

INITIAL STUDY

**THE COMMONS
CITY OF CLAREMONT
LOS ANGELES COUNTY, CALIFORNIA**



November 18, 2019

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INITIAL STUDY

THE COMMONS CITY OF CLAREMONT LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

City of Claremont
Community Development Department, Planning Division
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Claremont, California 91711
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LSA Project No. CCT1801



November 18, 2019

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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CalEEMod	California Emission Estimator Model
CBC	California Building Code
CCR	California Code of Regulations
CALUCP	Cable Airport Land Use Compatibility Plan
CEQA	California Environmental Quality Act
City	City of Claremont
CPD	Claremont Police Department
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GPA	General Plan Amendment
I-10	Interstate 10
Initial Study	Initial Study
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
NAHC	Native American Heritage Commission
ND	Negative Declaration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
PRC	Public Resources Code
SBCFD	San Bernardino County Fire District
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
SRRE	Source Reduction and Recycling Element
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TTM	Tentative Tract Map
UPD	Upland Police Department
USDA	United States Department of Agriculture
ZC	Zone Change

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1.0 INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

Section 1.0 of this Initial Study describes the purpose, environmental authorization, the intended uses of the Initial Study, documents incorporated by reference, and the processes and procedures governing the preparation of the environmental document. Pursuant to Section 15367 of the *State of California Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines)*, the City of Claremont (City) is the Lead Agency under the California Environmental Quality Act (CEQA). The City has primary responsibility for compliance with CEQA and consideration of The Commons Specific Plan (project or proposed project).

The Initial Study is organized as follows:

- Section 1.0* *Introduction and Purpose* provides a discussion of the Initial Study's purpose, focus, and legal requirements.
- Section 2.0* *Project Description* provides a detailed description of the proposed project.
- Section 3.0* *Environmental Checklist* includes a checklist and accompanying analyses of the project's effect on the environment. For each environmental issue, the analysis identifies the level of the project's environmental impact, required mitigation measures, and whether or not further analysis is required in an EIR.
- Section 4.0* *List of Preparers*
- Section 5.0* *References* details the references cited throughout the document.
- Appendices* Includes the technical material and studies prepared to support the analyses contained in the Initial Study.

1.2 PURPOSE

CEQA requires that the proposed project be reviewed to determine the environmental effects that would result if the project were approved and implemented. The City is the Lead Agency and has the responsibility of preparing and adopting the associated environmental document prior to consideration of the approval of the proposed project. The City has the authority to make decisions regarding discretionary actions relating to implementation of the proposed project.

This Initial Study has been prepared in accordance with the relevant provisions of CEQA (California Public Resources Code Section 21000 et seq.); the *CEQA Guidelines*,¹ and the rules, regulations, and procedures for implementing CEQA as adopted by the City. The objective of the Initial Study is to inform City decision-makers, representatives of other affected/responsible agencies, the public, and interested parties of the potential environmental effects of the project.

As established in *CEQA Guidelines* Section 15063(c), the purposes of an Initial Study are to:

- Provide the Lead Agency (City of Claremont) with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND);

¹ California Code of Regulations, Title 14, Chapter 3, Sections 15000 through 15387.

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- Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for an ND or MND;
- Assist in the preparation of an EIR, if one is required;
- Facilitate environmental assessment early in the design of a project;
- Provide a factual basis for finding in an ND or MND that a project will not have a significant effect on the environment;
- Eliminate unnecessary EIRs; and
- Determine whether a previously prepared EIR could be used with the project.

1.3 INTENDED USE OF THIS INITIAL STUDY

The City formally initiated the environmental process for the proposed project with the preparation of this Initial Study. The Initial Study will be distributed along with a Notice of Preparation (NOP) advising responsible and trustee agencies, other affected agencies, interested parties, and individual members of the public that the City is preparing an EIR to address potential environmental impacts resulting from construction and operation of the proposed project. The Initial Study screens out those impacts that would be less than significant and do not warrant mitigation, identifies those issues that require further mitigation to reduce impacts to a less than significant level, and identifies those issues that require further analysis in an EIR. Based on these analytical conclusions, this Initial Study supports the preparation of a project EIR for the proposed project upon the request of the Lead Agency.

CEQA² permits the incorporation by reference of all or portions of other documents that are generally available to the public. This Initial Study has been prepared utilizing information from City planning and environmental documents, technical studies specifically prepared for the project, and other publicly available data. The documents utilized in the Initial Study are identified in Section 3.0 and are hereby incorporated by reference. These documents are available for review at the City of Claremont, Community Development Department, Planning Division.

1.4 PUBLIC REVIEW OF THE INITIAL STUDY

The Initial Study and the NOP will be distributed to responsible and trustee agencies, other affected agencies, interested parties, and individual members of the public for a 30-day NOP public review period. Written comments in response to this Initial Study regarding the scope of the pending EIR should be addressed to:

Jennifer Davis, Contract Planner
City of Claremont
Community Development Department
207 Harvard Avenue
Claremont, California 91711
(909) 399-5470
jdavis@romoplanninggroup.com

² CEQA Guidelines Section 15150.

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Consideration of comments raised during the 30-day NOP public review period regarding the scope and content of the environmental information and analysis pertinent to the proposed project will be taken into account. Relevant and applicable comments will be incorporated into the EIR.

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2.0 PROJECT DESCRIPTION

2.1 OVERVIEW

A description of the proposed project is provided in this section of the Initial Study in conformance with *CEQA Guidelines* Section 15063. It describes the geographic setting of the proposed project, the project location, the existing project setting, project characteristics, project objectives and discretionary actions required to implement the proposed project. The existing setting described in the project description is used to assist in the definition of existing baseline conditions from which the proposed project's impacts on the physical environment are determined.

The proposed project would result in the development of 27 single-family homes, 20 townhomes, 15 second-story residential flats, and 5,000 square feet of retail space below the residential flats on a 6.5-acre site in the City of Claremont (in the County of Los Angeles) and 48 townhomes on 3.0 acres in the City of Upland (in the County of San Bernardino). The project includes a General Plan Amendment (18-GPA02), Specific Plan (18-SP01), a Zone Change (18-CA02), and Tentative Tract Map approvals (TTM 82135 in Claremont). The Upland portion of the project will be approved and entitled in a manner consistent with Upland's land use approval regulatory and discretionary procedures. At this time, the Applicant has submitted an application with the City of Upland for compliance under Senate Bill 35 for the portion of the project that is in Upland.

2.2 PROJECT LOCATION

The project is a proposed planned residential/mixed-use development on approximately 9.5 acres located at the northwest corner of Foothill Boulevard and Monte Vista Avenue in the City of Claremont and the City of Upland (Figure 1: Regional and Project Location). The City of Claremont is located in Los Angeles County and the City of Upland is located in San Bernardino County. The City of Claremont portion of the project site is 6.5 acres of the 9.5 acres. The City of Upland portion of the project site is 3.0 of the 9.5 acres. The City of Claremont is bounded by unincorporated land in Los Angeles County to the north, the Cities of Pomona and Montclair to the south, the City of Upland to the east, and the City of La Verne and County of Los Angeles unincorporated land to the west. The City of Upland is bounded by unincorporated land in San Bernardino County to the north, the Cities of Montclair and Ontario to the south, the City of Rancho Cucamonga to the east, and Claremont and the Los Angeles County/San Bernardino County boundary to the west.

The project site occupies Assessor's Parcel Numbers (APNs) 8307-003-066 (Los Angeles County) and APNs 1006-312-02, 03, and 04 (San Bernardino County). The four parcels are primarily undeveloped with the exception of an Armstrong Garden Center. The nursery will remain and will become the adjacent neighboring property to the west of the planned residential/mixed-use development portion of the project in Claremont. The nursery occupies 1.44 acres west of the 9.5 acre project site and is part of proposed Tentative Tract Map 82135 being processed for the project.

2.3 LAND USE, GENERAL PLAN, AND ZONING

2.3.1 Existing Site and Surrounding Land Uses

The project site is bordered by Foothill Boulevard on the south and Monte Vista Avenue to the east. The land use to the south of Foothill Boulevard is vacant land, and to the east of Monte Vista is an office park (Upland). The office park consists of public storage units, a CrossFit gym, a craft store, and several other

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various businesses. There is an Armstrong Garden Center and ARCO Station to the west of the project site in Claremont. Figures 2A and 2B present views of the existing project site.

2.3.2 Site and Surrounding General Plan Land Use Designations

The Claremont and Upland General Plans constitute a blueprint for future growth and development within their respective cities. The General Plans identify the goals with respect to both built and natural environments, and establish the policies and implementation measures to achieve the stated goals.

The existing General Plan land use designations surrounding the project are as follows:

- North: Business Park (Claremont);
- East: Medium Density Single-Family Residential (SFR-M) and Institutional (I)(Upland);
- South: Institutional (Claremont); and
- West: Commercial (Claremont).

The City of Claremont's portion of the site is currently designated as Highway Commercial according to the General Plan. The Highway Commercial designation is intended for a broad range of retail, professional office, and service-oriented businesses. This category accommodates uses that typically attract vehicular traffic. This designation applies to properties that are near the 10 Freeway, that are highly visible from the freeway and benefit from this location and applies to the properties along Foothill Boulevard, Indian Hill Boulevard and the east end of Base Line Road. Permitted uses are those oriented toward the regional market and benefitting from high visibility, including automobile sales and ancillary uses, supermarkets, hotels, larger retailers, restaurants and drive-through restaurants.

The City of Upland's portion of the site is designated for Business/Residential (B/R-MU), according to the Upland General Plan. The Business/Residential designation is intended for areas in which businesses and/or light industrial uses are compatible with multi-family or single-family residential. Permitted uses include light manufacturing, assembly, processing, and office, multi-family and single-family residential.

2.3.3 Site and Surrounding Zoning

The project site is mostly zoned Commercial Highway (CH) in Claremont and Business/Residential (B/R-MU) in Upland. Zoning allows for the development of a mix of residential and business units with a density of 8.8 dwelling units per acre in Claremont and a density of 15.9 dwelling units per acre in Upland. The total allowable density for the project site under current zoning is 11.1 dwelling units per acre and a total square footage of 5,000 square feet designated to commercial property.

The area to the north of the project site is zoned Business/Industrial Park (B/IP) in the City of Claremont. The area to the east of the project site is zoned Single-Family Residential: RS-7,500 (RS-7.5) in the City of Upland. The area to the south of the project site is zoned Institutional Education (IE) (City of Claremont). The area to the west of the project site is zoned Commercial Highway (CH) (City of Claremont).

2.4 PROJECT CHARACTERISTICS

The project is proposing a total of 27 single-family detached homes, 68 townhomes, 15 second-story residential flats, and 5,000 square feet of retail space below the residential flats and 2,000 square feet of outdoor dining. The development will have a wide easement, which will be used as active and passive

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open space for the project (called Central Park and Linear Park). The household expected size is between 2 and 5 occupants. Resident, guest and customer parking spaces will be provided.

Within the City of Claremont is proposed 27 single-family detached homes, 20 townhomes, 15 second-story residential flats, 5,000 square feet of retail space below the residential flats and 2,000 square feet of outdoor dining.

Forty-eight (48) of the 68 townhomes proposed are located in Upland.

