campus Specific Plan as amended by the proposed Project would result in positive impacts upon existing and projected housing conditions within the region, by bringing job opportunities to an area that is largely residential. As such, impacts would be **less than significant**.

5.2.5 Public Services

Implementation of the proposed Project would not include the construction of residential uses; therefore the Project would not generate population increases or additional demand for fire or police protection services, school services, park services or other public services beyond what was considered under the 2003 EIR. The proposed Project is within areas that were previously slated for development under the originally approved South Campus. As such, impacts would be comparable to those previously identified in past environmental documents prepared for the South Campus Specific Plan. Additionally, the proposed Project would be subject to the payment of development impact fees. The payment of these fees provides funding for capital improvements such as land, equipment purchases, and fire station and justice facilities construction. The proposed Project would have a reduced impact compared to the originally approved Project, and would pay the required development impact fees; therefore, the Project would not result in the need for new or expanded public facilities or services, and impacts would be **less than significant**.

5.3 Significant and Unavoidable Environmental Effects

CEQA Guidelines Section 15126.2(a) further directs EIRs to address impacts from a project that will result in significant impacts, including those that cannot be mitigated below a level of significance. A summary of all the environmental issue areas and the resultant significance and listing of mitigation measures is found in Chapter 1, Executive Summary, of this SEIR. To summarize, the following issue areas would result in significant impacts even after mitigation measures have been incorporated, either with implementation of the 2003 Approved South Campus or the proposed Project, thus resulting in significant and unavoidable impacts:

- Air Quality (operational)
- Transportation and Traffic

5.4 Significant Irreversible Changes

CEQA Guidelines mandate that the EIR must address any significant irreversible environmental changes that would be involved in the proposed action should it be implemented (14 CCR 15126[c]). An impact would fall into this category if:

- The Project would involve a large commitment of nonrenewable resources.
- The primary and secondary impacts of the Project would generally commit future generations of people to similar uses.
- The Project involves uses in which irreversible damage could result from any potential environmental incidents associated with the Project.
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy).

Determining whether the proposed Project may result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Construction of each of the Project components would result in the use of nonrenewable resources and energy sources, including fossil fuels, natural gas, and electricity, as further discussed in Section 4.4, Energy, of this SEIR. Fossil fuels would be used to power construction equipment and delivery and construction employee vehicles. Construction equipment would also use electricity and natural gas. Use of these energy sources would be considered a permanent commitment of resources. In addition, a variety of resource materials would be used during the construction process, including steel, wood, concrete, and fabricated materials. Once these materials and fuels are used for purposes of construction, the commitment of such materials and fuels would be considered irreversible. However, the proposed Project, when taking into consideration the global use of these materials, would not result in a large commitment of these resources.

Once operational, the Project components would consume more energy on a daily basis than is currently consumed on the Project site; however, the proposed Project would result in a net reduction of electricity, and natural gas when compared to the consumption estimates associated with the 2003 Approved South Campus. Since the certification of the 2003 Focused EIR, as detailed in Section 4.4, Energy, of this SEIR, a number of federal and state regulations have been adopted that require the use of renewable resources. For example, Southern California Edison—the electricity provider to the Project site—receives electric power from a variety of sources, including 36% from renewable sources, such as biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2019). As such, a portion of the energy used would be provided by nonrenewable sources during construction and operation. Once constructed, it is reasonable to assume that the industrial facilities would use nonrenewable energy resources, such as natural gas and petroleum, which would be an irreversible commitment of such resources. During operations, as described in Section 4.4, natural gas consumption would occur even with changes to Title 24 of the California Code of Regulations. Petroleum consumption would occur due to construction equipment usage, worker vehicle demand, and passenger and truck fleet demand during operations. Additionally, the Project is a relatively minor energy consumer compared to other local and regional users. As provided by the California Energy Commission, Riverside County consumed approximately 8,295 gigawatt hours of electricity in 2018 (CECD 2018a), and the Project is anticipated to consume 4,798 megawatt-hours per year (4.8 gigawatt hours per year).¹ Furthermore, Riverside County consumed approximately 139 million therms, and the Project is anticipated to consume 33,800,123 thousand British thermal units per year (33,808 therms)² (CECD 2018b). Therefore, this would not be considered a significant irreversible environmental effect.

¹ 1 megawatt-hour = 0.001 gigawatt hours

² 1 British thermal unit = 1.0002 e⁻⁵ US therm

5.5 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Induced growth is distinguished from the direct employment, population, or housing growth of a project (14 CCR 15126.2[e]). If a project has characteristics that “may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively,” then these aspects of the Project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of that Project. Typically, the growth-inducing potential of a Project is considered significant if it stimulates population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities, such as the Southern California Association of Governments (SCAG).

The CEQA Guidelines also indicate that growth should not be assumed to be either beneficial or detrimental (14 CCR 15126.2(d)). According to Section 15126.2(d) of the CEQA Guidelines, a project may foster economic or population growth, or additional housing, either indirectly or directly, in a geographical area if it meets any one of the following criteria:

- The Project would remove obstacles to population growth.
- Increases in the population may tax existing community service facilities, causing significant environmental effects.
- The Project would encourage and facilitate other activities that could significantly affect the environment.
- As discussed in detail in Section 3, Project Description, of this SEIR, the proposed Project includes a shift in land use types within the South Campus Specific Plan area as well as Plot Plan approvals for a 61,336-square-foot commercial development, including a grocery store, an 800,000-square-foot warehouse building, a 6.2-acre dog park and paseo, and the construction of Caroline Way. Additionally, the Project proposes to extend Village West Drive to the south, providing a through connection between Van Buren Boulevard to the north, and Nandina Avenue to the south. The Project also proposes text revisions to the South Campus Specific Plan definitions for “Wholesale, Storage and Distribution” (both Medium and Heavy) to accommodate cold storage warehousing and the definition of “Business Enterprise” to allow up to 200,000 square feet or less of divisible building space within the South Campus.

According to the SCAG Growth Forecast (an appendix to the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy [RTP/SCS]) (SCAG 2016a), employment is anticipated to grow from 70,500 in 2012 to 156,600 in 2040 in unincorporated Riverside County (SCAG 2016a, p. 28). Total employees/staff for the South Campus build-out is estimated to be 2,640, and total employees/staff for the proposed Project is estimated to be 1,100, which would be less than 1% of the total employment in SCAG’s Growth Forecast in 2040. The increase in employment would be minimal in comparison to the anticipated increase of the SCAG Growth Forecast. Therefore, the Project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities.

Indirect growth can also occur by a project installing infrastructure that can support further growth. The Project site is served by existing public services and utilities, and no new off-site utility systems would be needed in order to serve the Project. Chapter 3 of this SEIR describes existing conditions of Village West Drive as having been improved with two lanes and a painted median between Van Buren Boulevard and Krameria Avenue; however, south of Lemay Drive, Village West Drive is an unpaved roadway. As discussed above, the construction of the Village West Drive

extension would result in an improved roadway that would provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. This improvement would not represent the installation of new infrastructure, rather the improvement of existing infrastructure. Therefore, indirect growth inducement as a result of the extension of these facilities into a new area would not occur.

Overall, the Project would indirectly stimulate population growth through the addition of new employees/staff. However, the growth was anticipated and discussed within the 2003 Focused EIR and envisioned the Project area becoming “a major employment center” would be similar to that of the 2003 Approved South Campus. This growth would be consistent with employment growth envisioned in local and regional land use plans and in projections made by regional planning authorities, since the planned growth of the Project and its land use intensity have been factored into the underlying growth projections of the SCAG 2016–2040 RTP/SCS.

5.6 References Cited

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6 Alternatives

6.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, an Environmental Impact Report (EIR) is required to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project” (14 CCR 15126.6[a]). An EIR “must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation” (14 CCR 15126.6[a]). This alternatives discussion is required even if these alternatives “would impede to some degree the attainment of the project objectives, or would be more costly” (14 CCR 15126.6[b]).

The CEQA Guidelines further provide that the range of alternatives is guided by a “rule of reason,” such that only those alternatives necessary to permit a reasoned choice are included (14 CFR 15126.6[f]). The EIR need only examine alternatives that could feasibly attain most of the basic objectives of the project. “Among the factors that may be taken into account when addressing feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries ... and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.”

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact “feasible.” The final decision regarding the feasibility of alternatives lies with the decision maker for a given project, who must make the necessary findings addressing the potential feasibility of an alternative, including whether it meets most of the basic project objectives or reduces the severity of significant environmental effects pursuant to CEQA (California Public Resources Code, Section 21081; see also 14 CCR 15091).

Beyond these factors, the Guidelines require the analysis of a “no project” alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the “no project” alternative, then the EIR shall identify an environmental superior alternative among the other alternatives.

6.2 Project Objectives

In developing the alternatives to be addressed in this chapter, consideration was given to the ability to meet the basic objectives of the proposed South Campus Specific Plan and Village West Drive Extension Project (Project) and eliminate or substantially reduce the identified significant environmental impacts. As stated in Chapter 3, Project Description, of this Subsequent Environmental Impact Report (SEIR), the proposed Project requests an amendment to the existing South Campus components of the March Business Center Specific Plan (South Campus Specific Plan) to shift land uses between parcels. The proposed Project would not develop any land within the South Campus Specific Plan area that was not already approved for development, nor would the Project encroach upon the March Air Reserve Base or its operations. The project objectives identified in the 2003 Focused EIR included the following:

- Implement the goals, objectives and policies of the March Joint Powers Authority (JPA) General Plan
- Provide increased job opportunities for local residents through the provision of employment-generating uses
- Establish an attractive business park development that will blend the natural and built environment and create a high quality business park development

- Provide for the design, development and operation of a business park consisting of industrial, research and development, office, commercial and open space uses
- Establish a land use and facility plan that assures project viability in consideration of existing and anticipated economic conditions
- Ensure a business park development that conforms to the March JPA goals and values and the protection of adjacent land uses from incompatibility
- Develop the property with land uses that are compatible with the March Air Force Base Reuse plan
- Encourage the use of alternative modes of transportation through the provision of a pedestrian circulation system that is both safe and comfortable
- Ensure that businesses within the March Business Center Specific Plan provide a range of job types for the community's residents
- Provide a circulation system that facilitates movement and access needs of automobiles, pedestrians and bicyclists
- Minimize impacts from construction of the development to sensitive biological resources

To reflect the evolving community priorities and environmental regulatory landscape, the proposed mix of uses has been designed to reduce the environmental impacts compared to the 2003 Approved South Campus as well as the currently approved South Campus development (Current South Campus). As such, objectives for this Project are as follows:

- Respond to community requests for community serving land uses, including a dog park, additional retail uses, such as restaurants and stores.
- Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.
- Site community serving uses in locations easily accessible from Van Buren Boulevard.
- Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.
- Implement the goals, objectives and policies of the March JPA General Plan.
- Provide increased job opportunities for local residents through the provision of employment-generating businesses.
- Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.
- Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable.
- Provide a range of job types for the community's residents.
- Minimize impacts from construction of the development to sensitive biological resources.
- Implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in *Center for Biological Diversity v. Jim Bartel, et al.*

Pursuant to the CEQA Guidelines previously stated, as well as the Project objectives, a range of alternatives to the Project are considered and evaluated in this SEIR. To summarize these Project alternatives, as suggested in CEQA Guidelines Section 15126.6(d), a matrix was prepared to summarize and compare the impacts of each Project alternative (Table 6-1).

Because the proposed Project involves a shift in land uses as compared to the 2003 Approved South Campus, for the purposes of this SEIR (including the analysis below), the net change in impacts between the 2003 Approved South Campus and the proposed Project is considered the “Project.” Similar to the analysis in Chapter 4, this chapter provides analysis for the Alternative conditions compared to the 2003 Approved South Campus in order to provide an appropriate comparative analysis. For issues not evaluated in the 2003 Focused EIR, this SEIR analyzes both the Alternative and the Project against existing conditions.

Table 6-1. Comparison of Project and Alternatives Impacts

Environmental Topic	Project Impact	Alternative 1 No Project	Alternative 2 South Campus Re-Entitlement Only	Alternative 3 Business Park
Aesthetics	Less than Significant	▲	▼	▲
Air Quality	Significant and Unavoidable (operational NOx)	▲	=	▲
Biological Resources	Less than Significant with Mitigation	=	▼	=
Energy	Less than Significant	▲	=	▲
Geology and Soils	Less than Significant with Mitigation	▼	=	▼
Greenhouse Gas Emissions	Less than Significant	▲	=	▲
Hazards/Hazardous Materials	Less than Significant	=	=	=
Hydrology/Water Quality	Less than Significant with Mitigation	▲	▲	▲
Land Use/Planning	Less than Significant with Mitigation	▼	=	=
Noise	Less than Significant	▼	▼	=
Recreation	Less than Significant	▼	=	▼
Transportation	Significant and Unavoidable (VMT)	▲	=	▲
Tribal Cultural Resources	Less than Significant	=	▼	=
Utilities/Service Systems	Less than Significant	▼	▼	▲
Wildfire	Less than Significant	=	=	=

Notes:

- ▲ Impacts would be greater than those of the proposed Project.
- = Impacts would be comparable to those of the proposed Project
- ▼ Impacts would be reduced when compared to those of the proposed Project.

6.3 Alternatives Considered But Rejected

As set forth in CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate an alternative from detailed consideration are the alternative’s failure to meet most of the basic project objectives, the alternative’s infeasibility, or the alternative’s inability to avoid significant environmental impacts. The following discussion presents information on alternatives to the

Project that were considered but rejected. These alternatives are not discussed in further detail and have been eliminated from further consideration.

6.3.1 Alternate Site

Development of the proposed Project on an alternate site was considered but rejected as infeasible. The reason for the dismissal of this alternative is that a South Campus Specific Plan has already been approved and adopted, and portions of the Specific Plan, including much of the roadway network, have been implemented. To relocate the entire South Campus Specific Plan development to an alternate site would require nearly 600 acres of undeveloped land suitable for the construction of Office, Commercial, Mixed Use, Business Park, Industrial, Parks/Open Space, and Public Facilities uses. Much of the South Campus Specific Plan area has already undergone grading, and three warehouse developments as well as an open space area with a trail network have been developed; to relocate the entire existing and planned development under the approved Specific Plan would require extensive grading and a new set of potentially significant environmental impacts. For these reasons, an alternative site was considered but rejected from further analysis as infeasible.

6.3.2 No Development

A No Development Alternative was considered but rejected as infeasible. The reason for the dismissal of this alternative is that portions of the approved South Campus Specific Plan have already been developed, including three industrial warehouses, a detention basin, open space with a trail network, an electrical substation, and much of the roadway network. Additionally, a commercial development has been approved and is currently under construction. Much of the South Campus Specific Plan area has already been graded, water, wastewater, natural gas, and electrical infrastructure has been installed throughout the campus, and given that development has already occurred within the South Campus Specific Plan area and that an approved Specific Plan has been adopted for the site, eliminating any further development from occurring would be financially infeasible, as there would not be a return on the investments made to prepare the site for development. Additionally, the No Development Alternative would require revoking all current entitlements and would not meet any of the Project's objectives. For these reasons, a No Development Alternative was considered but rejected as logistically infeasible.

6.4 Alternatives Under Consideration

This section discusses the alternatives to the Project, including the No Project Alternative, under consideration. The No Project (Currently Approved South Campus Specific Plan) Alternative, which is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines, examines the environmental effects that would occur if the project were not to proceed and the existing plan continued. The other alternatives are discussed as part of the "reasonable range of alternatives" selected by the lead agency. The following alternatives are addressed in this section, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – South Campus Re-Entitlement Only
- Alternative 3 – Business Park

6.4.1 Existing Conditions

Under existing conditions at the Project site, a portion of the development of the South Campus Specific Plan is constructed or currently under construction. Figure 3-2, Existing Conditions, in Chapter 3, Project Description, of this SEIR, shows the status of current development in the South Campus. The following is a summary of roadways and buildings that have been built or are under construction in the South Campus Specific Plan area. For each Project alternative evaluated, build-out maintains the following existing conditions.

Roadways

As shown in Figure 3-2, the following roadway improvements have been built or are under construction within the South Campus Specific Plan area:

- **Van Buren Boulevard** – Van Buren Boulevard from Village West Drive to Barton Street has been widened to seven through lanes, with four westbound lanes and three eastbound lanes.
- **Coyote Bush Road** – Coyote Bush Road has been constructed with two lanes in each direction and a painted median, providing a connection between Van Buren Boulevard and Krameria Avenue.
- **Krameria Avenue** – Krameria Avenue has been constructed with two lanes in each direction and a painted median, between Village West Drive on the east to provide access to Building B on the west.
- **Bundy Avenue** – Bundy Avenue has been extended with two lanes and a painted median northward to connect with Krameria Avenue on the north.
- **Village West Drive** – Village West Drive has been improved with two lanes and a painted median between Van Buren Boulevard and Krameria Avenue to provide access into the South Campus. South of Lemay Drive in the residential community located south of the South Campus, Village West Drive becomes an unpaved roadway.

Park, Trail System, and Open Space System

As shown in Figure 3-2, an open space area with a newly constructed park and loop trail system is located southwest of the intersection of Krameria Avenue and Village West Drive. Part of the original South Campus Specific Plan, the loop trail is approximately 4,300 linear feet (0.8 miles), in the eastern portion of a 61.38-acre parcel. Adjacent to the park and loop trail is a parking lot with 25 parking spaces accessed via Village West Drive. Additionally, the 8-acre detention basin has been constructed.

Buildings

As shown in Figure 3-2, the following buildings have been approved and are either constructed or under construction within the South Campus Specific Plan area:

- **Building A**, located south of Krameria Avenue and west of Bundy Avenue, is a 1,000,000 square foot industrial warehouse building. This building was constructed in November 2017, is complete and operational, and is occupied by Amazon.
- **Building B**, located immediately west of Building A, south of Krameria Avenue and where Coyote Bush Road intersects with Krameria Avenue, is a 1,000,000 square foot industrial warehouse building. Construction of Building B was completed in March 2018. A parking lot west and south of Building B is currently under construction. Once complete, in October 2020, Building B and the adjacent parking lot will be utilized by the United Parcel Service (UPS).

- **Building C**, located at the northeast corner of the intersection of Coyote Bush Road and Krameria Avenue, is a 500,000 square foot industrial warehouse building. Construction of Building C was complete in spring 2020. Building C is occupied by Safavieh.
- **Commercial Development**, totaling 14,267 square feet and situated on the northern 3.5 acres of a commercial parcel located at the southeast corner of the intersection of Orange Terrace Parkway and Van Buren Boulevard, has been approved. Construction is complete and will be occupied in fall 2020. The approved commercial development includes a gas station, food mart, a pad for a drive-through restaurant, and a building for retail.
- **An Electrical Substation**, located on the eastern side of Bundy Avenue, has been constructed and is operational. This existing substation is located on a 0.9-acre parcel currently designated as Industrial; however, the proposed Specific Plan Amendment SP-1 A8 proposes a zone change of the 0.9 acre parcel to Public Facility.

Table 6-2 provides a summary of the total square footage of development that has been constructed or entitled within the South Campus.

Table 6-2. Existing South Campus Development

Component	Land Use	Status	Tenant	Square Footage
Building A	Industrial	Constructed	Amazon	1,000,000
Building B	Industrial	Constructed	UPS	1,000,000
Building C	Industrial	Constructed	Safavieh	500,000
Commercial	Commercial	Constructed	TBD	14,267
Electrical Substation	Open Space	Constructed	N/A	N/A
Total				2,514,267

6.4.2 Alternative 1 – No Project

Under Alternative 1, the No Project Alternative, the build out of the remainder of the South Campus Specific Plan area would occur as currently approved, including all previously approved revisions, which include shifts in land use designations and realignment of roadways, to the 2003 South Campus. As such, the following would occur under existing approved (Alternative 1) build-out conditions.

Table 6-3. Alternative 1 Build-Out Land Uses

Use	Alternative 1 (acres)	Proposed Project (acres)	Alternative 1 when Compared to Proposed Project (acres)
Office	32.0	4.6	+27.4
Commercial	6.4	23.5	-17.1
Mixed Use	23.3	27.8	-4.5
Business Park	232.1	170.8	+61.3
Industrial	134.5	200.3	-65.8
Park/Open Space	125.0	140.3	-15.3
Public Facilities	0	0.9	-0.9

Table 6-3. Alternative 1 Build-Out Land Uses

Use	Alternative 1 (acres)	Proposed Project (acres)	Alternative 1 when Compared to Proposed Project (acres)
Total Net Acres	553.3	568.2	-14.9*

Note:

* change in total net acres due to inclusion of 10 acres of Lot 31 for proposed Project, reconfiguration of internal road system and rounding differences

As such, Alternative 1 would result in the following land use acreage differences when compared to the proposed Project:

- Increase in 27.4 acres of Office use
- Increase in 61.3 acres of Business Park use
- Reduction in 17.1 acres of Commercial use
- Reduction in 4.5 acres of Mixed Use
- Reduction in 65.8 acres of Industrial use
- Reduction in 15.3 acres of Park/Open Space use
- Reduction in 0.9 acres of Public Facilities use

Under Alternative 1, the proposed Village West Drive Extension would not be implemented. Additionally, the revisions to the following south Campus Specific Plan definitions of “Business Enterprise,” “Wholesale, Storage and Distribution – Medium” and “Wholesale, Storage and Distribution – Heavy” would remain unchanged and no definition would be added for “Grocery Store.”

6.4.2.1 Environmental Analysis

Aesthetics

As discussed in Section 4.1, Aesthetics, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would not substantially degrade the existing visual character or quality of public views of the site and its surroundings or conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project in several ways. For example, Alternative 1 would result in a net reduction of 15.3 acres of park/open space uses, which is typically considered to be aesthetically pleasing. As with the proposed Project, implementation of Alternative 1 would result in less than significant aesthetic impacts; however, with the reduction in the amount of parks and open space, there is the potential that the more developed nature of the Project site would result in more aesthetic changes than the proposed Project. As such, Alternative 1 would result in the potential for greater aesthetic impacts; however, as has been previously evaluated for the South Campus Specific Plan, aesthetic impacts would be less than significant.

Air Quality

As discussed in Section 4.2, Air Quality, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in potentially significant air quality impacts. However, with

implementation of mitigation measures **MM-AQ-1** through **MM-AQ-4**, construction air quality impacts can be reduced to less than significant levels. Operational air quality impacts for the Village West Drive Extension would be less than significant; however, even with implementation of mitigation measures **MM-AQ-5** through **MM-AQ-18**, the Project's South Campus Specific Plan area operational oxides of nitrogen (NO_x) emissions would exceed established thresholds and operational impacts would be significant and unavoidable.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. As with the proposed Project, construction air quality impacts can be reduced to less than significant with implementation of mitigation. However, overall construction air quality impacts would be reduced under Alternative 1 because Village West Drive Extension would not be graded or constructed. Table 6-4 breaks down operational air quality impacts for both vacant and developed areas within the South Campus Specific Plan, and Table 6-5 summarizes the overall operational air quality associated with Alternative 1 and provides a comparison against impacts of the proposed Project.