Figure 3 presents the project site plan. Figures 4A, 4B, and 4C present building elevations of the proposed project.

2.5 REQUIRED ACTIONS

CEQA Guidelines Section 15124(d)(1) requires the City, to the extent the information is known, to include a list of the agencies that are expected to use the EIR in their decision-making processes, a list of permits and other approvals required to implement the project, and a list of related environmental review/consultation requirements established by federal, State, or local law, regulation and/or policy.

Lead Agency

Pursuant to the provisions of CEQA and the *State CEQA Guidelines*, the City of Claremont is the Lead Agency that will approve and carry out the project within its jurisdiction. As part of the approval process, the City of Claremont is preparing an EIR to consider the environmental effects of the proposed project. The portion of the project located in the City of Claremont will be implemented in accordance with the proposed land use, design, and development standards contained in The Commons Specific Plan, additional conditions of approval applied by the City, and applicable mitigation measures contained in the EIR.

Responsible Agency

The Upland portion of the project will be approved and entitled in a manner consistent with the City of Upland's land use approval regulatory and discretionary procedures. Upland may choose to use this EIR as a Responsible Agency for the portion of the project within its jurisdiction. As part of the Responsible Agency approval process, Upland is required to consider the environmental effects of the portion of the project in Upland in accordance with CEQA Guidelines Section 15096. At this time, the Applicant has submitted an application with the City of Upland for compliance under Senate Bill 35 for the portion of the Specific Plan that is in Upland.

Permits and Approvals

The following City of Claremont permits and approvals are required to implement the project:

- General Plan Amendment (18-GPA02).
- Specific Plan (18-SP01).
- Zone Change Municipal Code Text Amendment (18-CA02).
- Tentative Tract Map approvals (TTM 82135 in Claremont; TTM 12345 in Upland).
- Design Review 18-ARA08.

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The following approvals from other regulatory agencies may also be required:

- State Water Resources Control Board (SWRCB): Notice of Intent to comply with the General Construction Activity National Pollutant Discharge Elimination System (NPDES) Permit.
- Utility Providers: Connection permits.

2.6 METHODOLOGY

The analysis in this Initial Study provides an environmental review of the project pursuant to CEQA. The details of the proposed project and associated actions have been characterized in this section and are also addressed in detail throughout Section 3.0 of this Initial Study.

2.7 INITIAL STUDY APPENDICES/REFERENCE DOCUMENTS

The Initial Study is based on the following environmental documents and technical studies:

Appendix A: Geotechnical Investigation

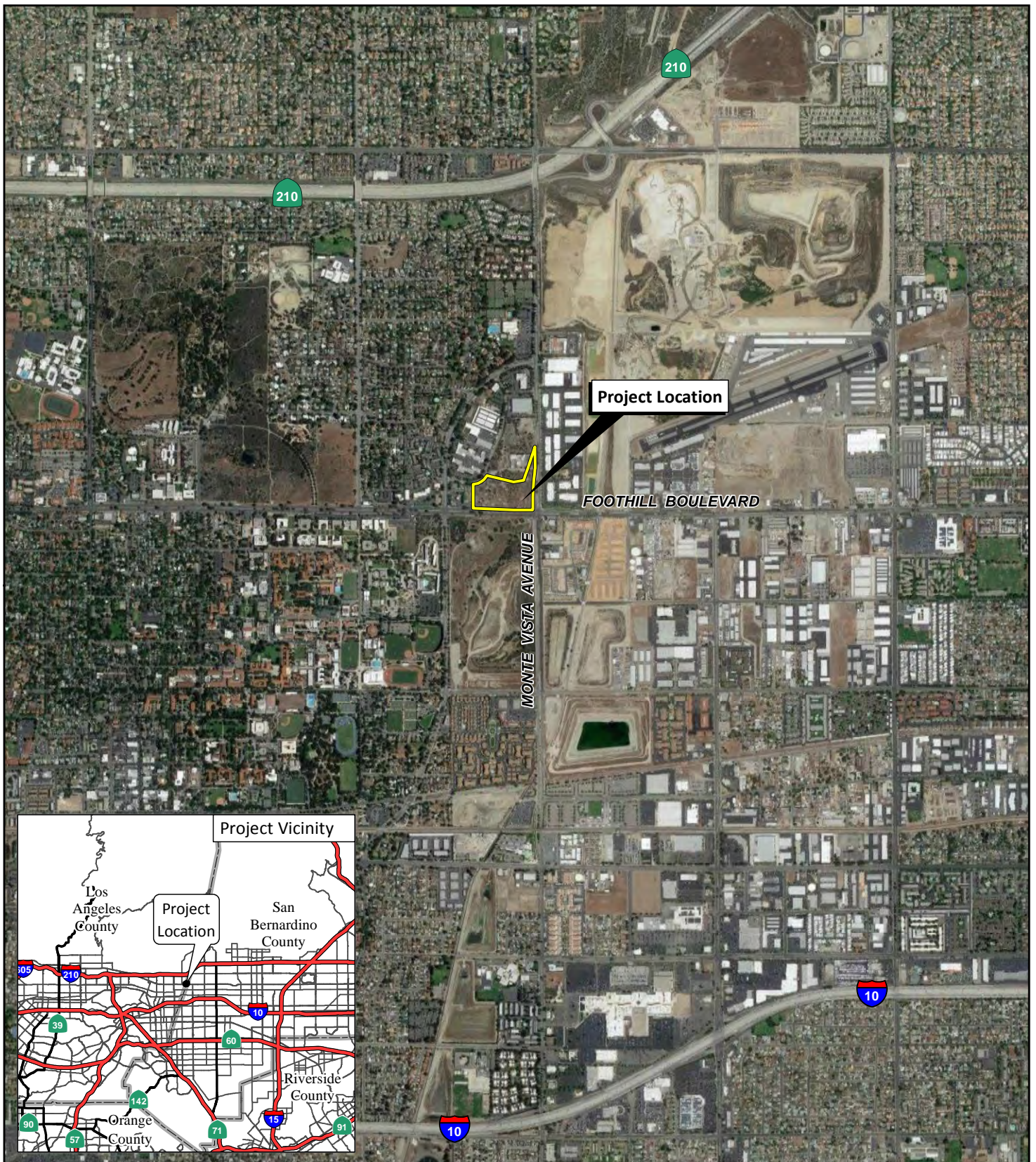


FIGURE 1

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LEGEND

 Project Location



0 1000 2000
FEET

SOURCE: Google (2018)

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Regional and Project Location

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FIGURE 2A

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Aerial View from South Looking North Across Site

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FIGURE 2B

The Commons
Aerial View from East Looking Southwest Across Site

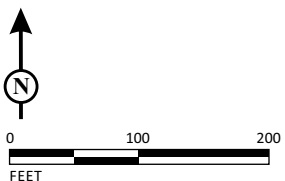
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FIGURE 3

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SOURCE: KTG Group, Inc. (9/2019)

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The Commons
Conceptual Site Plan

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FIGURE 4A

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FIGURE 4B

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FIGURE 4C

The Commons
Perspective of Townhome Building

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3.0 INITIAL STUDY/ENVIRONMENTAL CHECKLIST FORM

1. Project Title:

The Commons

2. Lead Agency Name and Address:

City of Claremont
Community Development Department, Planning Division
207 Harvard Avenue
Claremont, California 91711

3. Contact Person and Phone Number:

Jennifer Davis, Contract Planner (909) 399-5470
jdavis@romoplanninggroup.com

4. Project Location:

The project site is located at the northwest corner of Foothill Boulevard and Monte Vista Avenue in the cities of Claremont and Upland. The project site occupies Assessor's Parcel Numbers (APNs) 8307-003-066 (Los Angeles County) and Assessor's Parcel Numbers 1006-312-02 through 04 (San Bernardino County).

5. Project Sponsor's Name and Address:

Clare Properties
10940 Wilshire Boulevard, Suite 1960
Los Angeles, California 90024

6. General Plan Surrounding Land Use Designation:

North – Business Park (City of Claremont)
East – Medium Density Residential (SFR-M) and Institutional (I) (City of Upland)
South – Institutional (City of Claremont)
West – Commercial (City of Claremont)

7. Zoning Surrounding Project Site:

North – Business/Industrial Park (B/IP) (City of Claremont)
East – Single-Family Residential RS-7,500 (RS-7.5) and Public (PB) (City of Upland)
South – Institution Educational (IE) (City of Claremont)
West – Commercial Highway (CH) (City of Claremont)

8. Description of Property:

The project is a Specific Plan of residential/mixed-use development on approximately 9.5 acres located at the northwest corner of Foothill Boulevard and Monte Vista Avenue in the cities of Claremont and

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Upland. The proposed project will convert the majority of 9.5 acres of underutilized and vacant land at the entrance of the City of Claremont into a residential/mixed-use village. The project will provide open and park space, retail options within the neighborhood, and residential attached and detached housing. The development will have a large open space area running through the middle of the site to provide an emergency landing area for aircraft utilizing Cable Airport.

9. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?

Please refer to Checklist Section 18 (Tribal Cultural Resources). Consultation was conducted for the project.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.

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3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED


The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a potentially significant impact as indicated by the checklist on the following pages.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology/Water Quality | <input checked="" type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

3.2 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of the initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☒ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature:  Date: November 18, 2019
Lynn Calvert-Hayes, AICP for the City of Claremont

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3.3 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1. Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><i>Less than Significant Impact.</i> Scenic vistas near the project site are dominated by the hillsides and lower slopes of the San Gabriel Mountains to the north. According to the City of Claremont's Hillside Ordinance, "The ordinance provides the framework for allowing residential development in the hillsides within concentrated areas where the terrain is flatter and easier to develop." The project site will not be in a hillside area within Claremont. According to the City of Upland General Plan, there are no designated scenic views or vistas within the City. Policy CC-1.6 of the Community Character Element of the City's General Plan requires development to enhance public view corridors of the San Gabriel Mountains, where feasible.</p> <p>The project is not located within the hillside portions of Claremont or Upland and would not block views of the San Gabriel Mountains. Views of the hillsides and mountains to the north as well as other topographic features to the south will continue to be available from vantage points along Monte Vista Avenue. Views of the hillsides and the distant San Bernardino Mountains and other topographic features to east will continue to be available from vantage points along Foothill Boulevard. The project would have a less than significant impact on a scenic vista and no mitigation is required. No further analysis of this subject is required in the EIR.</p>				
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><i>Less than Significant Impact.</i> The segment of Foothill Boulevard adjacent to the project area was formerly designated as Route 66 prior to its delegation by Caltrans to Claremont. As cited in the cultural resources study prepared for the proposed project, the section of former Route 66 was evaluated by Caltrans in 2010. Caltrans concluded this portion of then designated Route 66 lacked sufficient integrity to contribute to the significance of Route 66 as a whole and was not a "historical resource" under CEQA. The portion of the project frontage on Foothill Boulevard located in Upland is still designated Route 66. For the same reasons as concluded for the segment in Claremont, the project frontage within Upland lacks sufficient integrity to contribute to the significance of Route 66 as a whole and is not a "historical resource" under CEQA. The project site is not located within the area of a scenic highway. The project would not substantially affect scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway. Impacts would be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.</p>				
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				
<p><i>No Impact.</i> See the response to Checklist Question 1.A. The project site is in an urbanized area in the Cities of Claremont and Upland. The project would be developed in accordance with the land use and development standards contained The Commons Specific Plan and applicable provisions of the two Cities' development codes, resulting in a planned and orderly residential master planned community. Accordingly, no significant degradation to the visual character of the project site or the surrounding area would occur, since the project site is zoned for commercial highway and single-family residential. No impact would occur and no mitigation is required. No further analysis of this subject is required in the EIR.</p>				
d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><i>Less than Significant Impact.</i> Lighting will be used on the property for nighttime illumination of the area. The project has the potential to create some impact, given that the site is vacant, and has the potential to create a new source of lighting. Views would not be affected because outdoor lighting will comply with the Claremont Municipal Code requirements for the portion within Claremont and the Upland Municipal Code requirements for the portion within Upland. The City of Claremont General Plan states streetlights and safety lights at signalized intersections provide for public safety. The City created a Landscape and Lighting District Program in 1990 to help cover the cost of street lighting as well as landscaping within public rights-of-way.</p> <p>Through adherence to applicable Claremont and Upland standards, the project would not generate excessive light or glare. Impacts would be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.</p>				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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2. Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? ☐ ☐ ☐ ☒

No Impact. Farmland maps are compiled by the California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP), pursuant to the provisions of Section 65570 of the California Government Code. These maps utilize data from the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey and current land use information and use eight mapping categories to represent an inventory of agricultural resources within the county.

As classified by the FMMP,³ the project site is designated as "Other Land." This category consists of land that is vacant and nonagricultural. As no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located on site, no conversion of any such farmland would occur. **No impact** would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? ☐ ☐ ☐ ☒

No Impact. Williamson Act contracts restrict land development of contract lands.⁴ These contracts typically limit land use to agriculture, recreation, and open space, unless otherwise stated in the contract. The project site is located in "Urban and Built-Up land" (land occupied by structures with a building density of at least 1 unit per 1.5 acres or approximately 6 structures to a 10-acre parcel) and therefore is not subject to a Williamson Act Conservation Contract. The proposed project would not conflict with a Williamson Act contract. Therefore, the proposed project will not conflict with existing

³ California Department of Conservation, *Farmland Mapping and Monitoring Program*.

⁴ The Williamson Act is a procedure authorized under State law to preserve agricultural lands as well as open space. Property owners entering into a Williamson Act contract receive a reduction in property taxes in return for agreeing to protect the land's open space or agricultural values.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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zoning for agricultural uses or with a Williamson Act Conservation Contract.⁵ **No impact** would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- c) Conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

☐ ☐ ☐ ☒

No Impact. The City does not contain forestry-related or timberland zoning. No forest land is located within or near the project site; therefore, no rezoning of forest land would occur. **No impact** would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?

☐ ☐ ☐ ☒

No Impact. As detailed in response to Checklist Question 2.C, neither City contains forestry-related or timberland zoning. No forest land is located within or near the project site; therefore, no conversion of forest land would occur. The project will have **no impact** related to loss of forest land or conversion of forest land to non-forest use. No mitigation is required. No further analysis of this subject is required in the EIR.

- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

☐ ☐ ☐ ☒

No Impact. As no agricultural uses exist on site, the proposed project would not result in the conversion of agricultural land to a non-agricultural use. Similarly, no forestry uses exist on site. In the absence of land designated for agricultural use or forestry use, **no impact** would occur. No mitigation is required. No further analysis of this subject is required in the EIR.

⁵ San Bernardino County Williamson Act FY 2015/2016 (Sheet 2 of 2). State of California Department of Conservation, California Important Farmland Finder. <ftp://ftp.consrv.ca.gov/pub/dlrp/wa/> (accessed December 4, 2018).

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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3. Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Would the project:

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. The project site is in the South Coast Air Basin (Basin), which is managed by the South Coast Air Quality Management District (SCAQMD). The United States Environmental Protection Agency (EPA) has designated the status of the Basin as nonattainment for ozone (O₃), coarse inhalable particulate matter less than 10 microns in size (PM₁₀), and fine inhalable particulate matter less than 2.5 microns in size (PM_{2.5}) under the California Ambient Air Quality Standards. Under the National Ambient Air Quality Standards, the EPA has designated the status of the Basin as nonattainment for O₃ and PM_{2.5}.

The SCAQMD and Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The applicable AQMP is the SCAQMD Final 2016 AQMP.⁶ Consistency with the AQMP would be achieved if the project complies with all applicable SCAQMD rules and regulations and is consistent with the growth forecasts in the applicable plan. Consistency with growth forecasts can be established by demonstrating that the project is consistent with the land use plan used to generate the growth forecast.

The proposed project could have a potentially significant impact by conflicting with applicable provisions of the AQMP. A technical air quality study is being prepared to address the potential impacts regarding air quality from the proposed project. The EIR will summarize the findings in the technical study and will analyze the significance of the potential impacts, as well as potential mitigation measures, if any.

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| b) 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? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. The project could generate short-term and long-term air pollutants resulting in a cumulatively considerable increase in criteria pollutants. A technical air quality study is being prepared to address the effects on air quality from construction and operation of the proposed project. The potential impacts regarding criteria pollutants, the significance of the potential impacts, as well as potential mitigation measures, if any, will be addressed in the EIR.

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|

⁶ Final 2016 Air Quality Management Plan. South Coast Air Quality Management District, March 2016.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Potentially Significant Impact. The SCAQMD identifies the following as sensitive receptors: long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities. There are no sensitive receptors located within the project area that may be affected by the project; however, the air quality report will analyze the potential impacts regarding sensitive receptors, the significance of the potential impacts, as well as the potential mitigation measures, if any, will be addressed in the EIR.

- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ☐ ☐ ☒ ☐

Less than Significant. SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."

During construction, the various diesel-powered vehicles and equipment in use on the site may create other emissions, including objectionable odors, from exhaust. Additionally, the installation of asphalt may generate odors. These odors are temporary and not likely to be noticeable beyond the project boundaries. Project construction would include best available control measures as required by SCAQMD Rule 1113 for architectural coatings. Construction is not anticipated to result in VOC emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, nor would it result in a cumulatively considerable net increase of VOCs. Compliance with these rules would ensure that impacts from other emissions such as objectionable odors associated with construction activities remain less than significant.

The proposed uses are not anticipated to emit any objectionable odors during operation of the project. The type of facilities that are considered to have objectionable odors include wastewater treatment plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Residential and general commercial facilities are not associated with foul odors. Therefore, other emissions such as objectionable odors posing a health risk to existing and future off-site uses would not occur as a result of the proposed project. Impacts related to generation of other emissions such as objectionable odors affecting substantial numbers of people would be **less than significant**. No mitigation is required.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. Biological Resources				
Would the project:				
a) 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 Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A Biological Resources Assessment is being prepared for the proposed project. Potential impacts to any identified candidate, sensitive, or special-status species will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A Biological Resources Assessment is being prepared for the proposed project. Potential impacts to any identified riparian habitat or other sensitive natural communities will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.				
c) 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A Biological Resources Assessment is being prepared for the proposed project. Potential impacts to any identified wetlands will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.				
d) 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Potentially Significant Impact.</i> A Biological Resources Assessment is being prepared for the proposed project. Potential impacts to any identified wildlife movement, wildlife corridors, or wildlife nursery sites will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A Biological Resources Assessment is being prepared for the proposed project. Potential conflicts with local policies or ordinances protecting biological resources will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>No Impact.</i> The project site is not within any adopted habitat conservation plans, natural community conservation plans, or any other regional planning areas identified by the USFWS, CDFW, or the City. ^{7,8} Therefore, implementation of the proposed project would not conflict with the provisions of any adopted local or regional conservation plans. No impact to adopted habitat conservation plans would occur and no mitigation is required.				

⁷ California Natural Diversity Data Base, RareFind 5 and Biogeographic Information and Observation System online mapping tool. California Department of Fish and Wildlife. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data> (accessed December 4, 2018).

⁸ Information for Planning and Consultation, Facilities. United States Fish and Wildlife Service. <https://ecos.fws.gov/ipac/location/VKT4QFYV5FHP5FCSEJAK4YRDEM/resources#facilities> (accessed October 15, 2019).

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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5. Cultural Resources

Would the project:

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. A Cultural Resources Assessment is being prepared for the proposed project to address the potential impacts to historic resources. The significance of the potential impacts and the potential mitigation measures, if any, will be fully analyzed in the EIR to reduce impacts to less than significant where possible.

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. A Cultural Resources Assessment is being prepared for the proposed project to address the potential impacts to archaeological resources. The significance of the potential impacts and the potential mitigation measures, if any, will be fully analyzed in the EIR to reduce impacts to less than significant where possible.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. In the event human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and deposition pursuant to Public Resources Code (PRC) Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative the MLD may inspect the site of the discovery. The construction contractor, project proponent, and the County Coroner are required to comply with the provisions of California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097.98, and Section 7050.5 of the State's Health and Safety Code. Compliance with these provisions would ensure that any potential impacts to unknown buried human remains would be **less than significant** by ensuring appropriate examination, treatment, and protection of human remains as required by State law. No mitigation is required.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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6. Energy

Would the project:

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|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. Potential impacts from wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. Potential impacts from inconsistencies with or obstruction of renewable energy or energy efficiency plans will be fully analyzed in the EIR and mitigation measures will be identified, where required to reduce impacts to less than significant where possible.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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7. Geology and Soils

The analysis below is based on the geotechnical investigation prepared for the proposed project by Alta California Geotechnical Inc., dated June 20, 2018 located in Appendix A.

Would the project:

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.

☐ ☐ ☒ ☐

Less than Significant Impact. Regionally, the project site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of southern California where right lateral major active fault zones predominantly trend northwest-southeast. The Peninsular Ranges province is composed of plutonic and metamorphic rock, with lesser amounts of Tertiary volcanic and sedimentary rock, Quaternary drainage infills and sedimentary veneers. Several large, active fault systems including the Elsinore-Whittier, Newport-Inglewood, and the San Andreas occur in the region surrounding the site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.⁹

The nearest known active faults (movement occurring 11,000 years ago) are the Sierra Madre fault, the Clamshell-Sawpit fault, and the San Jacinto fault, located approximately 2.8, 12.6, and 14.5 miles from the site.¹⁰ According to the City's General Plan EIR, the project site is not located within the Alquist-Priolo Earthquake Fault Zone. Given that there is not a fault located on site, the potential for ground rupture is considered to be **less than significant**; therefore, no mitigation is required.

- ii) Strong seismic ground shaking?

☐ ☐ ☒ ☐

Less than Significant Impact. Like all of Southern California, the project site could have the potential for strong seismic ground shaking because of a large earthquake. The type and magnitude of seismic hazards affecting the site are dependent on the distance to the epicenter of the fault and the intensity and magnitude of the seismic event. All future construction and development would be required to comply with applicable provisions of the most current edition of the California Building Code (CBC) at the time of construction and the City's adopted building codes pursuant to the City's Municipal Code. These specific requirements would ensure potential impacts from strong seismic ground shaking are **less than significant**. No mitigation is required.