Table 6-4. Alternative 1 Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Vacant Land						
Summer						
Area Source	129.33	5.37E-03	0.59	4.00E-05	2.10E-03	2.10E-03
Energy Source	0.29	2.63	2.21	0.02	0.20	0.20
Mobile Source (Passenger Cars)	70.19	244.60	676.76	2.29	216.35	59.17
Mobile Source (Trucks)	6.50	199.57	86.30	1.81	69.34	21.63
On-Site Cargo Handling Equipment	1.31	11.68	9.02	0.04	0.43	0.39
Total Maximum Daily Emissions	207.63	458.48	774.88	4.15	286.32	81.39
Winter						
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	129.33	5.37E-03	0.59	4.00E-05	2.10E-03	2.10E-03
Energy Source	0.29	2.63	2.21	0.02	0.20	0.20
Mobile Source (Passenger Cars)	62.93	253.55	585.70	2.14	216.34	59.16
Mobile Source (Trucks)	6.39	210.11	83.89	1.81	69.33	21.63
On-Site Cargo Handling Equipment	1.31	11.68	9.02	0.04	0.43	0.39
Total Maximum Daily Emissions	200.25	477.98	681.41	4.00	286.29	81.39
Built/Entitled Land						
Summer						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	16.51	20.55	204.22	0.65	73.38	19.70
Mobile Source (Trucks)	10.02	582.06	113.10	3.20	133.06	41.71
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	87.04	613.72	326.26	3.89	206.90	61.84
Winter						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04

Table 6-4. Alternative 1 Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	14.71	21.25	168.89	0.59	73.38	19.70
Mobile Source (Trucks)	9.59	608.33	102.65	3.20	132.99	41.68
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	84.82	640.69	280.48	3.83	206.83	61.81

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

Table 6-5. Alternative 1 and Proposed Project Operational Emissions Comparison

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Vacant Land Uses	207.63	458.48	774.88	4.15	286.32	81.39
Built/Entitled Land Uses	87.04	613.72	326.26	3.89	206.90	61.84
Alternative 1 Total Maximum Daily Emissions	294.67	1,072.20	1,101.14	8.03	493.22	143.23
Proposed Project Total Maximum Daily Emissions	264.56	1,060.88	1,031.44	6.75	432.53	125.45
Comparison (Alternative 1-Project)	+30.11	+11.32	+69.7	+1.28	+60.69	+17.78
Winter						
Vacant Land Uses	200.25	477.98	681.41	4.00	286.29	81.39
Built/Entitled Land Uses	84.82	640.69	280.48	3.83	206.83	61.81
Alternative 1 Total Maximum Daily Emissions	285.07	1,118.67	961.89	7.83	493.12	143.20
Proposed Project Total Maximum Daily Emissions	254.16	1,103.37	904.79	6.56	432.43	125.42
Comparison (Alternative 1-Project)	+30.91	+15.3	+57.1	+1.27	+60.69	+17.78

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

While construction impacts from implementing the proposed Village West Drive Extension would be greater under the proposed Project when compared with Alternative 1, these impacts can be mitigated to a less-than-significant level. Operationally, as shown in Table 6-5, for all criteria air pollutants in both the summer and winter, overall operational air quality impacts would be greater under Alternative 1 when compared to the proposed Project. As such, Alternative 1 would result in increased air quality impacts over the proposed Project.

Biological Resources

As discussed in Section 4.3, Biological Resources, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant biological resources impacts with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4**. Mitigation measure MM-BIO-1

establishes protocols and measures to avoid and/or minimize disturbance of Least Bell's vireo; MM-BIO-2 establishes protocols and measures to avoid and/or minimize disturbance of sensitive habitats and jurisdictional waters, MM-BIO-3 establishes protocols and measures to avoid and/or minimize disturbance of burrowing owls, and MM-BIO-4 establishes protocols and measures to avoid and/or minimize disturbance of nesting birds. Impacts to all other biological resources would be less than significant without the need for mitigation.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. Alternative 1 would result in a net reduction of 15.3 acres of park/open space uses, which would reduce the available habitat for any biological resources known to exist on and/or in the vicinity of the South Campus Specific Plan area. However, Alternative 1 would not include the Village West Drive Extension component of the Project and would therefore not result in disturbance to the currently undeveloped land along the proposed roadway alignment.

As such, since Alternative 1 would reduce the amount of open space within the South Campus Specific Plan area, yet not disturb the proposed roadway alignment, impacts to biological resources for Alternative 1 would be comparable to those associated with the proposed Project and would remain less than significant.

Energy

As discussed in Section 4.4, Energy, buildout of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would result in less than significant energy impacts. Mitigation for air quality and greenhouse gases (GHGs) further reduces the demand for energy and any potential energy impacts.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to those proposed by the Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and differ from the proposed Project. A similar mix of uses would be constructed under Alternative 1; however, as shown in Table 6-6 below, Alternative 1 would generate a notable increase in the number of total vehicle trips thereby resulting in higher energy and petroleum demands. Additionally, the mitigation included for the proposed Project would not be required under Alternative 1. For this reason, Alternative 1 would result in greater energy impacts than those of the proposed Project.

Geology and Soils

As discussed in Section 4.5, Geology and Soils, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measure **MM-GEO-1**, which requires compliance with the geotechnical recommendations contained in the Geotechnical Exploration Update, Proposed Meridian South Campus Phase 1, Tract No. 30857-7, Riverside, California, dated February 11, 2016. Implementation of the Village West Drive Extension would result in less than significant geology and soils impacts.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. Compliance with previous mitigation from the 2003 Focused EIR and would reduce any potentially significant geology and soils impacts within the South Campus Specific Plan area to less than significant levels. Alternative 1 would not result in the buildout of the proposed Village West Drive Extension; as such, no geology and soils impacts would occur in the roadway alignment.

Given that similar impacts would occur within the South Campus Specific Plan area and that no impacts would occur along the Village West Drive Extension alignment, Alternative 1 would result in fewer impacts than the proposed Project. Nonetheless, however, all impacts resulting from the Project would be reduced to less than significant levels with implementation of mitigation.

Greenhouse Gas Emissions

As discussed in Section 4.6, Greenhouse Gas Emissions, implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would result in less than significant GHG emissions. Even though impacts would be less than significant, mitigation measures **MM-GHG-1** through **MM-GHG-14** were incorporated into the Project, thereby resulting in a net reduction of GHG emissions when compared with the 2003 Focused EIR.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. While construction impacts from implementing the proposed Village West Drive Extension would be greater under the proposed Project when compared with Alternative 1, these impacts can be mitigated to a less-than-significant level. Operationally, as shown in Table 6-5, Alternative 1 would result in more operational air quality impacts, including air emissions that contribute to GHG emission impacts. Additionally, Alternative 1 would generate a notable increase in the number of total vehicle trips emitting GHG emissions. Additionally, the mitigation included for the proposed Project would not be required under Alternative 1 and would likely result in substantial GHG reductions not contemplated by Alternative 1. For these reason, Alternative 1 would result in greater GHG impacts than those of the proposed Project.

Hazards and Hazardous Materials

As discussed in Section 4.7, Hazards and Hazardous Materials, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant hazards and hazardous materials impacts. While the Project site is identified as a hazardous materials site pursuant to Government Code Section 65962.5, all identified contamination sites have been resolved or are not within the immediate proximity to the South Campus Specific Plan area. The Village West Drive Extension alignment is not on any identified lists pursuant to Government Code Section 65962.5.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. As such, and as is the case with the proposed Project, hazards and hazardous materials impacts would be less than significant. Alternative 1 would not result in the buildout of the proposed Village West Drive Extension; however, given that the roadway alignment is not located on any identified lists pursuant to Government Code Section 65962.5, there are no hazards or hazardous materials impacts associated with this component of the Project. For these reasons, impacts associated with hazards and hazardous materials under Alternative 1 would be comparable to those of the proposed Project and remain less than significant.

Hydrology and Water Quality

As discussed in Section 4.8, Hydrology and Water Quality, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measures **MM-HYD-1** and **MM-HYD-2**. Mitigation measure MM-HYD-1 requires consistency with the Master Project Specific Water

Quality Management Plan, and MM-HYD-2 requires consistency with the recommendations included within the Preliminary Hydrology and Water Quality Study. Implementation of the Village West Drive Extension would result in beneficial hydrology and water quality impacts associated with roadway improvements and diversion of stormwater into existing and new gutters and storm drain culverts, and the remainder of the hydrology and water quality impacts would be less than significant.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. While Alternative 1 would not be subject to the mitigation measures included for the proposed Project, Alternative 1 would be subject to mitigation measures F-1, F-2, F-3, and A-4 from the 2003 Focused EIR thereby reducing any potentially significant hydrology and water quality impacts within the South Campus Specific Plan area to less than significant levels. Alternative 1 would not result in the buildout of the proposed Village West Drive Extension; as such, no hydrology and water quality impacts would occur along the roadway alignment but the beneficial impacts associated with roadway improvements and diversion of stormwater into existing and new gutters and storm drain culverts would not be realized.

Given that comparable impacts would occur within the South Campus Specific Plan area, but the beneficial impacts of the Village West Drive Extension would not be realized, Alternative 1 would result in greater hydrology and water quality impacts than the proposed Project. Nonetheless, however, all impacts of Alternative 1 would be reduced to less than significant levels with implementation of mitigation from the 2003 Focused EIR.

Land Use and Planning

As discussed in Section 4.9, Land Use and Planning, construction and operation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant land use and planning impacts with the implementation of mitigation related to air quality, biological resources, geology and soils, GHG, hydrology and water quality, and transportation.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. Thus, Alternative 1, which would consist of or the build-out of the South Campus Specific Plan area as currently approved, is entirely consistent with the adopted General Plan and Specific Plan and would therefore result in less than significant land use and planning impacts. Under Alternative 1, Village West Drive Extension would not be implemented; however, the current March JPA General Plan does not envision improvements along this roadway segment. As such, Alternative 1 would result in fewer land use and planning impacts to the proposed Project, and impacts would be less than significant.

Noise

As discussed in Section 4.10, Noise, construction and operational noise and vibration impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and differ from the proposed Project. Because a similar mix of uses would occur within the South Campus Specific Plan area, construction and operational noise would be similar to that of the proposed Project.

and would therefore be less than significant. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 1, there would be no noise and vibration impacts along the Village West Drive alignment. As such, Alternative 1 would result in fewer impacts to noise and vibration when compared to the proposed Project.

Recreation

As discussed in Section 4.11, Recreation, construction and operation of the proposed recreational component of the Project, South Campus Specific Plan, specifically the 6.2-acre dog park and paseo, would result in less than significant impacts related to recreation. Mitigation required for the overall build-out of the Project would also apply to the construction of the dog park and paseo.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. No dog park or paseo would be included with Alternative 1, and therefore no recreational impacts associated with the dog park and paseo would occur. However, the community benefit of this recreational space would also not be achieved. As such, Alternative 1 would result in fewer recreational impacts when compared to the proposed Project.

Transportation

As discussed in Section 4.12, Transportation, construction of the proposed Project would result in significant and unavoidable vehicle miles travelled (VMT) impacts even with implementation of identified improvement and mitigation measures.

Under Alternative 1, South Campus would be built out as currently approved, which includes all previously approved revisions to the 2003 South Campus; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. The Village West Drive Extension would not be implemented. Table 6-6 presents the trip generation rates under Alternative 1, and provides the difference compared to the trips generated by the proposed Project.

Table 6-6. Alternative 1 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Vacant Land Uses									
Office		TSF							
Office	754.296	TSF							
Office Passenger Cars (98%)			621	104	725	119	636	755	7,384
Office Truck Trips (2%)			13	2	15	2	13	15	152
<i>Office Subtotal</i>	<i>754.296</i>	<i>TSF</i>	<i>634</i>	<i>106</i>	<i>740</i>	<i>121</i>	<i>649</i>	<i>770</i>	<i>7,536</i>
Commercial Retail		TSF							
Commercial Retail	95.015	TSF							
<i>Commercial Retail Subtotal</i>	<i>95.015</i>	<i>TSF</i>	<i>124</i>	<i>76</i>	<i>200</i>	<i>251</i>	<i>272</i>	<i>523</i>	<i>5,808</i>
Pass-by Reduction (AM: 0%, PM/Daily: 34%) ³			0	0	0	-85	-85	-170	-1,976
Commercial Passenger Cars (98%)			122	74	196	163	183	346	3,754
Commercial Truck Trips (2%)			2	2	4	3	4	7	78
<i>Commercial Subtotal</i>	<i>95.015</i>	<i>TSF</i>	<i>124</i>	<i>76</i>	<i>200</i>	<i>166</i>	<i>187</i>	<i>353</i>	<i>3,832</i>
Business Park	4,549.624	TSF							
Office (30% of Business Park)	1,364.887	TSF	1,133	177	1,310	218	1,147	1,365	13,390
Office Passenger Cars (98%)			1,110	173	1,283	214	1,124	1,338	13,122
Office Truck Trips (2%)			23	4	27	4	23	27	268
Warehouse (70% of Business Park)	3,184.737	TSF	315	92	407	111	299	410	5,078
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			218	64	282	87	234	321	3,208
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			97	28	125	24	65	89	1,870
<i>Business Park Subtotal</i>	<i>4,549.624</i>	<i>TSF</i>	<i>1,448</i>	<i>269</i>	<i>1,717</i>	<i>329</i>	<i>1,446</i>	<i>1,775</i>	<i>18,468</i>
Warehousing	336.283	TSF							
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			35	10	45	14	39	53	364
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			15	5	20	4	11	15	214
<i>Warehousing Subtotal</i>			<i>50</i>	<i>15</i>	<i>65</i>	<i>18</i>	<i>50</i>	<i>68</i>	<i>578</i>
<i>Industrial Subtotal</i>	<i>336.283</i>	<i>TSF</i>	<i>50</i>	<i>15</i>	<i>65</i>	<i>18</i>	<i>50</i>	<i>68</i>	<i>578</i>
Vacant Land Uses Passenger Car Trips			2,106	425	2,531	597	2,216	2,813	27,832
Vacant Land Uses Truck Trips			150	41	191	37	116	153	2,582
Vacant Land Uses Total Trips ²			2,256	466	2,722	634	2,332	2,966	30,414