⁹ Geotechnical Investigation; Foothill East Project on Foothill Boulevard at Monte Vista Avenue Cities of Claremont and Upland, California, Alta California, Geotechnical Inc., June 20, 2018.

¹⁰ Ibid.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact. Liquefaction occurs primarily in saturated, loose, fine-to-medium-grained alluvial soils in areas where the groundwater table is within 50 feet of the surface. Shaking causes the soils to lose strength and act as a liquid. Liquefaction-related effects include the loss of strength, lateral spreading, and flow failures or slumping. In general, the more recently that sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that are considered are groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking. Groundwater was not encountered during the subsurface investigation, which extended to a depth of 20 feet. The regional groundwater map indicates that the historic high groundwater level is 40 to 50 feet. Based on the depth of groundwater and the underlying soil type (primarily gravel), the potential for liquefaction is considered to be minimal.¹¹ The site is not located within a designated liquefaction hazard zone. Therefore, liquefaction is not considered to be a hazard at the project site. Impacts would be **less than significant** and no mitigation is required.

iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Less than Significant Impact. The topography at the project area is relatively flat and since there are no hillside areas, the risk of landslides is not considered for design purposes.¹² Detailed grading plans would be reviewed and approved by the City pursuant to Section 17.013.020, *Application Submittal and Review*, of the City Municipal Code to ensure that appropriate design features are implemented. Impacts would be **less than significant** and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Less than Significant Impact. Construction activities have the potential to expose bare soil to wind and/or water, which could have the potential to result in soil erosion or loss of topsoil. In order to address the potential for erosion, the project is required to implement Best Management Practices (BMPs) during the construction phase that would reduce erosion in accordance with the National Pollutant Discharge Elimination System (NPDES) regulations. BMPs are standard conditions and presented in instances where the proposed project would not create a significant impact, but would be required to adhere to regulatory requirements in order to ensure impacts do not become significant. These BMPs would be selected as part of the Storm Water Pollution Prevention Plan (SWPPP) that is required to address erosion and discharge impacts associated with the proposed on-site grading.

The project must also comply with the City's grading permit requirements, pursuant to Municipal Code Chapter 15.52, *Grading Restrictions*, which would ensure that construction practices include measures to protect exposed soils such as covering stockpiled soils and use of straw bales and silt fences to minimize off-site sedimentation.

¹¹ *Geotechnical Investigation; Foothill East Project on Foothill Boulevard at Monte Vista Avenue Cities of Claremont and Upland, California*, Alta California, Geotechnical Inc., June 20, 2018.

¹² *Ibid.*

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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This would ensure that the proposed project would have a **less than significant** impact related to soil erosion or loss of topsoil. No mitigation is required. No further analysis of this subject is required in the EIR.

- 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? ☐ ☐ ☒ ☐

Less than Significant Impact. Liquefaction occurs in saturated, loose, fine-to-medium-grained alluvial soils in areas where the groundwater table is within 50 feet of the surface. Shaking will cause soils to lose strength and act as a liquid. The effects that are related to liquefaction include strength loss, lateral spreading, and flow failures or slumping. Based on the depth of groundwater and the underlying soil type (primarily gravel), the potential for liquefaction is minimal on the project site.¹³

Lateral spreading is a type of liquefaction-induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the seismic inertial forces may cause the mass to move downslope toward a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Factors that contribute to slope failure and landslides include slope height and steepness, shear strength and orientation of weak layers in the underlying geologic units, and pore water pressures.

Ground subsidence is a gradual settling or sinking of the ground surface with little or no horizontal movement, although fissures (cracks and separations) can result from lowering of the ground surface. Most of the damage caused by subsidence is the result of oil, gas, or groundwater extraction from below the ground surface. Ground subsidence may occur as a response to natural forces such as earthquake movements, which can cause abrupt elevation changes of several feet or densification of low density granular soils during an earthquake event that may cause several inches of settlement. Ground subsidence is not likely to occur on the project site.

Hydro-compaction, or soil collapse, typically occurs in recently deposited Holocene (less than 11,000 year before present time) soils that were deposited in an arid or semi-arid environment. Soils prone to collapse are commonly associated with man-made fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. Sudden substantial settlement may occur when saturated, collapsible soils lose their cohesion. 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, may initiate settlement, causing foundations and walls to crack. Based on the composition of the onsite soils

¹³ *Geotechnical Investigation; Foothill East Project on Foothill Boulevard at Monte Vista Avenue Cities of Claremont and Upland, California*, Alta California, Geotechnical Inc., June 20, 2018.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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(primarily gravel) and the anticipated minimal fill loads, the potential for hydro-collapse onsite is minimal and should be within foundation tolerances upon the completion of the recommended unsuitable soil removals.¹⁴

According to the Geotechnical Investigation conducted on the project site, groundwater was not encountered during the subsurface investigation which extended to a depth of 20 feet. The site is not located within a designated liquefaction hazard zone. Given that there was no groundwater encountered on site and that the project site is relatively flat, the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse to occur makes this a **less than significant** impact and no mitigation is required. No further analysis of this subject is required in the EIR.

- 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? ☐ ☐ ☒ ☐

Less than Significant Impact. Expansive soils generally have a significant amount of clay particles that can give up water (shrink) or take in water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The extent of shrink/swell is influenced by the amount and kind of clay in the soil. The measures to protect life and property from potentially expansive soils include over excavating on-site native and non-native soils, and replacing them with properly compacted fill. According to the geotechnical investigation, expansion index testing was performed on samples taken during the subsurface investigation. Based on the results, it is anticipated that the majority of materials on site are “very low” to “low” in expansion potential. It would be required that the applicant prepare and submit detailed grading plans as specific improvements and developments are proposed prior to receiving grading permits pursuant to Section 17.50.040, *Application Submittal and Review*, of the City Municipal Code. These plans would be prepared in conformance with applicable standards of the City for compliance with the most current edition of the CBC at the time of construction. This would ensure development proposed as part of the project would be protected from expansive soil. Impacts would be **less than significant** and no mitigation is required. No further analysis of this subject is required in the EIR.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? ☐ ☐ ☐ ☒

No Impact. Septic systems are on-site systems designed for safe disposal of biological sanitary waste. Although septic tanks are usually within rural areas, if they are not sited, designed or maintained properly, they can be detrimental to the environment and human health; especially if clean groundwater supplies become contaminated.

¹⁴ Geotechnical Investigation; Foothill East Project on Foothill Boulevard at Monte Vista Avenue Cities of Claremont and Upland, California, Alta California, Geotechnical Inc., June 20, 2018.

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According to the City of Claremont's General Plan, septic tanks are feasible as long as they are in areas where housing units are at lower densities, are properly maintained, and do not aggregate nitrate.

As a matter of policy, the City of Claremont requires that all properties within the City limits to connect to its sewer system because of nitrate issues within the Sphere of Influence. Properties within the Sphere of Influence and under the jurisdiction of Los Angeles County that use septic tanks are encouraged to annex into the City and connect to the public sewer system.

The proposed project will connect to an existing sewer system; therefore, it would not require the construction or expansion of septic tanks or wastewater disposal systems and **no impact** would occur. No mitigation is required. No further analysis of this subject is required in the EIR.

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☐ ☐ ☒ ☐

Less Than Significant Impact. The project site is underlain by young alluvial fan deposits sourced from alluvial fan outwash from nearby canyons and drainages and artificial fill.¹⁵ These deposits are not old enough to contain a paleontological resource or site or unique geologic feature. The alluvial deposits in this area are thick (greater than 20 feet below ground subsurface) and subsurface disturbance would not be at a depth that would have the potential to be in deposits that may contain paleontological resources. Impacts to paleontological resources are not considered significant. Therefore, a **less than significant** impact would occur. No mitigation is required. No further analysis of this subject is required in the EIR.

¹⁵ *Geotechnical Investigation; Foothill East Project on Foothill Boulevard at Monte Vista Avenue Cities of Claremont and Upland, California*, Alta California, Geotechnical Inc., June 20, 2018.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8. Greenhouse Gas Emissions				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> An Air Quality/Greenhouse Gas Impact Assessment is being prepared to address the potential impacts regarding greenhouse gas emissions and the significance of the potential impacts, as well as the mitigation measures, if any, will be addressed in the EIR.				
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> An Air Quality/Greenhouse Gas Impact Assessment is being prepared for the proposed project. Potential impacts regarding GHG reduction plans or Climate Action Plans and the significance of the potential impacts, as well as the mitigation measures, if any, will be addressed in the EIR.				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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9. Hazards and Hazardous Materials

Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ☐ ☐ ☒ ☐

Less than Significant Impact. Construction of the project would include the routine transportation, use, and disposal of construction-related hazardous materials such as fuels, oils, solvents, and other materials. These materials are typical of materials delivered to construction sites and do not constitute a significant hazard to the public or environment. Best Management Practices (BMPs) would be implemented to ensure a less than significant impact. Because of this, impacts are considered to be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.

- 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? ☐ ☐ ☒ ☐

Less than Significant Impact. Potential hazardous materials such as fuel, paint products, lubricants, solvents, and cleaning products may be used and/or stored on site during construction of the proposed project. These materials are typical materials delivered to construction sites. Due to the amount of anticipated site improvements (i.e., development of 90 residential units/5,000 square feet of commercial uses), only small quantities of these materials are expected to be used during construction, so they are not considered hazardous to the public at large. Impacts are considered to be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.

These materials are similar to household chemicals and solvents already in general use throughout the City of Claremont and Upland and in the vicinity of the project site. Impacts are considered to be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.

During construction, the transport, use, and storage of hazardous materials during operation will be regulated by the Los Angeles County Fire District and the California Occupational Safety and Health Administration. Transport of these hazardous materials by truck and rail on State highways and rail lines will be regulated by the United States Department of Transportation Office of Hazardous Materials Safety. Therefore, a less than significant impact would occur and no mitigation is required.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☐ ☒

No Impact. There are no schools within one-quarter mile of the project site. The closest school, Pitzer College, is located in the City of Claremont and is approximately 0.6 mile from the project site. There are

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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no proposed schools within one-quarter mile of the project site. Therefore, no impact would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- 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 a result, would it create a significant hazard to the public or the environment?
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. Pursuant to Government Code Section 65962.5, the Hazardous Waste and Substances Sites List has been compiled by the California Environmental Protection Agency Hazardous Materials Data Management Program. The Department of Toxic Substances Control (DTSC) compiles information from known databases to make up the Cortese List.

Based on a Phase I Environmental Site Assessment (ESA) Report prepared in 2018, no evidence of prior uses that would have released petroleum-based product or other hazardous materials or substances on the project site was discovered. No structures exist on the site, although remnants of a hydraulic lift associated with a former building was observed. The ESA concluded no documented, significant, historic occurrences of petroleum or hazardous materials contamination were discovered at the subject property. No significant existing or historic on-site sources of petroleum or hazardous materials contamination were discovered. Because of the lack of significant environmental contamination, no further investigation was recommended. For these reasons, impacts are considered less than significant and no mitigation is required.

- 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 for people residing or working in the project area?
- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. The closest airport in proximity to the project site is Cable Airport, located within 1.5 miles to the east. The project site is not governed by the Cable Airport Land Use Compatibility Plan (CALUCP), which stops at the San Bernardino/Los Angeles County line. The potential project impacts from exposure of residences and employees to aircraft safety concerns, the significance of the potential impacts and the mitigation measures, if any, will be fully analyzed in the EIR.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. Fire protection and emergency medical response services are being provided by the San Bernardino County Fire District (SBCFD) in Upland and the Los Angeles County Fire Department in Claremont. The nearest fire station to the project site is San Bernardino County Fire Station 164 located at 1825 N Campus Avenue in the City of Upland (approximately 4.8 miles northwest of the project site). The City of Claremont maintains mutual aid agreements with surrounding cities,

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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which allow for the services of the nearby fire departments to assist the City of Claremont and Upland during major emergencies.

The project would be designed and operated per applicable standards required by the City of Upland for new development with regard to public safety. Policy PFS-2.11 of Upland's General Plan requires new development to be accessible to emergency vehicles and not impede the ability of service providers to provide adequate emergency response. Adherence to the emergency access measures required by the City of Upland would ensure a less than significant impact related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan. No mitigation is required.

- g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires? ☒ ☐ ☐ ☐

Potentially Significant Impact. According to the City of Claremont General Plan Fire Hazard Map, the portion of the project site that is located in Claremont is not within a high fire hazard severity area. According to the City of Upland General Plan Fire Hazard Map, the portion of the site that is located in Upland is not located in a high fire hazard zone. Fire services in the City of Claremont are provided to residents of Claremont through a contract with the consolidated Fire Protection District of Los Angeles County. Los Angeles County Fire is responsible for the protection of life and property from losses due to fire, explosion, and other disasters.

Policy SAF-4.6 in the City of Upland's General Plan "requires all development in areas of potential wildland fire hazards, shown in the High Fire Hazard Map, to include clearance around structures, fire-resistant ground cover and fire-resistant roofing materials." Design and construction of the project in accordance with the 2016 California Building Code (CBC) which includes design features such as ignition-resistant materials and incorporation of fire sprinklers that would minimize any risk of exposure of persons or property to wildfires. Impacts from wildfires will be **potentially significant** and will be evaluated in the EIR under wildfire.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
10. Hydrology and Water Quality				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Drainage and water quality reports are being prepared for the proposed project to address potential impacts to water quality standards or waste drainage requirements, significance of potential impacts, and potential mitigation measures, if any, will be fully analyzed in the EIR.				
b) Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Drainage and water quality reports are being prepared for the proposed project to address the potential impacts to groundwater supplies, significance of the potential impacts, and mitigation measures, if any, will be fully analyzed in the EIR.				
c) 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:				
i) Result in substantial erosion or siltation on or off site;				
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm-water drainage systems or provide substantial additional sources of polluted runoff; or				
iv) Impede or redirect flood flows?				
<i>Potentially Significant Impact.</i> Drainage and water quality reports are being prepared for the proposed project to address the potential impacts, significance of potential impacts and mitigation measures, if any, will be fully addressed in the EIR for impacts associated with erosion, siltation, storm-water runoff, and drainage patterns.				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Drainage and water quality reports are being prepared for the proposed project to address the potential impacts, significance of potential impacts and mitigation measures, if any, will be fully addressed in the EIR for impacts associated from the release of project water quality pollutants during floods, tsunamis, or seiche zones.				
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Drainage and water quality reports are being prepared for the proposed project to address the potential impacts, significance of potential impacts and mitigation measures, if any, will be fully addressed in the EIR for impacts associated with water quality management plans and sustainable groundwater management plans.				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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11. Land Use and Planning

Would the project:

- a) Physically divide an established community? ☐ ☐ ☐ ☒

Less than Significant Impact. The project site is located at the northwest corner of Monte Vista Avenue and Foothill Boulevard in both Claremont and Upland. The site is surrounded by vacant land to the south plus the existing Armstrong Garden Center and ARCO Station to the west and an office park to the east across Monte Vista. Development of the site would complete development of the properties along the north frontage of Foothill Boulevard between Claremont Boulevard and Monte Vista Avenue. The project would not divide an established community. No impact would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? ☒ ☐ ☐ ☐

Potentially Significant Impact. The Claremont portion of the site is currently designated in the Claremont General Plan as Commercial intended for a “broad range of retail, professional office and service-oriented businesses. This category accommodates uses that typically attract vehicular traffic. The designation applies to properties along Foothill Boulevard, Indian Hill Boulevard and the east end of Base Line Road.” The Upland portion of the site is designated in the Upland General Plan for Single-Family Medium Residential (SFR-M) and Institutional (I). The Single-Family Medium Residential designation is intended for “new and existing single-family neighborhoods with slightly higher densities than areas designated as Single-Family Low. This designation is implemented primarily in older existing neighborhoods and in transition zones between lower-density residential uses and higher-density commercial, industrial, and multi-family residential land uses”. The site is also designated for Institutional (I). This designation “is for large private institutions.”

The proposed project includes General Plan Amendments (GPAs)/zone changes (ZCs) from the current designations/zoning to Specific Plan. Upon approval of the proposed project, land use and development will be governed by The Commons Specific Plan resulting in mixed-use (residential and commercial) development. The EIR will analyze potential project conflicts with any land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental impacts.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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12. Mineral Resources

Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State? ☐ ☐ ☒ ☐

Less than Significant Impact. The project site is located within Mineral Resource Zone 2 (MRZ-2), which is defined as:

Areas where adequate information indicates that significant mineral resources are present, or where it is judged that a high likelihood for their presence exists. Land included in MRZ-2 is of prime importance because it contains known economic mineral deposits.

The State Geologist is responsible for identifying and calculating the amount of aggregate resources contained in areas classified as MRZ-2. The State Geologist further limits the aggregate resource calculations to areas within "Sectors," classified as MRZ-2 that have current land uses deemed compatible with potential mining.

The identification of aggregate resources provides local governments information on areas that remain accessible for extraction. The criteria for identifying resource areas do not consider land use commitments that may restrict the accessibility to the resource; therefore, the amount of available resource may be overestimated. Through the development of local General Plans, it is expected that local jurisdictions will identify areas suitable for the extraction of aggregate and other materials. In the case of the Claremont and Upland General Plans, the project site is not designated as a potential area for mineral resources or mining. Therefore a **less than significant** impact would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? ☐ ☐ ☒ ☐

Less than Significant Impact. The site is currently vacant and undeveloped land and the project includes the approval of a specific plan for the development of 90 residential and 5,000 square feet of retail on a site that is vacant. No mineral processing activity occurs on the site or in the vicinity, nor is the site designated for mineral extraction or processing. A **less than significant** impact would occur and no mitigation is required. No further analysis of this subject is required in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
13. Noise				
Would the project:				
a) Cause 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A noise and vibration impact study is being prepared for the proposed project. Potential project impacts from temporary or permanent increases in ambient noise levels in the vicinity of the project in excess of standards will be fully analyzed in the EIR and mitigation measures will be identified, where required.				
b) Generate excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A noise and vibration impact study is being prepared for the proposed project. Potential project impacts from groundborne vibration or groundborne noise levels will be fully analyzed in the EIR and mitigation measures will be identified, where required.				
c) 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, would the project expose people residing or working in the project area to excessive noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A noise and vibration impact study is being prepared for the proposed project. Potential project impacts from exposure of residence or employees to excessive noise levels from aircraft associated with the Cable Airport will be fully analyzed in the EIR and mitigation measures will be identified, where required.				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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14. Population and Housing

Would the project:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. The project is located in an undeveloped area and would include the construction of 105 residential and retail units. The latest statistical figures published by the Southern California Association of Governments (SCAG) for the City's average household size assume 2.9 persons per housing unit for Upland and 2.61 persons per housing unit for Claremont. Sixty-two dwelling units are proposed Claremont and 48 dwelling units in Upland so the proposed project could increase the City of Claremont's population by approximately 162 persons¹⁶ and the City of Upland's population by approximately 139 persons¹⁷ (total of 301 persons). The project does not include construction of new roadways or infrastructure beyond what would serve only the project site, which includes the extension of utilities, and water and sewer lines. The project is not expected to increase growth in the area since there will be no need to increase the existing capacities of wastewater or water treatment facilities. Therefore, the project would not induce substantial population growth in an area, either directly or indirectly. Impacts would be **less than significant** and no mitigation is required. No further analysis of this subject is required in the EIR.

- b) Displace substantial amounts of existing people or housing, necessitating the construction of replacement housing elsewhere?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

No Impact. The project site is located on undeveloped land. There are no structures on site and no people will be displaced. **No impacts** from displacement of people that would necessitate the construction of replacement housing elsewhere will occur. No mitigation is required. No further analysis of this subject is required in the EIR.

¹⁶ 2.61 persons/dwelling unit × 62 units = 161.82 persons in Claremont

¹⁷ 2.9 persons/dwelling unit × 48 units = 139.2 persons in Upland

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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15. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection? ☐ ☐ ☒ ☐

Less than Significant Impact. The project site is located in an urbanized area and proposes the construction of 27 single-family homes, 68 townhomes, 15 flats, and 5,000 square feet of retail space on a 9.5-acre site in the Cities of Claremont and Upland. Table A provides a list of fire stations within 5 miles of the project site.

Table A: Fire Stations Located within Five Miles of the Project Site

Fire Station	Address	Distance From Project Site
Montclair Fire Station	8901 Monte Vista Ave, Montclair	4,741 feet south
San Bernardino County Fire Station 163	1350 N Benson Ave, Upland	1.21 miles northeast
Los Angeles County Fire Department Station 101	606 W Bonita Ave, Claremont	1.43 miles southwest
Los Angeles County Fire Department Station 62	3701 N Mills Ave, Claremont	2.14 miles northwest
Los Angeles County Fire Department Station 102	2040 Sumner Ave, Claremont	2.74 miles northwest
San Bernardino County Fire Station 161	475 N 2nd Ave, Upland	2.97 miles southeast
San Bernardino County Fire Station 164	1825 N Campus Ave, Upland,	3.62 miles northeast

In the City of Claremont, the Fire Department is responsible for the protection of life and property from losses due to fire, explosion, and other disasters. The City receives wildland fire protection from the Los Angeles County Fire Department's County Forester and Fire Warden. The City has three Los Angeles County fire stations at various locations, since the County serves emergency cases within the County regardless of city boundaries, services from stations in Pomona, San Dimas, or Glendora can be dispatched depending on availability and distance. Los Angeles County Station 101 also houses a paramedic squad that handles medical emergencies along with the crews on the engines.¹⁸

The City of Upland is also under automatic aid agreement with the County of San Bernardino to provide fire protection to the areas bounded by Pomello Drive, Mills Avenue, and Foothill Boulevard. All emergency calls are answered by police dispatchers, who redirect fire-related services to the Fire Department.

The City of Upland's Fire Department Policy ensures sufficient levels of staff in order to maintain fire protection and emergency medical services to the community. Response times strive to improve and fire station locations are planned to maintain or enhance current response levels.

¹⁸ <https://www.ci.claremont.ca.us/living/fire-department>, accessed October 1, 2019.