Table 6-6. Alternative 1 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Built/Entitled Land Uses									
LGB6 (Building A) ⁴	1,000.000	TSF							
LGB6 (Building A) Passenger Cars			222	87	309	127	235	362	2,306
LGB6 (Building A) Truck Trips			57	22	79	33	60	93	592
<i>LGB6 (Building A) Subtotal</i>			279	109	388	160	295	455	2,898
Parcel Delivery Site (Building B + Parking Lot) ⁵	1,000.000	TSF							
Parcel Delivery Site (Building B + Parking Lot) Passenger Cars			341	132	473	221	410	631	2,952
Parcel Delivery Site (Building B + Parking Lot) Truck Trips			151	59	210	61	113	174	1,720
<i>Parcel Delivery Site (Building B + Parking Lot) Subtotal</i>			492	191	683	282	523	805	4,672
Commercial (Parcel 72) ⁶	15.485	TSF							
Commercial Passenger Cars (98%)			65	56	121	66	71	137	1,534
Commercial Truck Trips (2%)			64	55	119	65	70	135	1,502
Warehousing (Building C) ⁶	500.000	TSF							
Warehousing (Building C) Passenger Cars			1	1	2	1	1	2	32
Warehousing (Building C) Truck Trips			46	14	60	20	54	74	550
<i>Warehousing (Building C) Subtotal</i>			21	6	27	5	15	20	320
<i>Warehousing (Building C) Subtotal</i>			67	20	87	25	69	94	870
Built/Entitled Passenger Car Trips			673	288	961	433	769	1,202	7,310
Built/Entitled Truck Trips			230	88	318	100	189	289	2,664
Built/Entitled Total Trips²			903	376	1,279	533	958	1,491	9,974
Vacant + Built/Entitled Passenger Car Trips			2,779	713	3,492	1,030	2,985	4,015	35,142
Vacant + Built/Entitled Truck Trips			380	129	509	137	305	442	5,246
<i>Vacant + Built/Entitled Subtotal Trips²</i>			3,159	842	4,001	1,167	3,290	4,457	40,388
Vacant + Built/Entitled Passenger Car Trips (With 10% Internal Trip Reduction)			2,501	642	3,143	927	2,687	3,614	31,628
Vacant + Built/Entitled Truck Trips (With 10% Internal Trip Reduction)			342	116	458	123	275	398	4,722
<i>Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction)</i>			2,843	758	3,601	1,050	2,961	4,011	36,350
Previous EIR Ph. III Trips			2,965	648	3,613	808	2,907	3,715	31,267

Table 6-6. Alternative 1 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Previous EIR Ph. III Passenger Car Trips (92.6%) (With 10% Internal Trip Reduction)			2,471	540	3,011	673	2,423	3,096	26,058
Previous EIR Ph. III Truck Trips (7.4%) (With 10% Internal Trip Reduction)			197	43	240	54	194	248	2,082
<i>Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)</i>			<i>2,668</i>	<i>583</i>	<i>3,251</i>	<i>727</i>	<i>2,617</i>	<i>3,344</i>	<i>28,140</i>
Alternative 1 Net Passenger Car Trips ⁷			30	102	132	254	264	518	5,570
Alternative 1 Net Truck Trips ⁷			145	73	218	69	81	150	2,640
Alternative 1 Net Trip Generation ⁷			175	175	350	323	344	667	8,210
Proposed Project Net Trip Generation			-611	118	-493	444	-286	159	3,284
Variance (Alternative 1-Project)			786	57	843	-121	630	508	4,926

Notes:

- ¹ AC = Acres; TSF = Thousand Square Feet
- ² Total Trips (Actual Vehicles) = Passenger Cars + Truck Trips (Actual Trucks).
- ³ Pass-by reduction percentage consistent with ITE Trip Generation Handbook, 3rd Edition (2017)
- ⁴ Source: LGB6 Project Substantial Conformance Traffic Assessment (November 13, 2017, prepared by Urban Crossroads, Inc.)
- ⁵ Source: Meridian South Parcel Delivery Traffic Impact Study Report (August 2017, prepared by VRPA Technologies, Inc.)
- ⁶ Source: Meridian South Campus Addendum #3 Focused Traffic Impact Analysis (August 15, 2018, prepared by Urban Crossroads, Inc.)
- ⁷ Alternative 1 = Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction) - Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)

As shown in Table 6-6, while the proposed Project would result in an increase of 3,284 total daily vehicle trips compared to 2003 Approved South Campus uses, Alternative 1 would result in an increase of 8,210 total daily vehicle trips compared to 2003 Approved South Campus uses, which is 4,926 more trips than would occur under the proposed Project. For this reason, the uses proposed under Alternative 1, would result in greater overall transportation impacts when compared with those of the proposed Project.

Tribal Cultural Resources

As discussed in Section 4.13, Tribal Cultural Resources, impacts to tribal cultural resources with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. The Village West Drive Extension would not be implemented. With Alternative 1, less open space would exist within the South Campus Specific Plan area, however because Village West Drive Extension would not be disturbed, the overall potential to unearth and/or affect tribal cultural resources would be comparable to the proposed Project. As such, comparable tribal cultural resources impacts would occur under Alternative 1, and impacts would remain less than significant.

Utilities and Service Systems

As discussed in Section 4.14, Utilities and Service Systems, impacts to utilities with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use, the locations and configurations of the parcels would remain as currently zoned and differ from the proposed Project. As with the proposed Project, Alternative 1 would result in less than significant utilities and service systems impacts; however, with the elimination of the Village West Drive Extension under Alternative 1, fewer overall utilities and service systems impacts would occur and impacts would remain less than significant.

Wildfire

As discussed in Section 4.15, Wildfire, wildfire impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 1, South Campus would be built out as currently approved; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently approved and would therefore differ from the proposed Project. Alternative 1 would not result in the buildout of the proposed Village West Drive Extension, which has the potential to result in serve as a beneficial impact by serving as a buffer in an area that is surrounded by undeveloped land on each side. However, given that all wildfire impacts associated with the construction and operation of this roadway would be less than significant, impacts associated with wildfire under Alternative 1 would be comparable to those of the proposed Project and remain less than significant.

6.4.2.2 Project Objectives

Under Alternative 1, South Campus would be built out as provided for in the currently approved South Campus Specific Plan; while many of the uses are similar to the proposed Project, the proportion of each use and the locations and configurations of the parcels would remain as currently zoned and differ from the proposed Project. Alternative 1 would not result in the construction of the proposed Village West Drive Extension. Table 6-7 provides a list of the Project objectives and whether Alternative 1 meets each objective.

Table 6-7. Summary of Alternative 1 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Respond to community requests for community serving land uses, including a dog park, additional retail uses, such as restaurants and stores.	Partially. As currently approved, the South Campus Specific Plan does include 3.5-acre commercial retail component and additional areas within the Specific Plan designated for commercial use. However, no land use designation is provided for a dog park and a grocery store is not a currently permitted land use. As such, implementation of Alternative 1 would partially meet this Project objective by providing the already approved community serving retail uses but not include the provision of the proposed dog park or allow for the buildout of the newly proposed grocery store.
Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.	No. As discussed in the environmental analysis above, Alternative 1 would reduce some impacts when compared to the proposed Project; however, many of the impacts would be greater than those of the proposed Project. As such, Alternative 1 would not achieve this Project objective.
Site community serving uses in locations easily accessible from Van Buren Boulevard.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would site community service uses, including commercial, office and business park uses, in locations easily accessible from Van Buren Boulevard. Alternative 1 achieves this Project objective.
Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan. Alternative 1 achieves this Project objective.
Implement the goals, objectives and policies of the March JPA General Plan.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would implement the goals, objectives and policies of the March JPA General Plan. Alternative 1 achieves this Project objective.
Provide increased job opportunities for local residents through the provision of employment-generating businesses.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would provide increased job opportunities for local residents through the provision of employment-generating businesses. Alternative 1 achieves this Project objective.

Table 6-7. Summary of Alternative 1 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Establish a land use and facility plan that ensures Project viability in consideration of existing and anticipated economic conditions.	Partially. Buildout of the currently approved Specific Plan under Alternative 1 would establish a land use and facility plan that partially ensures Project viability in consideration of existing and anticipated economic conditions. Alternative 1 would include more office and business park uses than the proposed Project and therefore provide fewer industrial opportunities. Nonetheless, Alternative 1 partially achieves this Project objective but not to the same degree as the proposed Project.
Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable. Alternative 1 achieves this Project objective.
Provide a range of job types for the community's residents.	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would provide a range of job types. Alternative 1 achieves this Project objective.
Minimize impacts from construction of the development to sensitive biological resources.	Partially. Alternative 1 would result in less open space when compared to the proposed Project, thereby potentially increasing impacts to biological resources. However, Alternative 1 would not include the Village West Drive Extension component of the Project, and as such, fewer biological resources impacts would occur along the roadway alignment. Alternative 1 partially achieves this Project objective.
Implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in <i>Center for Biological Diversity v. Jim Bartel, et al.</i>	Yes. Buildout of the currently approved Specific Plan under Alternative 1 would implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement, which required that 664 acres of lands be placed into conservation easement to offset potential species habitat losses due to development of the Project site and other developable lands, entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in <i>Center for Biological Diversity v. Jim Bartel, et al.</i> Alternative 1 achieves this Project objective.

6.4.3 Alternative 2 – South Campus Re-Entitlement Only

Under Alternative 2, the South Campus Re-Entitlement Only Alternative, the build out of the remainder of the South Campus Specific Plan area would occur in a manner identical to the proposed Project; however, no Village West Drive Extension would occur. As such, the following would occur under Alternative 2 build-out conditions.

Table 6-8. Alternative 2 Build-Out Land Uses

Use	Alternative 2 (acres)	Proposed Project (acres)	Alternative 2 vs. Proposed Project (acres)
Office	4.6	4.6	0

Table 6-8. Alternative 2 Build-Out Land Uses

Use	Alternative 2 (acres)	Proposed Project (acres)	Alternative 2 vs. Proposed Project (acres)
Commercial	23.5	23.5	0
Mixed Use	27.8	27.8	0
Business Park	170.8	170.8	0
Industrial	200.3	200.3	0
Park/Open Space	140.3	140.3	0
Public Facilities	0.9	0.9	0
Total Net Acres	568.2	568.2	0

6.4.3.1 Environmental Analysis

Aesthetics

As discussed in Section 4.1, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would not substantially degrade the existing visual character or quality of public views of the site and its surroundings or conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, implementation of Alternative 2 would result in less than significant aesthetic impacts. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 2, the potential changes to visual character and quality would be reduced when compared to the proposed Project. As such, Alternative 2 would result in fewer aesthetic impacts than the proposed Project since no visual changes would occur along the Village West Drive alignment. All aesthetic impacts remain less than significant.

Air Quality

As discussed in Section 4.2, Air Quality, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in potentially significant air quality impacts. However, with implementation of mitigation measures **MM-AQ-1** through **MM-AQ-4**, construction air quality impacts can be reduced to less-than-significant levels. Operational air quality impacts for the Village West Drive Extension would be less than significant; however, even with implementation of mitigation measures **MM-AQ-5** through **MM-AQ-18**, South Campus Specific Plan area operational NO_x emissions would exceed established thresholds and operational impacts would be significant and unavoidable.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. While construction of the Village West Drive Extension would result in air quality impacts under the proposed Project, those impacts can be mitigated to less than significant through implementation of mitigation measures applicable to the entire Project. However, overall construction air quality impacts would be reduced under Alternative 2 because Village West Drive Extension would not be graded or constructed. Table 6-9 breaks down operational air quality impacts for both vacant and developed

areas within the South Campus, and Table 6-10 summarizes the overall operational air quality associated with Alternative 2 and provides a comparison against impacts of the proposed Project.