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Design features incorporated into the structural design and layout of the proposed project would keep service demand increases to a minimum. For example, the project will be constructed in accordance with the 2016 CBC, which requires all new structures to incorporate construction techniques and materials such as roofs, eaves, exterior walls, vents, appendages, windows, and doors resistant to and/or to perform at high levels against ignition during the exposure to fires. Fire sprinklers would be incorporated into the building design to further reduce fire risk and service demand. Additionally, the project is required to incorporate adequate emergency water flow, early warning systems and evacuation routes, and to identify and mitigate any fire hazards during the development review process. Furthermore, the project would be required to pay Development Impact Fees (DIFs) used to fund capital costs associated with constructing new public safety structures and purchasing equipment for new public safety structures.

Any construction of future fire protection facilities in the Cities would require project-level environmental review and site-specific mitigation as appropriate in order to ensure significant environmental impacts are avoided or mitigated. It is reasonable to conclude construction of the proposed project in accordance with the 2016 CBC would be adequately serviced by existing Fire Department facilities. Therefore, the project would not generate demand for new or physically altered governmental facilities or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts. Impacts associated with the need to expand fire protection services and facilities in order to maintain acceptable levels of service would be **less than significant**. No mitigation is required. No further analysis of this subject is required in the EIR.

b) Police protection? ☐ ☐ ☒ ☐

Less than Significant Impact. The City of Claremont Police Department (CPD) responds to emergency situations within the City and patrols neighborhoods to promote a safe environment. The CPD also utilizes reserve police officers who perform similar duties as regular police officers and enhance police services to the community. The Claremont City Council authorized the collection of fees from users of certain non-essential police services that are not directly related with the protection of life and property. The fees are designed to provide cost recovery for these non-emergency services. Fees are based upon formulas approved by Council, and are adjusted every July, or when there is a significant change in a cost factor.¹⁹

The nearest police station in the City of Claremont is located at 570 W. Bonita Avenue, Claremont, approximately 1.49 miles southwest of the project site. Response time for critical calls is a maximum of 3 minutes.²⁰

Police services within the City of Upland are provided by the Upland Police Department (UPD). The nearest UPD station is located at 1499 West 13th Street (1.28 miles east of the project site).

The City of Upland uses a multilayered approach to law enforcement and crime protection. This refers to

¹⁹ <https://www.ci.claremont.ca.us/government/departments-divisions/police-department/department-services>, accessed October 1, 2019.

²⁰ City of Claremont Police Department 2018 Annual Report, <https://www.ci.claremont.ca.us/home/showdocument?id=13322>, accessed October 1, 2019.

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Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a range of measures such as the use of best practices in law enforcement or ensuring that the siting and landscaping of buildings is a deterrent to crime. Upland has also partnered with neighboring cities and communities for preventing crime.

Compliance with California Vehicle Code 21806(A)(1), which requires all vehicles to yield to emergency vehicles, would ensure response times to the project site are not significantly altered. The project would be designed and operated per applicable standards required by the Cities for new development with regard to public safety.

The Cities monitor staffing levels to ensure that adequate police protection and response times continue to be provided as individual development projects are proposed and on an annual basis as part of the City Council's budgeting process. Therefore, the proposed project would not result in a significant reduction in police response times because of the continual monitoring of police staffing levels by the Cities.

Funding for new police facilities commensurate with the increased demand for services in the Cities would be provided from capital improvement fees levied on new development. These DIFs are one-time charges applied to new development and are imposed to raise revenue for the construction or expansion of capital facilities located out of the project boundaries of a new development that benefit the area. DIFs enable the Cities to collect fair-share fees from new development projects to fund new infrastructure and services. DIFs are collected for specific infrastructure needs and are deposited into different accounts representing these requirements.

Any future construction of new or expansion of existing police protection facilities would be subject to project-level environmental review and site-specific mitigation as appropriate in order to ensure significant environmental impacts are avoided or mitigated. However, it is reasonable to conclude the proposed specific plan in accordance with the 2016 CBC would not require new or physically altered police protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts would be **less than significant** and no mitigation is required. No further analysis of this subject is required in the EIR.

c) Schools? ☐ ☐ ☒ ☐

Less than Significant Impact. Although the project includes a residential component, and it is anticipated some residents are expected to be of school-age. Therefore, the project is expected to generate any schoolchildren, the addition of which could cause negative impacts to existing or future school facilities or programs.

California Government Code (Section 65995[b]) establishes the base amount of allowable developer fees imposed by school districts. These base amounts are commonly referred to as "Level 1 fees" and are subject to inflation adjustment every two years. School districts are placed into a specific "level" based on school impact fee amounts that are imposed on the development. With the adoption of Senate Bill 50 and Proposition 1A in 1998, schools meeting certain criteria can now adopt Level 2 and 3 developer fees.

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Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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The amount of fees that can be charged over the Level 1 amount is determined by the district's total facilities needs and the availability of State matching funds. If there is State facility funding available, districts are able to charge fees equal to 50 percent of their total facility costs, termed "Level 2" fees. If, however, there are no State funds available, "Level 3" fees may be imposed for the full cost of their facility needs.

Per California Government Code, "The payment or satisfaction of a fee, charge, or other requirement levied or imposed ... are hereby deemed to be full and complete mitigation of the impacts ... on the provision of adequate school facilities." The project will be required to pay these development fees in accordance with Government Code 65995 and Education Code 17620. Through payment of development fees in accordance with Government Code 65995 and Education Code 17620, no impact related to school services would occur. No mitigation is required. No further analysis of this subject is required in the EIR.

d) Parks? ☐ ☐ ☒ ☐

Less than Significant Impact. The project site contains recreational facilities including the Central Park and Linear Park (1,200 square feet), which are located on site and open to the residents of the proposed project. The addition of residential/commercial structures would provide access to these two parks, but the proposed project would not result in substantial adverse physical impacts to existing parks within the two cities. Therefore, impacts would be less than significant and no additional mitigation is required. No further analysis of this subject is required in the EIR.

e) Other public facilities? ☐ ☐ ☒ ☐

Less than Significant Impact. The proposed project would serve as a community resource to improve the health of its residents and it would result in improved curbs, gutters, sidewalks, and bicycle lanes along the project site frontage and approach roadways, which are public facilities. It is reasonable to conclude the payment of required fees, taxes, and other payments by the project proponent would sufficiently offset any incremental increase in demand for governmental services. But for the proposed project as analyzed throughout this Initial Study, the construction of new or expansion of existing public facilities is not required. Impacts to other public facilities would be less than significant and no mitigation is required. No further analysis of this subject is required in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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16. Recreation

Would the project:

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| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Less than Significant Impact. As the population grows within the City, the need for park and other recreational facilities rises due to the additional strain on upkeep and maintenance that is required to be implemented a City. The addition of 110 residential units and 5,000 square feet of retail is expected to increase the population of Claremont and Upland by a total of 301 residents. The proposed project includes the construction of Central Park and Linear Park on the project site (refer to response to Checklist Question 15d.). There are three parks located within two miles of the project site: Greenbelt Park (1.37 miles northeast of the site), Cabrillo Park (1.40 miles southeast of the site), and Baldy View Park (1.91 miles southeast of the site).

It is not possible to determine with any reasonable certainty, the location, frequency or intensity of use project residents may have on public park/recreation facilities. The proposed project includes various recreational amenities for its employees and residents. Furthermore, any physical impacts resulting from development of the proposed on-site recreational facilities are addressed throughout this Initial Study and mitigated as necessary to levels below significance thresholds.

Through payment of in lieu fees in accordance with the Quimby Act in conjunction with development of the proposed on-site recreational facilities, the project would offset any increased demand on public parks and recreational facilities in the Cities. In lieu fees will be used in part to maintain existing park facilities and/or construct new park facilities at a time and place determined appropriate by each City. The maintenance of existing parks or construction of new park and recreation facilities would be actions independent of the proposed project. The CEQA review for such actions would occur at a time on a level commensurate with each specific City sponsored park development project. Therefore, the proposed project would have **less than significant** impacts related to the increased use of public park and recreation facilities or construction or expansion of park or recreation facilities. No mitigation is required. No further analysis of this subject is required in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
17. Transportation				
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A traffic impact study is being prepared for the proposed project. Potential project conflicts with programs, plans, ordinances, or policies addressing the affected circulation system will be fully analyzed in the EIR and mitigation measures will be identified, where required.				
b) Would the project conflict or be inconsistent with <i>CEQA Guidelines</i> section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A traffic impact study is being prepared for the proposed project. Potential project conflicts or inconsistency with <i>CEQA Guidelines</i> Section 15064.3 regarding vehicle miles traveled analysis will be fully analyzed in the EIR and mitigation measures will be identified, where required.				
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A traffic impact study is being prepared for the proposed project. Potential traffic hazards from project design features or incompatible land uses will be fully analyzed in the EIR and mitigation measures will be identified, where required.				
d) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> A traffic impact study is being prepared for the proposed project. Potential project impacts regarding emergency access will be fully analyzed in the EIR and mitigation measures will be identified, where required.				

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
18. Tribal Cultural Resources				
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:				
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)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 the resource to a California Native American tribe?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Potentially Significant Impact. The City of Claremont has commenced consultation and coordination with affected tribes. The consultation is not complete, therefore; it is not possible at this time to determine if there are known tribal cultural resources listed or eligible for listing on the project site or that would be affected by development of the project. Impacts to tribal cultural resources are considered to potentially significant and will be analyzed in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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19. Utilities and Service Systems

Would the project:

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| a) Require or result in the relocation or construction of new or expanded water, drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. The approval of drainage features/improvements, electrical power and natural gas hook-ups, and telecommunication facilities hook-ups will occur through the building plan check process. As part of this process, all project-related drainage features would be required to meet the Cities of Claremont and Upland's Public Works Department and Santa Ana RWQCB standards. On-site project-related drainage features would be designed, installed, and maintained per Public Works Department standards and the requirements identified in the Final Water Quality Management Plan.

The utility purveyors, Southern California Edison for electric and Southern California Gas Company for natural gas, will require the developer to tie into existing lines in the project vicinity. The project will not result in the construction of new or expanded water or wastewater treatment facilities (refer to responses to Checklist Questions 19b and 19c). The proposed project will be required to connect to existing water and wastewater infrastructure to provide the necessary construction and water/sewer needs for the project. The connection point would be from lines within existing adjacent roadways (Foothill Boulevard). No new water, sewer infrastructure, or construction or relocation of electric power, natural gas lines are anticipated with implementation of the project. Therefore, the impacts would be less than significant and no mitigation is required. No further analysis is required in the EIR.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. Water will be provided to the project site by Golden State Water Company (GSWC). GSWC provides drinking water to approximately 11,000 customers in the Claremont Customer Service Area (CSA), which includes Claremont and portions of Montclair, Pomona and Upland (Claremont System Service Area). Local water comes from two sources: 60 percent comes from local groundwater supplies, which Golden State Water maintains, and the balance is imported from the Metropolitan Water District of Southern California (MWD) via Three Valleys Municipal Water District. In accordance with the 2015 Urban Water Management Plan for Claremont,²¹ the Los Angeles County Sanitation District (LACSD) provides a reliable supply of recycled water that meets California recycled

²¹ 2015 Urban Water Management Plan for Claremont, Golden State Water Company, July 2016. https://www.gswater.com/download/Claremont_2015_UWMP-Final-Draft.pdf accessed October 1, 2019.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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water quality standards set forth in Title 22 of the California Code of Regulations. LACSD is the lead agency in implementing the recycled water plan and distribution network. GSWC works closely with LACSD in planning a potential recycled water distribution system and identifying potential recycled water customers.

The 2015 Urban Water Management Plan for Claremont demonstrates the reliability of water supplies to meet projected annual water demands for the Claremont System during a normal, a single dry year, and multiple dry years through 2040. The projected water demand per capita within the Claremont System is projected at 328 gpd. The proposed project is projected to use 80,360 gpd of potable water. Sufficient water supplies will be available to the project, and GWC does not require new water supply sources or resources to provide water to the project. Therefore, the project will have a less than significant impact related to insufficient water supplies and no mitigation is required. No further analysis is required in the EIR.

- 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?

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Less than Significant Impact. Wastewater in the Claremont System is collected by gravity sewers and lift stations owned by the cities of Claremont and Pomona, as well as by LACSD. The wastewater is transported through LACSD-owned trunk sewers to LACSD's Pomona Water Reclamation Plant (WRP). The City of Claremont is also responsible for ensuring that new development is properly connected to the LACSD wastewater collection system.

The Pomona Water Reclamation Plant (WRP) provides primary, secondary, and tertiary treatment for a design capacity of 15 million gallons per day (mgd) (approximately 16,800 acre feet per year (AFY)). The average per capita wastewater generation factor for the Pomona WRP is 66 gallons per day (gpd) (about 0.07 AFY).²² The plant serves a population of approximately 130,000 people. The treated effluent is reused at over 190 different reuse sites throughout the area, including irrigation of parks, schools, golf courses, landscaping and greenbelts, irrigation and dust control at the Spadra Landfill and industrial use by local paper manufacturers.²³ Claremont's inability to use recycled water for productive purposes is because of the lack of necessary infrastructure and distance from regional treatment plants.

Using a wastewater generation rate of 66 gpd, the proposed project is estimated to generate approximately 16,170 gdp²⁴ which is 0.0010 percent of the capacity of the Pomona WRP. As a matter of policy and to protect public health, the City of Claremont does not allow the use of septic tanks in conjunction with new development within its boundaries and also requires the connection to the City's

²² Ibid.

²³ 2015 Urban Water Management Plan for Claremont, Golden State Water Company, July 2016. https://www.gswater.com/download/Claremont_2015_UWMP-Final-Draft.pdf accessed October 1, 2019.

²⁴ 245 persons × 66 gdp = 16,170 gpd

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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wastewater collection system. To ensure the proper disposal of wastewater and to protect groundwater quality, the wastewater collected within the City is treated and filtered before it is returned to basins.

The City of Upland requires that all new development located within the City limits is required to connect to the public wastewater collection system. The General Plan also ensures that all wastewater collection and conveyance facilities are constructed to serve the ultimate buildout of all developments and should be done in coordination with the applicable regional agencies, which are responsible for providing treatment services. The General Plan requires new development to grant conditional approval of new development on the availability of sufficient capacity in the wastewater collection and treatment system to serve the project. Due to the policies stated in the City's General Plan and because the project will follow the wastewater treatment requirements of the wastewater purveyor, a less than significant impact would occur and no mitigation is required. No further analysis is required in the EIR.

- 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? ☐ ☐ ☒ ☐

Less than Significant Impact. Solid waste collection is a "demand-responsive" service, and current service levels can be expanded and funded through user fees without difficulty. The City of Claremont's Community Services Department provides trash collection and recycling services to all residents and businesses in Claremont. The City has long been a leader in providing innovative solid waste disposal programs. Curbside recycling began here in 1983, years before most other cities even considered providing collection of recyclable materials. Its operation has remained on the leading edge of refuse and recycling technology by adding automated containers, commingled recycling, green waste collection, and variable rates. Waste is generally hauled to the Puente Hills Material Recovery Facility (MRF) where is sorted for recyclable materials and residual waste if transferred to permitted landfills.

Solid waste generated in the City of Upland is collected and transported by the City's contract waste hauler, Burrtec Waste Industries. Once collected, solid waste is transported to sorting/disposal facilities permitted to accept residential and commercial solid waste, with each facility's operations routinely inspected by regional and state regulatory agencies for compliance with all applicable statutes and regulations. Burrtec Waste Industries operates three material recovery facilities in southern California, which sort and process recyclable materials from solid waste. Non-recyclable solid waste would likely go to the Mid-Valley Landfill, located in Rialto.

According to Department of Resources Recycling and Recovery (CalRecycle), the business sector generates more than half of the solid waste in California (approximately 68% of waste disposed). While significant commercial recycling already occurs, much of the commercial sector waste disposed in landfills is clean enough to be recycled. CalRecycle recently adopted Assembly Bill 341, implementing a mandatory commercial recycling requirement for medium-to-large businesses and multi-family complexes. Per the California Green Building Standards Code (CalGreen), all new residential, commercial, and mixed use construction projects in Claremont are required to divert a minimum of 65

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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percent of construction and demolition (C&D) waste from landfill disposal.

The City of Upland's policies on solid waste generation is solid waste is to be minimized and collected, stored, transported, and recycled in safe, sanitary, and environmentally acceptable ways. The policies strive to exceed the State's goal of diverting solid waste from landfills. It is required that trash, recycling, and green waste is picked up to ensure a safe and sanitary environment. The collection and recycling of household hazardous waste as well as e-waste, used oil and filter container recycling, and sharps disposal is provided at the City Yard.

In accordance with the United States EPA, the generation rate of solid waste is 4.4 pounds per day per person.²⁵ The proposed project is expected to increase the area population by 301 people. The proposed project would generate approximately 1,324 pounds per day of solid waste (241.7 tons per year) for the residential portion of the project site. The CalRecycle uses a solid waste generation rate of 0.046 pounds per square foot per day for commercial/retail uses.²⁶ Based on 5,000 square feet of commercial uses in the Claremont portion of the proposed project, 230 pounds per day would be generated by the commercial portion of the project. The total solid waste generated by the proposed project would be approximately 1,554 pounds per day or 283.6 tons per year. Given the recycling requirements and solid waste standards of the Cities of Claremont and Upland, the proposed project will not generate solid waste in excess of the capacity of local infrastructure. The project will implement these standards for solid waste. Therefore, a **less than significant** impact would occur and no mitigation is required. No further analysis is required in the EIR.

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| e) Comply with federal, State, and local management reduction statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Less than Significant Impact. The City requires all development to adhere to all source reduction programs set forth in the Source Reduction and Recycling Element (SRRE) for the disposal of solid waste, which also includes yard waste. This project would adhere to the SRRE and, like all development, also comply with other applicable local, State, and federal solid waste disposal standards. Impacts are considered less than significant and no mitigation is required. No further analysis is required in the EIR.

²⁵ https://www.epa.gov/sites/production/files/2016-11/documents/2014_smmfactsheet_508.pdf accessed October 1, 2019.

²⁶ <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates/> accessed October 1, 2019.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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20. Wildfire

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

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| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Potentially Significant Impact. According to the City of Claremont General Plan Fire Hazard Map, the portion of the project site that is located in Claremont is not within a high fire hazard severity area. According to the City of Upland General Plan Fire Hazard Map, the portion of the site that is located in Upland is not located in a high fire hazard zone. Fire services in the City of Claremont are provided to residents of Claremont through a contract with the consolidated Fire Protection District of Los Angeles County. Los Angeles County Fire is responsible for the protection of life and property from losses due to fire, explosion, and other disasters.

Policy SAF-4.6 in the City of Upland's General Plan "requires all development in areas of potential wildland fire hazards, shown in the High Fire Hazard Map, to include clearance around structures, fire-resistant ground cover and fire-resistant roofing materials." Design and construction of the project in accordance with the 2016 California Building Code (CBC) which includes design features such as ignition-resistant materials and incorporation of fire sprinklers that would minimize any risk of exposure of persons or property to wildfires. Impacts from wildfires will be **potentially significant** and will be evaluated in the EIR.

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| 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? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|

Potentially Significant Impact. The proposed project site is within an area prone to wildfire. Three sides of the site are developed including the east and south borders containing arterial roadways. An existing retail commercial center is located to the west. The land bordering the site to the north is undeveloped; however, the area is not fully vegetated because of prior ground disturbances including several structures on the north side of a driveway (Maryland Avenue) off Monte Vista Avenue. In addition, there is a nearby fire station (San Bernardino County Fire Station 165 located at 1257 Airport Drive, Upland) approximately 0.5 mile from the project site. The project site is located approximately 2 miles from the foothills of the San Gabriel Mountains and approximately 1 mile from an area of vacant land containing dense natural vegetation northeast of Monte Vista Avenue. These areas have a potential of a wildfire and could pose a threat to the project. The project will be developed in accordance with the regulations and standards outlined in the California Building Code and fire codes. Station 165 is a first responder to fire emergencies and response times will be adequately serving this project area. Therefore, impacts from wildfires will be **potentially significant** and will be evaluated in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact. The project site is located in an urbanized area. Implementation of the project will not require the installation or maintenance of such infrastructure beyond connections to utilities surrounding the site. Existing infrastructure will support the project and will be further described in Section 19, Utilities and System Services in the EIR. Therefore, impacts are **less than significant** and no mitigation is required. No further analysis is required in the EIR.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Less Than Significant Impact. The project site is relatively flat, therefore the project will not be susceptible to risk of flooding or landslides. Therefore, impacts to people and structures will be **less than significant** and no mitigation is required. No further analysis is required in the EIR.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
21. Mandatory Findings of Significance				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> The proposed project's impacts to biological resources and cultural resources will be analyzed in the EIR. Therefore, impacts to biological resources and historical resources could be potentially significant. Any required mitigation measures will be included in the EIR.				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Impacts of the proposed project were not determined to be significant on aesthetics, agricultural and forestry resources, geology and soils, mineral resources, population and housing, public services and utilities, recreation; therefore, the cumulative discussion of these issues will not be carried over to the EIR. The proposed project's potential cumulative impacts related to air quality, biological resources, cultural resources, greenhouse gases, hydrology, noise, traffic and wildfire will be analyzed in EIR and any mitigation measures related to cumulative impacts will be identified in the EIR. Any required mitigation measures to reduce cumulative impacts will be included in the EIR.				
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Potentially Significant Impact.</i> Impacts related to air pollution, drainage, greenhouse gas emissions, noise, traffic, and wildfire that could potentially affect human beings directly or indirectly will be analyzed in the EIR. These impacts are potentially significant and mitigation measures will be identified in the EIR, where required. Potential effects on humans from seismic related hazards have been addressed in responses to Checklist Questions 7.a and 7.c in this Initial Study with the conclusion that such impacts are less than significant and no further discussion will be included in the EIR.				