Table 6-9. Alternative 2 Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Vacant Land						
Summer						
Area Source	95.78	3.99E-03	0.44	3.00E-05	1.56E-03	1.56E-03
Energy Source	1.25	11.33	9.52	0.07	0.86	0.86
Mobile Source (Passenger Cars)	75.72	249.12	647.17	2.09	197.61	54.00
Mobile Source (Trucks)	3.58	176.01	39.78	0.67	26.76	8.39
On-Site Cargo Handling Equipment	1.20	10.70	8.26	0.03	0.39	0.36
Total Maximum Daily Emissions	177.52	447.16	705.18	2.86	225.63	63.61
Winter						
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	95.78	3.99E-03	0.44	3.00E-05	1.56E-03	1.56E-03
Energy Source	1.25	11.33	9.52	0.07	0.86	0.86
Mobile Source (Passenger Cars)	67.76	257.85	567.83	1.95	197.60	54.00
Mobile Source (Trucks)	3.35	182.79	38.26	0.67	26.75	8.39
On-Site Cargo Handling Equipment	1.20	10.70	8.26	0.03	0.39	0.36
Total Maximum Daily Emissions	169.34	462.68	624.31	2.73	225.61	63.61
Built/Entitled Land						
Summer						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	16.51	20.55	204.22	0.65	73.38	19.70
Mobile Source (Trucks)	10.02	582.06	113.10	3.20	133.06	41.71
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	87.04	613.72	326.26	3.89	206.90	61.84
Winter						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	14.71	21.25	168.89	0.59	73.38	19.70
Mobile Source (Trucks)	9.59	608.33	102.65	3.20	132.99	41.68
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	84.82	640.69	280.48	3.83	206.83	61.81

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

Table 6-10. Alternative 2 and Proposed Project Operational Emissions Comparison

Emissions Source	Total Operational-Source Emissions (lbs/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Vacant Land Uses	177.52	447.16	705.18	2.86	225.63	63.61
Built/Entitled Land Uses	87.04	613.72	326.26	3.89	206.90	61.84
Alternative 2 Total Maximum Daily Emissions	264.56	1,060.88	1,031.44	6.75	432.53	125.45
Proposed Project Total Maximum Daily Emissions	264.56	1,060.88	1,031.44	6.75	432.53	125.45
Comparison (Alternative 2-Project)	0	0	0	0	0	0
Winter						
Vacant Land Uses	169.34	462.68	624.31	2.73	225.61	63.61
Built/Entitled Land Uses	84.82	640.69	280.48	3.83	206.83	61.81
Alternative 2 Total Maximum Daily Emissions	254.16	1,103.37	904.79	6.56	432.43	125.42
Proposed Project Total Maximum Daily Emissions	254.16	1,103.37	904.79	6.56	432.43	125.42
Comparison (Alternative 2-Project)	0	0	0	0	0	0

Source: Table 4.2-14 in Section 4.2 of this SEIR.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

As shown in Table 6-10, for all criteria air pollutants in both the summer and winter, impacts would be the same under Alternative 2 when compared to the proposed Project. As such, because Alternative 2 would not include the construction air quality impacts associated with the Village West Drive Extension, Alternative 2 would result in fewer construction air quality impacts over the proposed Project and comparable operational air quality impacts. Because all construction air quality impacts for both the proposed Project and Alternative 2 can all be reduced to less than significant with mitigation, generally Alternative 2 would result in the same air quality impacts as the proposed Project overall.

Biological Resources

As discussed in Section 4.3, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant biological resources impacts with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4**. Mitigation measure MM-BIO-1 establishes protocols and measures to avoid and/or minimize disturbance of Least Bell's vireo; MM-BIO-2 establishes protocols and measures to avoid and/or minimize disturbance of sensitive habitat and jurisdictional waters, MM-BIO-3 establishes protocols and measures to avoid and/or minimize disturbance of burrowing owls, and MM-BIO-4 establishes protocols and measures to avoid and/or minimize disturbance of nesting birds. Impacts to all other biological resources would be less than significant without the need for mitigation.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, implementation of Alternative 2 would result in less than significant biological resources impacts with implementation of mitigation measures

MM-BIO-1 through MM-BIO-3. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 2, there would be no biological resources impacts along the Village West Drive alignment. As such, Alternative 2 would result in fewer impacts to biological resources when compared to the proposed Project.

Energy

As discussed in Section 4.4, buildout of the proposed Project, both the South Campus Specific Plan and Village West Drive Extension, would result in less than significant energy impacts. Mitigation for air quality and GHG further reduces the demand for energy and any potential energy impacts.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. Because the same mix of uses would be constructed under Alternative 2, energy demands would be similar to those of the proposed Project. Therefore, less-than-significant energy impacts would occur.

Geology and Soils

As discussed in Section 4.5, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measure **MM-GEO-1**, which requires compliance with the geotechnical recommendations contained in the Geotechnical Exploration Update, Proposed Meridian South Campus Phase 1, Tract No. 30857-7, Riverside, California, dated February 11, 2016. Implementation of the Village West Drive Extension would result in less-than-significant geology and soils impacts and not require any mitigation measures.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, implementation of Alternative 2 would result in less than significant geology and soils impacts with implementation of mitigation measure MM-GEO-1. As discussed in Section 4.5 and above, the Village West Drive Extension component of the proposed Project would not result in significant impacts and would not require mitigation. As such, even though Alternative 2 would result in less overall ground disturbance, the same impacts to geology and soils when compared to the proposed Project would occur, and impacts would remain less than significant with mitigation.

Greenhouse Gas Emissions

As discussed in Section 4.6, implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would result in less than significant GHG emissions. Even though impacts would be less than significant, mitigation measures **MM-GHG-1** through **MM-GHG-14** were incorporated into the Project, thereby resulting in a net reduction of GHG emissions when compared with the 2003 Approved South Campus.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, implementation of Alternative 2 would result in less than significant GHG impacts. Elimination of the Village West Drive Extension component of the Project would not result in a material change to the overall operational GHG emissions generated by the Project, and as discussed in Section 4.2 and above, construction impacts can all be mitigated to less than significant; and as such, Alternative 2 would result in comparable GHG impacts to those of the proposed Project.

Hazards and Hazardous Materials

As discussed in Section 4.7, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant hazards and hazardous materials impacts. While the Project site is identified as a hazardous materials site pursuant to Government Code Section 65962.5, all identified contamination sites have been resolved or are not within the immediate proximity to the South Campus Specific Plan area. The Village West Drive Extension alignment is not on any identified lists pursuant to Government Code Section 65962.5.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, hazards and hazardous materials impacts would be less than significant. Alternative 2 would not result in the buildout of the proposed Village West Drive Extension; however, given that the roadway alignment is not located on any identified lists pursuant to Government Code Section 65962.5, no hazards or hazardous materials impacts associated with this component of the Project would be avoided. For these reasons, impacts associated with hazards and hazardous materials under Alternative 2 would be comparable to those of the proposed Project and remain less than significant.

Hydrology and Water Quality

As discussed in Section 4.8, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measures **MM-HYD-1** and **MM-HYD-2**. Mitigation measure MM-HYD-1 requires consistency with the Master Project Specific Water Quality Management Plan, and MM-HYD-2 requires consistency with the recommendations included within the Preliminary Hydrology and Water Quality Study. Implementation of the Village West Drive Extension would result in beneficial hydrology and water quality impacts associated with roadway improvements and diversion of stormwater into existing and new gutters and storm drain culverts, and the remainder of the hydrology and water quality impacts would be less than significant.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, implementation of Alternative 2 would result in less than significant hydrology and water quality impacts with implementation of mitigation measures MM-HYD-1 and MM-HYD-2. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 2, there would be no hydrology and water quality impacts along the Village West Drive alignment, but the beneficial impacts associated with roadway improvements and diversion of stormwater into existing and new gutters and storm drain culverts would not be realized.

Given that comparable impacts would occur within the South Campus Specific Plan area but the beneficial impacts would not be realized, Alternative 2 would result in greater hydrology and water quality impacts than the proposed Project. Nonetheless, however, all impacts would be reduced to less than significant levels with implementation of mitigation.

Land Use and Planning

As discussed in Section 4.9, construction and operation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant land use and planning impacts with the implementation of mitigation related to air quality, biological resources, geology and soils, GHG, hydrology and water quality, and transportation.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, with implementation of mitigation, Alternative 2 would result in less than significant land use and planning impacts. Under Alternative 2, Village West Drive

Extension would not be implemented; however, the current March JPA General Plan does not envision improvements along this roadway segment. As such, Alternative 2 would result in comparable land use and planning impacts to the proposed Project, and impacts would be less than significant with incorporation of mitigation.

Noise

As discussed in Section 4.10, construction and operational noise and vibration impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, noise and vibration impacts would be less than significant. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 2, there would be no noise and vibration impacts along the Village West Drive alignment. As such, Alternative 2 would result in fewer impacts to noise and vibration when compared to the proposed Project.

Recreation

As discussed in Section 4.11, construction and operation of the proposed recreational component of the South Campus Specific Plan, specifically the 6.2-acre dog park and paseo, would result in less than significant impacts related to recreation. Mitigation required for the overall build-out of the Project would also apply to the construction of the dog park and paseo.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As such, Alternative 2 would still include the proposed dog park and paseo and would result in the same, less than significant, recreation impacts as the proposed Project.

Transportation

As discussed in Section 4.12, construction of the proposed Project would result in significant and unavoidable VMT impacts even with implementation of identified improvement and mitigation measures.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. Table 6-11 presents the trip generation rates under Alternative 2, and provides the difference compared to the trips generated by the proposed Project.

Table 6-11. Alternative 2 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Vacant Land Uses									
Office	70.132	TSF							
Office (75% of Mixed Use)	317.879	TSF							
Office Passenger Cars (98%)			331	53	384	65	338	403	3,874
Office Truck Trips (2%)			7	1	8	1	7	8	80
<i>Office Subtotal</i>	<i>388.011</i>	<i>TSF</i>	<i>338</i>	<i>54</i>	<i>392</i>	<i>66</i>	<i>345</i>	<i>411</i>	<i>3,954</i>
Commercial Retail	115.434	TSF							
Commercial Retail (25% of Mixed Use)	105.960	TSF							
<i>Commercial Retail Subtotal</i>	<i>221.394</i>	<i>TSF</i>	<i>164</i>	<i>100</i>	<i>264</i>	<i>469</i>	<i>509</i>	<i>978</i>	<i>10,322</i>
Pass-by Reduction (AM: 0%, PM/Daily: 34%) ³			0	0	0	-159	-159	-318	-3,510
Commercial (Grocery Store)	61.336	TSF	145	89	234	277	266	543	5,562
Pass-by Reduction (AM: 0%, PM/Daily: 36%) ³			0	0	0	-96	-96	-192	-2,004
Commercial Passenger Cars (98%)			303	185	488	481	510	991	10,162
Commercial Truck Trips (2%)			6	4	10	10	10	20	208
<i>Commercial Subtotal</i>	<i>282.730</i>	<i>TSF</i>	<i>309</i>	<i>189</i>	<i>498</i>	<i>491</i>	<i>520</i>	<i>1,011</i>	<i>10,370</i>
Business Park	1,764.180	TSF							
Office (30% of Business Park)	529.254	TSF	450	74	524	90	466	556	5,342
Office Passenger Cars (98%)			441	73	514	88	457	545	5,234
Office Truck Trips (2%)			9	1	10	2	9	11	108
Warehouse (70% of Business Park)	1,234.926	TSF	133	40	173	47	128	175	1,998
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			92	28	120	37	100	137	1,262
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			41	12	53	10	28	38	736
<i>Business Park Subtotal</i>	<i>1,764.180</i>	<i>TSF</i>	<i>583</i>	<i>114</i>	<i>697</i>	<i>137</i>	<i>594</i>	<i>731</i>	<i>7,340</i>
Industrial	1,774.437	TSF							
Warehousing	274.437	TSF							
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			31	9	40	13	34	47	302
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			14	4	18	3	10	13	178
<i>Warehousing Subtotal</i>			<i>45</i>	<i>13</i>	<i>58</i>	<i>16</i>	<i>44</i>	<i>60</i>	<i>480</i>

Table 6-11. Alternative 2 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage Warehouse	700.000	TSF							
Cold Storage Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			41	12	53	18	48	66	1,000
Cold Storage Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			18	6	24	5	13	18	584
<i>High-Cube Cold Storage Warehouse Subtotal</i>			59	18	77	23	61	84	1,584
High-Cube Transload Short-Term Warehouse (Building D)	800.000	TSF							
High-Cube Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			34	10	44	17	45	63	706
High-Cube Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			15	5	20	5	13	17	414
<i>High-Cube Warehousing Subtotal</i>			49	15	64	22	58	80	1,120
<i>Industrial Subtotal</i>	1,774.437	TSF	153	46	199	61	163	224	3,184
Dog Park & Paseo	6.200	AC	0	0	0	13	10	23	94
Vacant Land Uses Passenger Car Trips			1,273	370	1,643	732	1,542	2,275	22,634
Vacant Land Uses Truck Trips			110	33	143	36	90	125	2,308
Vacant Land Uses Total Trips²			1,383	403	1,786	768	1,632	2,400	24,942
Built/Entitled Land Uses									
LGB6 (Building A)⁴	1,000.000	TSF							
LGB6 (Building A) Passenger Cars			222	87	309	127	235	362	2,306
LGB6 (Building A) Truck Trips			57	22	79	33	60	93	592
<i>LGB6 (Building A) Subtotal</i>			279	109	388	160	295	455	2,898
Parcel Delivery Site (Building B + Parking Lot)⁵	1,000.000	TSF							
Parcel Delivery Site (Building B + Parking Lot) Passenger Cars			341	132	473	221	410	631	2,952
Parcel Delivery Site (Building B + Parking Lot) Truck Trips			151	59	210	61	113	174	1,720
<i>Parcel Delivery Site (Building B + Parking Lot) Subtotal</i>			492	191	683	282	523	805	4,672
Commercial (Parcel 72)⁶	15.485	TSF	65	56	121	66	71	137	1,534
Commercial Passenger Cars (98%)			64	55	119	65	70	135	1,502
Commercial Truck Trips (2%)			1	1	2	1	1	2	32
Warehousing (Building C)⁶	500.000	TSF							
Warehousing (Building C) Passenger Cars			46	14	60	20	54	74	550
Warehousing (Building C) Truck Trips			21	6	27	5	15	20	320

Table 6-11. Alternative 2 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Warehousing (Building C) Subtotal			67	20	87	25	69	94	870
Built/Entitled Passenger Car Trips			673	288	961	433	769	1,202	7,310
Built/Entitled Truck Trips			230	88	318	100	189	289	2,664
Built/Entitled Total Trips²			903	376	1,279	533	958	1,491	9,974
Vacant + Built/Entitled Passenger Car Trips			1,946	658	2,604	1,165	2,311	3,477	29,944
Vacant + Built/Entitled Truck Trips			340	121	461	136	279	414	4,972
<i>Vacant + Built/Entitled Subtotal Trips²</i>			<i>2,286</i>	<i>779</i>	<i>3,065</i>	<i>1,301</i>	<i>2,590</i>	<i>3,891</i>	<i>34,916</i>
Vacant + Built/Entitled Passenger Car Trips (With 10% Internal Trip Reduction)			1,751	592	2,344	1,049	2,080	3,129	26,950
Vacant + Built/Entitled Truck Trips (With 10% Internal Trip Reduction)			306	109	415	122	251	374	4,476
Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction)			2,057	701	2,759	1,171	2,331	3,503	31,426
Previous EIR Ph. III Trips			2,965	648	3,613	808	2,907	3,715	31,267
Previous EIR Ph. III Passenger Car Trips (92.6%) (With 10% Internal Trip Reduction)			2,471	540	3,011	673	2,423	3,096	26,058
Previous EIR Ph. III Truck Trips (7.4%) (With 10% Internal Trip Reduction)			197	43	240	54	194	248	2,082
Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)			2,668	583	3,251	727	2,617	3,344	28,140
Alternative 2 Net Passenger Car Trips ⁷			-720	52	-667	376	-343	33	892
Alternative 2 Net Truck Trips ⁷			109	66	175	68	57	126	2,394
Alternative 2 Net Trip Generation ⁷			-611	118	-493	444	-286	159	3,286
Proposed Project Net Trip Generation			-611	118	-493	444	-286	159	3,284
Variance (Alternative 2-Project)			0	0	0	0	0	0	0

Notes:

¹ AC = Acres; TSF = Thousand Square Feet

² Total Trips (Actual Vehicles) = Passenger Cars + Truck Trips (Actual Trucks).

³ Pass-by reduction percentage consistent with ITE *Trip Generation Handbook*, 3rd Edition (2017)

⁴ Source: *LGB6 Project Substantial Conformance Traffic Assessment* (November 13, 2017, prepared by Urban Crossroads, Inc.)

⁵ Source: *Meridian South Parcel Delivery Traffic Impact Study Report* (August 2017, prepared by VRPA Technologies, Inc.)

⁶ Source: *Meridian South Campus Addendum #3 Focused Traffic Impact Analysis* (August 15, 2018, prepared by Urban Crossroads, Inc.)

⁷ Alternative 2 = Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction) - Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)

As shown in Table 6-11, while the proposed Project would result in an increase in 3,284 total daily vehicle trips over 2003 Focused EIR uses, Alternative 2 would result the exact same increase as the proposed Project because the same uses would be constructed. For this reason, Alternative 2 would result in the same transportation impacts when compared with those of the proposed Project.

Tribal Cultural Resources

As discussed in Section 4.13, impacts to tribal cultural resources with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. Because Village West Drive Extension would not be disturbed, the overall potential to unearth and/or affect tribal cultural resources would be less when compared to the proposed Project. As such, fewer tribal cultural resources impacts would occur under Alternative 2, and impacts would remain less than significant.

Utilities and Service Systems

As discussed in Section 4.14, impacts to utilities with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. As with the proposed Project, Alternative 2 would result in less than significant utilities and service systems impacts; however, with the elimination of the Village West Drive Extension under Alternative 2, fewer overall utilities and service systems impacts would occur and impacts would remain less than significant.

Wildfire

As discussed in Section 4.15, wildfire impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. Alternative 2 would not result in the buildout of the proposed Village West Drive Extension, which has the potential to serve as a beneficial impact by serving as a buffer in an area that is surrounded by undeveloped land on each side; however, given that all wildfire impacts associated with this roadway would be less than significant absent the improvements contemplated by the Project, impacts associated with wildfire under Alternative 2 would be comparable to those of the proposed Project and remain less than significant.

6.4.3.2 Project Objectives

Under Alternative 2, South Campus would be built out in the same manner as the proposed Project; however, the Village West Drive Extension would not be implemented. Table 6-12 provides a list of the Project objectives and whether Alternative 2 meets each objective.

Table 6-12. Summary of Alternative 2 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Respond to community requests for community serving land uses, including a dog park, additional retail uses, such as restaurants and stores.	Yes. Alternative 2 would provide all the same uses as the proposed Project and be responsive to community requests; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.
Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.	Yes. Alternative 2 would provide all the same mix of uses as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.
Site community serving uses in locations easily accessible from Van Buren Boulevard.	Yes. Alternative 2 would provide all the same uses as the proposed Project including siting community servicing uses at locations easily accessible from Van Buren Boulevard. The only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.
Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.	Yes. Alternative 2 would provide all the same land use intensities as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. The land use intensities provided would comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan. As such, Alternative 2 would fully achieve this Project objective.
Implement the goals, objectives and policies of the March JPA General Plan.	Yes. Alternative 2 would provide all the same uses as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. The extension of Village West Drive to provide a through connection between Van Buren Boulevard and Nandina Avenue was not envisioned within the March JPA General Plan. As such, Alternative 2 implement all goals, objectives, and policies of the March JPA General Plan and would fully achieve this Project objective.
Provide increased job opportunities for local residents through the provision of employment-generating businesses.	Yes. Alternative 2 would provide all the same uses and the same job opportunities as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.
Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.	Yes. Alternative 2 would establish the same land use plan as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.

Table 6-12. Summary of Alternative 2 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable.	Yes. Alternative 2 would provide all the same uses in the same locations as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would include the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable and would therefore fully achieve this Project objective.
Provide a range of job types for the community's residents.	Yes. Alternative 2 would provide all the same uses and the same job opportunities as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.
Minimize impacts from construction of the development to sensitive biological resources.	Yes. Alternative 2 would provide all the same uses in the same locations as the proposed Project; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would minimize impacts from construction to the same extent as the proposed Project, and would therefore fully achieve this Project objective.
Implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in <i>Center for Biological Diversity v. Jim Bartel, et al.</i>	Yes. Alternative 2 would implement the terms and conditions agreed upon in the Settlement Agreement, which required that 664 acres of lands be placed into conservation easement to offset potential species habitat losses due to development of the Project site and other developable lands; the only difference is that the proposed Village West Drive Extension would not be implemented. As such, Alternative 2 would fully achieve this Project objective.

6.4.4 Alternative 3 – Business Park

Under Alternative 3, Business Park, the build out of the remainder of the South Campus Specific Plan area, with the exception of the 9.4-acre proposed Grocery Store, would occur as Business Park uses. The existing Open Space/Park (i.e., park and trail system, conservation easement, basin), Industrial and Commercial projects which have been constructed/entitled, as noted in Table 6-2, would remain, as would the Industrial and Commercial land use designations for those sites. As such, the following would occur under Alternative 3 build-out conditions

Table 6-13. Alternative 3 Build-Out Land Uses

Use	Alternative 3 (acres)	Proposed Project (acres)	Alternative 3 vs. Proposed Project (acres)
Office	0	4.6	-4.6
Commercial	12.9	23.5	-10.6

Table 6-13. Alternative 3 Build-Out Land Uses

Use	Alternative 3 (acres)	Proposed Project (acres)	Alternative 3 vs. Proposed Project (acres)
Mixed Use	0	27.8	-27.8
Business Park	306.44	170.8	+135.64
Industrial	119.06	200.3	-81.24
Park/Open Space	129.8	140.3	-10.5
Public Facilities	0	0.9	-0.9
Total Net Acres	568.2	568.2	0

As such, Alternative 3 would result in the following differences when compared to the proposed Project:

- Increase in 135.64 acres of Business Park use
- Reduction in 4.6 acres of Office use
- Reduction in 10.6 acres of Commercial use
- Reduction in 27.8 acres of Mixed Use
- Reduction in 81.24 acres of Industrial use
- Reduction in 10.5 acres of Park/Open Space use
- Reduction in 0.9 acres of Public Facilities use

Additionally, under Alternative 3, the proposed Village West Drive Extension would not be implemented.

6.4.4.1 Environmental Analysis

Aesthetics

As discussed in Section 4.1, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would not substantially degrade the existing visual character or quality of public views of the site and its surroundings or conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Additionally, Alternative 3 would result in a net reduction of 10.5 acres of park/open space uses, which is typically considered to be aesthetically pleasing. As with the proposed Project, implementation of Alternative 3 would result in less than significant aesthetic impacts; however, with the reduction in the amount of parks and open space, there is the potential that the more developed nature of the Project site would result in more negative aesthetic changes than the proposed Project. As such, because of the reduction in the amount of visually appealing open space when compared to the proposed Project, Alternative 3 would result in greater impacts to the aesthetic character than the proposed Project.

Air Quality

As discussed in Section 4.2, Air Quality, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in potentially significant air quality impacts. However, with implementation of mitigation measures **MM-AQ-1** through **MM-AQ-4**, construction air quality impacts can be reduced to less than significant levels. Operational air quality impacts for the Village West Drive Extension would be less than significant; however, even with implementation of mitigation measures **MM-AQ-5** through **MM-AQ-18**, South Campus Specific Plan area operational NO_x emissions would exceed established thresholds and operational impacts would be significant and unavoidable.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. As with the proposed Project, construction air quality impacts can be reduced to less than significant with implementation of mitigation. However, overall construction air quality impacts would be reduced under Alternative 3 because Village West Drive Extension would not be graded or constructed. Table 6-14 breaks operational air quality impacts for both vacant and developed areas within the South Campus, and Table 6-15 summarizes the overall operational air quality associated with Alternative 3 and provides a comparison against impacts of the proposed Project.

Table 6-14. Alternative 3 Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Vacant Land						
Summer						
Area Source	141.11	5.85E-03	0.64	5.00E-05	2.29E-03	2.29E-03
Energy Source	0.32	2.95	2.48	0.02	0.22	0.22
Mobile Source (Passenger Cars)	87.12	287.53	749.69	2.43	228.60	62.51
Mobile Source (Trucks)	6.98	385.01	78.41	1.92	79.31	24.86
On-Site Cargo Handling Equipment	1.64	14.60	11.27	0.05	0.53	0.49
Total Maximum Daily Emissions	237.17	690.09	842.49	4.42	308.68	88.09
Winter						
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	141.11	5.85E-03	0.64	5.00E-05	2.29E-03	2.29E-03
Energy Source	0.32	2.95	2.48	0.02	0.22	0.22
Mobile Source (Passenger Cars)	77.99	297.70	657.63	2.27	228.59	62.51
Mobile Source (Trucks)	6.64	401.64	72.56	1.92	79.27	24.85
On-Site Cargo Handling Equipment	1.64	14.60	11.27	0.05	0.53	0.49
Total Maximum Daily Emissions	227.71	716.89	744.58	4.26	308.62	88.07
Built/Entitled Land						
Summer						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	16.51	20.55	204.22	0.65	73.38	19.70
Mobile Source (Trucks)	10.02	582.06	113.10	3.20	133.06	41.71

Table 6-14. Alternative 3 Operational Emissions

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	87.04	613.72	326.26	3.89	206.90	61.84
Winter						
Area Source	59.27	2.48E-03	0.27	2.00E-05	9.70E-04	9.70E-04
Energy Source	0.15	1.37	1.15	8.23E-03	0.10	0.10
Mobile Source (Passenger Cars)	14.71	21.25	168.89	0.59	73.38	19.70
Mobile Source (Trucks)	9.59	608.33	102.65	3.20	132.99	41.68
On-Site Cargo Handling Equipment	1.09	9.73	7.51	0.03	0.36	0.33
Total Maximum Daily Emissions	84.82	640.69	280.48	3.83	206.83	61.81

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

Table 6-15. Alternative 3 and Proposed Project Operational Emissions Comparison

Emissions Source	Total Operational-Source Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Vacant Land Uses	237.17	690.09	842.49	4.42	308.68	88.09
Built/Entitled Land Uses	87.04	613.72	326.26	3.89	206.90	61.84
Alternative 3 Total Maximum Daily Emissions	324.21	1,303.81	1,168.75	8.30	515.58	149.93
Proposed Project Total Maximum Daily Emissions	237.17	690.09	842.49	4.42	308.68	88.09
Comparison (Alternative 3-Project)	+87.04	+613.72	+326.26	+3.88	+206.9	+61.84
Winter						
Vacant Land Uses	227.71	716.89	744.58	4.26	308.62	88.07
Built/Entitled Land Uses	84.82	640.69	280.48	3.83	206.83	61.81
Alternative 3 Total Maximum Daily Emissions	312.52	1,357.58	1,025.07	8.09	515.44	149.88
Proposed Project Total Maximum Daily Emissions	254.16	1,103.37	904.79	6.56	432.43	125.42
Comparison (Alternative 3-Project)	+58.36	+254.21	+120.28	+1.53	+83.01	+24.46

Source: Table 4.2-14 in Section 4.2 of this SEIR.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns

As shown in Table 6-15, for all criteria air pollutants in both the summer and winter, operational air quality impacts would be greater under Alternative 3 when compared to the proposed Project. While construction air quality impacts would be reduced under Alternative 3 when compared to the proposed Project, long-term and ongoing operational air quality impacts would be greater under Alternative 3 when compared to the proposed Project. As such, Alternative 3 would result in increased air quality impacts over the proposed Project.

Biological Resources

As discussed in Section 4.3, implementation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant biological resources impacts with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3**. Mitigation measure MM-BIO-1 establishes protocols and measures to avoid and/or minimize disturbance of Least Bell's vireo; MM-BIO-2 establishes protocols and measures to avoid and/or minimize disturbance of sensitive habitat and jurisdictional waters, MM-BIO-3 establishes protocols and measures to avoid and/or minimize disturbance of burrowing owls, and MM-BIO-4 establishes protocols and measures to avoid and/or minimize disturbance of nesting birds. Impacts to all other biological resources would be less than significant without the need for mitigation.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Alternative 3 would result in a net reduction of 10.5 acres of park/open space uses, which would reduce the available habitat for any biological resources known to exist on and/or in the vicinity of the South Campus Specific Plan area. However, Alternative 3 would not include the Village West Drive Extension component of the Project and would therefore not result in disturbance to the currently undeveloped land along the proposed roadway alignment.

As such, since Alternative 3 would reduce the amount of open space within the South Campus Specific Plan area, yet not disturb the proposed roadway alignment, impacts to biological resources for Alternative 3 would be comparable to those associated with the proposed Project and would remain less than significant with implementation of mitigation.

Energy

As discussed in Section 4.4, buildout of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would result in less than significant energy impacts. Mitigation for air quality and GHGs further reduces the demand for energy and any potential energy impacts.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. While a comparable amount of development would occur under Alternative 3, as shown in Table 6-16 below, Alternative 3 would generate a substantial increase in the number of total vehicle trips thereby resulting in higher energy and petroleum demands. For this reason, Alternative 3 would result in greater energy impacts than those of the proposed Project.

Geology and Soils

As discussed in Section 4.5, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measure **MM-GEO-1**, which requires compliance with the geotechnical recommendations contained in the Geotechnical Exploration Update, Proposed Meridian South Campus Phase 1, Tract No. 30857-7, Riverside, California, dated February 11, 2016. Implementation of the Village West Drive Extension would result in less than significant geology and soils impacts.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park

uses. The proposed Village West Drive Extension would not be implemented. Compliance with mitigation measure MM-GEO-1 would reduce any potentially significant geology and soils impacts within the South Campus Specific Plan area to less than significant levels. Alternative 3 would not result in the buildout of the proposed Village West Drive Extension; as such, no geology and soils impacts would occur in along the roadway alignment.

Given that similar impacts would occur within the South Campus Specific Plan area and that no impacts would occur along the Village West Drive Extension alignment, Alternative 3 would result in fewer impacts than the proposed Project. Nonetheless, however, all impacts would be reduced to less than significant levels with implementation of mitigation.

Greenhouse Gas Emissions

As discussed in Section 4.6, implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would result in less than significant GHG emissions. Even though impacts would be less than significant, mitigation measures **MM-GHG-1** through **MM-GHG-14** were incorporated into the Project, thereby resulting in a net reduction of GHG emissions when compared with the 2003 Focused EIR.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. While a comparable amount of development would occur under Alternative 3, as shown in Table 6-16 below, Alternative 3 would generate a substantial increase in the number of total vehicle trips thereby resulting in more GHG. For this reason, Alternative 3 would result in greater GHG impacts than those of the proposed Project.

Hazards and Hazardous Materials

As discussed in Section 4.7, implementation of the proposed Project, including both the South Campus Specific Plan and the Village West Drive Extension, would result in less-than-significant hazards and hazardous materials impacts. While the Project site is identified as a hazardous materials site pursuant to Government Code Section 65962.5, all identified contamination sites have been resolved or are not within the immediate proximity to the South Campus Specific Plan area. The Village West Drive Extension alignment is not on any identified lists pursuant to Government Code Section 65962.5.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. As such, and as is the case with the proposed Project, hazards and hazardous materials impacts would be less than significant. Alternative 3 would not result in the buildout of the proposed Village West Drive Extension; however, given that the roadway alignment is not located on any identified lists pursuant to Government Code Section 65962.5, no hazards or hazardous materials impacts associated with this component of the Project would be avoided. For these reasons, impacts associated with hazards and hazardous materials under Alternative 3 would be comparable to those of the proposed Project and remain less than significant.

Hydrology and Water Quality

As discussed in Section 4.8, buildout of the proposed Project within the South Campus Specific Plan area would result in less than significant impacts with implementation of mitigation measures **MM-HYD-1** and **MM-HYD-2**. Mitigation measure

MM-HYD-1 requires consistency with the Master Project Specific Water Quality Management Plan, and MM-HYD-2 requires consistency with the recommendations included within the Preliminary Hydrology and Water Quality Study. Implementation of the Village West Drive Extension would result in beneficial hydrology and water quality impacts associated with roadway improvements and diversion of stormwater into existing and new gutters and storm drain culverts, and the remainder of the hydrology and water quality impacts would be less than significant.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Compliance with mitigation measures MM-HYD-1 and MM-HYD-2 would reduce any potentially significant hydrology and water quality impacts within the South Campus Specific Plan area to less than significant levels. Alternative 3 would not result in the buildout of the proposed Village West Drive Extension; as such, no hydrology and water quality impacts would occur along the roadway alignment but the beneficial impacts associated with roadway improvements and diverting stormwater into existing and new gutters and storm drain culverts would not be realized.

Given that comparable impacts would occur within the South Campus Specific Plan area but the beneficial impacts would not be realized, Alternative 3 would result in greater hydrology and water quality impacts than the proposed Project. Nonetheless, however, all impacts would be reduced to less than significant levels with implementation of mitigation.

Land Use and Planning

As discussed in Section 4.9, construction and operation of the proposed Project (both the South Campus Specific Plan and the Village West Drive Extension) would result in less than significant land use and planning impacts with the implementation of mitigation related to air quality, biological resources, geology and soils, GHG, hydrology and water quality, and transportation.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. As is the case with the proposed Project, with implementation of mitigation, Alternative 3 would result in less than significant land use and planning impacts. Under Alternative 3, Village West Drive Extension would not be implemented; however, the current March JPA General Plan does not envision improvements along this roadway segment. As such, Alternative 3 would result in comparable land use and planning impacts to the proposed Project, and impacts would be less than significant with incorporation of mitigation.

Noise

As discussed in Section 4.10, construction and operational noise and vibration impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. However, more intense development and buildout of the site would occur, thereby resulting in a reduction in the overall amount of open space throughout the South Campus Specific Plan area. Given that the Village West Drive Extension component of the proposed Project would not be implemented under Alternative 3, but there would be less open space and more

development and activity throughout the Specific Plan area, comparable noise and vibration impacts to those of the proposed Project would likely occur.

Recreation

As discussed in Section 4.11, construction and operation of the proposed Project recreational component of the South Campus Specific Plan, specifically the 6.2-acre dog park and paseo, would result in less than significant impacts related to recreation. Mitigation required for the overall build-out of the Project would also apply to the construction of the dog park and paseo.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. No dog park or paseo would be included within Alternative 3, and therefore no recreational impacts associated with the dog park and paseo would occur. However, the community benefit of this recreational space would not be achieved. As such, Alternative 3 would result in fewer recreational impacts when compared to the proposed Project.

Transportation

As discussed in Section 4.12, construction of the proposed Project would result in significant and unavoidable VMT impacts even with implementation of identified improvement and mitigation measures.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Table 6-16 presents the trip generation rates under Alternative 3, and provides the difference compared to the trips generated by the proposed Project.

Table 6-16. Alternative 3 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Vacant Land Uses									
Commercial Retail		TSF							
Commercial	204.732	TSF	158	96	254	442	481	923	9,788
Pass-by Reduction (AM: 0%, PM/Daily: 36%) ³			0	0	0	-159	-159	-318	-3,524
Commercial (Grocery Store)	61.336	TSF	145	89	234	277	266	543	5,562
Pass-by Reduction (AM: 0%, PM/Daily: 36%) ³			0	0	0	-96	-96	-192	-2,004
Commercial Passenger Cars (98%)			297	181	478	455	482	937	9,624
Commercial Truck Trips (2%)			6	4	10	9	10	19	198
<i>Commercial Subtotal</i>	<i>266.068</i>	<i>TSF</i>	<i>303</i>	<i>185</i>	<i>488</i>	<i>464</i>	<i>492</i>	<i>956</i>	<i>9,822</i>
Business Park	6,006.837	TSF							
Office (30% of Business Park)	1,802.051	TSF	1,478	234	1,712	288	1,496	1,784	17,534
Office Passenger Cars (98%)			1,448	229	1,677	282	1,466	1,748	17,182
Office Truck Trips (2%)			30	5	35	6	30	36	352
Warehouse (70% of Business Park)	4,204.786	TSF	408	122	530	143	387	530	6,690
Warehouse Passenger Cars (69.2% AM, 78.3% PM, 63.2% Daily)			282	84	366	112	303	415	4,228
Warehouse Truck Trips (30.8% AM, 21.7% PM, 36.8% Daily)			126	38	164	31	84	115	2,462
<i>Business Park Subtotal</i>	<i>6,006.837</i>	<i>TSF</i>	<i>1,886</i>	<i>356</i>	<i>2,242</i>	<i>431</i>	<i>1,883</i>	<i>2,314</i>	<i>24,224</i>
Vacant Land Uses Passenger Car Trips			2,027	494	2,521	849	2,251	3,100	31,034
Vacant Land Uses Truck Trips			162	47	209	46	124	170	3,012
Vacant Land Uses Total Trips²			2,189	541	2,730	895	2,375	3,270	34,046
Built/Entitled Land Uses									
LGB6 (Building A)⁴	1,000.000	TSF							
LGB6 (Building A) Passenger Cars			222	87	309	127	235	362	2,306
LGB6 (Building A) Truck Trips			57	22	79	33	60	93	592
<i>LGB6 (Building A) Subtotal</i>			<i>279</i>	<i>109</i>	<i>388</i>	<i>160</i>	<i>295</i>	<i>455</i>	<i>2,898</i>
Parcel Delivery Site (Building B + Parking Lot)⁵	1,000.000	TSF							
Parcel Delivery Site (Building B + Parking Lot) Passenger Cars			341	132	473	221	410	631	2,952
Parcel Delivery Site (Building B + Parking Lot) Truck Trips			151	59	210	61	113	174	1,720
<i>Parcel Delivery Site (Building B + Parking Lot) Subtotal</i>			<i>492</i>	<i>191</i>	<i>683</i>	<i>282</i>	<i>523</i>	<i>805</i>	<i>4,672</i>

Table 6-16. Alternative 3 Trip Generation Summary

Project Land Uses	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Commercial (Parcel 72)⁶	15.485	TSF	65	56	121	66	71	137	1,534
Commercial Passenger Cars (98%)			64	55	119	65	70	135	1,502
Commercial Truck Trips (2%)			1	1	2	1	1	2	32
Warehousing (Building C)⁶	500.000	TSF							
Warehousing (Building C) Passenger Cars			46	14	60	20	54	74	550
Warehousing (Building C) Truck Trips			21	6	27	5	15	20	320
<i>Warehousing (Building C) Subtotal</i>			67	20	87	25	69	94	870
Built/Entitled Passenger Car Trips			673	288	961	433	769	1,202	7,310
Built/Entitled Truck Trips			230	88	318	100	189	289	2,664
Built/Entitled Total Trips ²			903	376	1,279	533	958	1,491	9,974
Vacant + Built/Entitled Passenger Car Trips			2,700	782	3,482	1,282	3,020	4,302	38,344
Vacant + Built/Entitled Truck Trips			392	135	527	146	313	459	5,676
<i>Vacant + Built/Entitled Subtotal Trips²</i>			3,092	917	4,009	1,428	3,333	4,761	44,020
Vacant + Built/Entitled Passenger Car Trips (With 10% Internal Trip Reduction)			2,430	704	3,134	1,154	2,718	3,872	34,510
Vacant + Built/Entitled Truck Trips (With 10% Internal Trip Reduction)			353	122	474	131	282	413	5,108
Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction)			2,783	825	3,608	1,285	3,000	4,285	39,618
Previous EIR Ph. III Trips			2,965	648	3,613	808	2,907	3,715	31,267
Previous EIR Ph. III Passenger Car Trips (92.6%) (With 10% Internal Trip Reduction)			2,471	540	3,011	673	2,423	3,096	26,058
Previous EIR Ph. III Truck Trips (7.4%) (With 10% Internal Trip Reduction)			197	43	240	54	194	248	2,082
<i>Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)</i>			2,668	583	3,251	727	2,617	3,344	28,140
Alternative 3 Net Passenger Car Trips ⁷			-41	164	123	481	295	776	8,452
Alternative 3 Net Truck Trips ⁷			156	79	234	77	88	165	3,026
<i>Alternative 3 Net Trip Generation⁷</i>			115	242	357	558	383	941	11,478
Proposed Project Net Trip Generation			-611	118	-493	444	-286	159	3,284
Variance (Alternative 3-Project)			726	124	850	114	669	782	8,194

Notes:

¹ AC = Acres; TSF = Thousand Square Feet

² Total Trips (Actual Vehicles) = Passenger Cars + Truck Trips (Actual Trucks).

³ Pass-by reduction percentage consistent with ITE Trip Generation Handbook, 3rd Edition (2017)

⁴ Source: LGB6 Project Substantial Conformance Traffic Assessment (November 13, 2017, prepared by Urban Crossroads, Inc.)

- ⁵ Source: Meridian South Parcel Delivery Traffic Impact Study Report (August 2017, prepared by VRPA Technologies, Inc.)
- ⁶ Source: Meridian South Campus Addendum #3 Focused Traffic Impact Analysis (August 15, 2018, prepared by Urban Crossroads, Inc.)
- ⁷ Alternative 3 = Vacant + Built/Entitled Subtotal Trips (With 10% Internal Trip Reduction) - Previous EIR Ph. III Subtotal Trips (With 10% Internal Trip Reduction)

As shown in Table 6-16, while the proposed Project would result in an increase in 3,284 total daily vehicle trips over the 2003 Approved South Campus uses, Alternative 3 would result in an increase in 11,478 total daily vehicle trips over the 2003 Approved South Campus uses, which is 8,194 more trips than would occur under the proposed Project. For this reason, the uses proposed under Alternative 3 would result in greater overall transportation impacts when compared with those of the proposed Project.

Tribal Cultural Resources

As discussed in Section 4.13, impacts to tribal cultural resources with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. With Alternative 3, less open space would exist within the South Campus Specific Plan area, and thus the disturbance area would be greater; however, because Village West Drive Extension would not be disturbed, the overall potential to unearth and/or affect tribal cultural resources would be comparable to the proposed Project. As such, comparable tribal cultural resources impacts would occur under Alternative 3, and impacts would remain less than significant.

Utilities and Service Systems

As discussed in Section 4.14, impacts to utilities with implementation of the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. The more intense buildout of the South Campus Specific Plan area, including the reduction in the amount of open space, would have the potential to result in increased demands for water, wastewater, electricity, natural gas, and the generation of more solid waste when compared to the proposed project. As such, Alternative 3 has the potential to result in more overall utilities and service systems impacts when compared to the proposed Project.

Wildfire

As discussed in Section 4.15, wildfire impacts associated with the proposed Project (both the South Campus Specific Plan and Village West Drive Extension) would be less than significant; no mitigation is required.

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Alternative 3 would not result in the buildout of the proposed Village West Drive Extension, which has the potential to serve as a beneficial impact by serving as a buffer in an area that is surrounded by undeveloped land on each side; however, given that all wildfire impacts associated with the construction and operation of this roadway would be less than significant,

impacts associated with wildfire under Alternative 3 would be comparable to those of the proposed Project and remain less than significant.

6.4.4.2 Project Objectives

Under Alternative 3, the proposed 9.4-acre commercial development would include a grocery store, and the remaining unentitled and undeveloped land within the South Campus Specific Plan area would be developed with business park uses. The proposed Village West Drive Extension would not be implemented. Table 6-17 provides a list of the Project objectives and whether Alternative 3 meets each objective.

Table 6-17. Summary of Alternative 3 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Respond to community requests for community serving land uses, including a dog park, additional retail uses, such as restaurants and stores.	Partially. As currently approved, the South Campus Specific Plan does include 3.5 acre commercial retail component and additional areas within the Specific Plan designated for commercial use. Alternative 3 would include the proposed commercial grocery component of the Project; however, the remainder of the unentitled and undeveloped land would be developed with business park uses, thereby limiting the number of community serving land uses, including the dog park and paseo. As such, implementation of Alternative 3 would partially meet this Project objective by providing community serving retail uses but not include the provision of the proposed dog park.
Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.	Partially. As discussed in the environmental analysis above, Alternative 3 would reduce some impacts when compared to the proposed Project; however, some impacts would be greater than those of the proposed Project. As such, Alternative 3 would not fully achieve this Project objective.
Site community serving uses in locations easily accessible from Van Buren Boulevard.	Yes. Buildout of Alternative 3 would site community service uses, including commercial and business park uses, in locations easily accessible from Van Buren Boulevard. Alternative 3 achieves this Project objective.
Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.	Yes. Buildout of Alternative 3 would provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan. Alternative 3 achieves this Project objective.
Implement the goals, objectives and policies of the March JPA General Plan.	Yes. Buildout of Alternative 3 would implement the goals, objectives and policies of the March JPA General Plan. Alternative 3 achieves this Project objective.
Provide increased job opportunities for local residents through the provision of employment-generating businesses.	Yes. Buildout of Alternative 3 would provide increased job opportunities for local residents through the provision of employment-generating businesses. Alternative 3 achieves this Project objective.
Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.	Partially. Alternative 3 would establish a land use and facility plan that partially ensures Project viability in consideration of existing and anticipated economic conditions. Alternative 3 would include much more business park use than the proposed Project and therefore provide fewer industrial opportunities. Nonetheless, Alternative 3 partially achieves this Project objective but not to the same degree as the proposed Project.

Table 6-17. Summary of Alternative 3 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable.	Yes. Buildout of Alternative 3 would encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable. Alternative 3 achieves this Project objective.
Provide a range of job types for the community's residents.	Partially. Alternative 3 would include the buildout of the proposed 9.4-acre commercial parcel and all other parcels would be developed with business park uses. While a variety of employment types would exist within the business park uses, the mixture of land use types would be less diverse than the proposed Project thereby providing a more reduced range of job types within the South Campus Specific Plan area.
Minimize impacts from construction of the development to sensitive biological resources.	Partially. Alternative 3 would result in less open space when compared to the proposed Project, thereby potentially increasing impacts to biological resources. However, Alternative 3 would not include the Village West Drive Extension component of the Project, and as such, fewer biological resources impacts would occur along the roadway alignment. Alternative 3 partially achieves this Project objective.
Implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in <i>Center for Biological Diversity v. Jim Bartel, et al.</i>	Yes. Buildout of Alternative 3 would implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement, which required that 664 acres of lands be placed into conservation easement to offset potential species habitat losses due to development of the Project site and other 'developable lands, entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in <i>Center for Biological Diversity v. Jim Bartel, et al.</i> Alternative 3 achieves this Project objective.

6.5 Evaluation of Alternatives

In accordance with the CEQA Guidelines Section 15126.6(d), the discussion of the environmental effects of the alternatives may be less detailed than the discussion of the impacts of the project. Table 6-1 provides a summary of the comparison of the impacts of the alternatives with the Project; an analysis of the Environmentally Superior Alternative is provided in Section 6.6, as follows.

6.6 Environmentally Superior Alternative

As indicated in Table 6-1, Alternative 2, the South Campus Re-Entitlement Only Alternative, would result in the fewest environmental impacts, and therefore would be considered the Environmentally Superior Alternative.

Alternative 2 was found to be environmentally superior over the proposed Project (see Table 6-1) because it had the most reductions in impacts from the proposed Project. Alternative 2 was found to result in fewer air quality,

biological resources, noise, tribal cultural resources, and utilities and service systems impacts. Under Alternative 2, comparable impacts to aesthetics, energy, geology and soils, GHG emissions, hazards and hazardous materials, recreation, transportation and wildfire would occur when compared to the proposed Project, and Alternative 2 would achieve all of the Project objectives. While Alternative 2 would be the Environmentally Superior Alternative, this alternative would prevent the beneficial hydrology and water quality and wildfire impacts associated with improving Village West Drive and would not provide the through connection between Van Buren Boulevard and Nandina Avenue via an improved roadway.

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