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THE COMMONS SPECIFIC PLAN**

APPENDIX A

GEOTECHNICAL ENGINEERING INVESTIGATION

**DRAFT INITIAL STUDY
THE COMMONS SPECIFIC PLAN**

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WALBERN DEVELOPMENTS

29222 Rancho Viejo Road, Suite 207
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June 20, 2018

Project No. 2-0128

Attention: Mr. Matt Waken

Subject: **GEOTECHNICAL INVESTIGATION**
Foothill East project on Foothill Boulevard at Monte Vista Avenue
Cities of Claremont and Upland, California

References: Appendix

Dear Mr. Waken:

Presented herein is Alta California Geotechnical, Inc.'s (Alta's) geotechnical investigation of the Foothill East proposed mixed residential and commercial development, located at the intersection of Monte Vista Avenue and Foothill Boulevard in the Cities of Claremont and Upland, California. This report is based on Alta's recent subsurface investigation, laboratory testing, engineering analyses, and review of the referenced reports.

Alta's review of the geotechnical data and conceptual plan indicates that the proposed development is feasible, from a geotechnical perspective, provided that the recommendations presented in this report are incorporated into the grading and improvement plans and implemented during site development.


Included in this report are:


- Discussion of the site geotechnical conditions;
- Recommendations for remedial and site grading, including unsuitable soil removals;
- Geotechnical site construction recommendations;
- Preliminary foundation design parameters.


If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

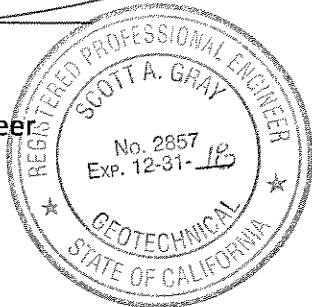
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1.0 INTRODUCTION

The following report presents Alta's findings, conclusions and geotechnical recommendations for the Foothill East proposed mixed residential and commercial development, located at the intersection of Monte Vista Avenue and Foothill Boulevard, in the Cities of Claremont and Upland, California.

1.1 Purpose

The purpose of this report is to examine the existing onsite geotechnical conditions and assess their impacts on the proposed development. The property is depicted on the enclosed Site Plan (Plate 1). This report is suitable for use in developing grading plans and preliminary construction cost estimates.

1.2 Scope of Work

Alta's *Scope of Work* for this geotechnical investigation included the following:

- Reviewing the referenced reports and air photos (Appendix A);
- Site geologic mapping;
- Excavating, logging, and sampling ten (10) excavator test pits to a maximum depth of 20-feet below the existing surface (Appendix B);
- Conducting preliminary infiltration testing;
- Conducting laboratory testing on samples obtained during our investigation (Appendix C);
- Evaluating engineering geologic and geotechnical engineering data, including laboratory data, to develop recommendations for site remedial grading, import soil, foundations and utilities;
- Preparing this report and accompanying exhibits.

1.3 Report Limitations

The conclusions and recommendations presented in this report are based on the field and laboratory information generated during this investigation, and a review of the referenced reports. The information contained in this report is

intended to be used for development of grading plans and preliminary construction cost estimates.

2.0 PROJECT DESCRIPTION

2.1 Site Location and Existing Conditions

The irregular-shaped, approximately 6.4± -acre Foothill East project is located in the northwest corner of Monte Vista Avenue and Foothill Boulevard, in the Cities of Claremont and Upland, California. The property slopes gently to southwest from approximate elevations 1360 to 1330. It is bounded on the south by Foothill Blvd, on the east by Monte Vista Avenue, on the west by an Armstrong Garden Center, and north by Andrew Drive and open space. Some concrete flatwork exists in the western portion of the site and a concrete debris pile exists along the north western boundary. Moderate growth of shrubs and weeds cover most of the site.

Historic aerial photos are available as far back as 1938. The photos indicate that a structure previously stood on the western portion of the site but was demolished by 1994. Running water once flowed over the site before the San Antonio Creek Channel had been constructed. (Historic Aerials, 2018).

2.2 Proposed Development

It is our understanding that the site is to be redeveloped into a mixed residential and commercial development. Alta anticipates that conventional cut-and-fill grading techniques will be used to develop the site for the support of wood-frame and stucco construction with shallow foundations and reinforced concrete slabs-on-grade, and associated improvements.

3.0 SITE INVESTIGATION

3.1 Investigation and Laboratory Testing

Alta conducted a subsurface investigation on May 30, 2018 consisting of the excavation, logging and select sampling of ten (10) excavator test pits. The

locations of the test pits are shown on enclosed Plate 1 and the test pit logs are presented in Appendix B.

Laboratory testing was performed on bulk samples obtained during the field investigation. A brief description of the laboratory test procedures and the test results are presented in Appendix C.

3.2 Infiltration Testing

Alta conducted infiltration testing on June 1, 2018 in general conformance with the San Bernardino County Technical Guidance Document for WQMP.

Infiltration testing utilizing the shall percolation test procedure was undertaken in two, five (5) foot-deep test pits (P-1 and P-2), and in two, ten (10) foot-deep test pits (P-3 and P-4). The test pits were presoaked, and the water level reading were recorded every 10 minutes until the readings stabilized. The data was then adjusted to provide an infiltration rate utilizing the Porchet Method. A summary of the results is presented in Table 3-1, which do not include a factor of safety. Recommendations for infiltration BMP design are presented in Section 6.2.

Table A-Summary of Infiltration Testing (No Factor of Safety)				
Test Designation	P-1	P-2	P-3	P-4
Approximate Depth of Test	5.0 ft	5.0 ft	10.0 ft	10.0 ft
Final Time Interval	10 minutes	10 minutes	10 minutes	10 minutes
Radius of Test Hole	4 inches	4 inches	4 inches	4 inches
Tested Infiltration Rate	10 inches/hr	10 inches/hr	10 inches/hr	10 inches/hr

4.0 GEOLOGIC CONDITIONS

4.1 Geologic and Geomorphic Setting

Regionally, the subject site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of southern California where right lateral major active fault zones predominately trend northwest-southeast. The Peninsular Ranges province is composed of plutonic and metamorphic rock, with lesser amounts of Tertiary volcanic and sedimentary rock, Quaternary drainage in-fills and sedimentary veneers.

4.2 Stratigraphy

Based on our literature review and subsurface investigation, the site is underlain by minor amounts of undocumented artificial fill and young alluvial cobbles and sands. These geologic units are briefly described below. Their distribution is shown on enclosed Plate 1.

4.2.1 Undocumented Artificial Fill (No map symbol)

The undocumented artificial fill encountered at the site consists primarily of gray and grey brown gravelly sand in a dry, moderately dense condition. The unit was logged to a depth of two and a half (2.5) feet below the ground surface and is directly underlain by young alluvial fan deposits.

4.2.2 Young Alluvial Fan Deposits (Map symbol Qal)

The site is underlain by Holocene-age fan deposits sourced from alluvial fan outwash from nearby canyons and drainages. The alluvial deposits encountered at the site consist primarily of gray, gray brown, and tan brown cobble and gravels with sand in a dry, very loose to moderately dense condition. The unit was logged to a depth of 20 feet below the ground surface. Caving was observed in the test pits as noted in the Test Pit logs in Appendix B.

4.3 Geologic Structure

4.3.1 Tectonic Framework

Jennings and Bryant (2010) defined eight structural provinces within California that have been classified by predominant regional fault trends and similar fold structure. These provinces are in turn divided into blocks and sub-blocks that are defined by "major Quaternary faults." These blocks and sub-blocks exhibit similar structural features. Within this framework, the subject site is located within Structural Province I, which is controlled by the dominant northwest trend of the San Andreas Fault and is divided into two blocks, the Coast Range Block and the Peninsular Range Block. The Peninsular Range Block, on which this site is located, is characterized by a series of parallel, northwest trending faults that exhibit right lateral dip-slip movement. These faults are terminated by the Transverse Range block to the north and extend southward to the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The Santa Ana Sub-block, one of the eight sub-blocks, is bound on the east by the Elsinore fault zone and on the west by the Newport-Inglewood fault zone.

4.3.2 Regionally Mapped Active Faults

Several large, active fault systems including the Elsinore-Whittier, Newport-Inglewood, and the San Andreas occur in the region surrounding the site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.

4.3.3 Geologic Structure

Based upon our site investigation and literature review, the onsite sediments are of Holocene age, and are not fractured, folded, or faulted.

4.4 Groundwater

Groundwater was not encountered during this investigation. Nearby wells indicate that groundwater in the area is greater than 115± feet below the ground surface. The seismic hazard zone report for the area (CDMG, 1998) indicates that historic high groundwater elevation is approximately 40 to 50 feet below the existing ground surface.

4.5 Earthquake Hazards

The subject site is located in southern California, which is a tectonically active area. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching.

4.5.1 Local and Regional Faulting

The nearest known active faults (movement occurring $\leq 11,000$ years ago) are the Sierra Madre fault, the Clamshell-Sawpit fault, and the San Jacinto fault, located approximately 2.8, 12.6, and 14.5 miles from the site (USGS, 2008).

4.5.2 Seismicity

Ground shaking hazards caused by earthquakes along other active regional faults exist. The 2016 California Building Code requires use-modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2016 California Building Code are presented in Section 7.3.

4.5.3 Surface Rupture

Active faults are not known to exist within the project and a review of Special Publication 42 indicates the site is not within the California State

designated Alquist-Priolo earthquake fault zones (Bryant and Hart, 2007). Accordingly, the potential for fault surface rupture on the subject site is very low.

4.5.4 Liquefaction

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must be considered are: groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking.

Groundwater was not encountered during the subsurface investigation which extended to a depth of 20 feet. The regional groundwater map indicates that the historic high groundwater level is 40 to 50 feet (CDMG, 1998). Based on the depth of groundwater and the underlying soil type (primarily gravel), it is our opinion that the potential for liquefaction is minimal at the site.

4.5.5 Dry Sand Settlement

Dry sand settlement is the process of non-uniform settlement of the ground surface during a seismic event. Based on our subsurface investigation and our removal/recompaction recommendations, the

potential for dry sand settlement is anticipated to be low and within foundation design tolerances.

4.5.6 Seismically Induced Landsliding

Due to a lack of slopes within or nearby the property, seismically induced landsliding is not anticipated to pose a danger to the site.

5.0 ENGINEERING PROPERTIES AND ANALYSIS

5.1 Materials Properties

Presented herein is a general discussion of the engineering properties of the onsite materials that will be encountered during construction of the proposed project. Descriptions of the soil (Unified Soil Classification System) are presented on the boring logs in Appendix B.

5.1.1 Excavation Characteristics

Based on the data provided from the subsurface investigation, it is our opinion that the majority of the onsite materials possess favorable excavation characteristics such that conventional equipment can be utilized. Gravels, cobbles, and boulders will be encountered in excavations onsite. The largest dimension boulder encountered during our subsurface investigation was three (3) feet in diameter.

5.1.2 Over-Sized Rock

Over-sized rock (>12-inches) will be generated from excavations onsite. This rock may be incorporated into the compacted fill section based on the recommendations presented in Section 6.2.2.

5.1.3 Compressibility

The undocumented artificial fill and upper portions of the young alluvial fan deposits onsite are considered compressible and unsuitable to support the proposed improvements. Recommended removal depths are presented in Section 6.1.2.

5.1.4 Hydro-Consolidation

Hydro-consolidation is the effect of introducing water into soil that is prone to collapse. Upon loading and initial wetting, the soil structure and apparent strength are altered resulting in almost immediate settlement. That settlement can have adverse impacts on engineered structures, particularly in areas where it is manifested differentially. Differential settlements are typically associated with differential wetting, irregularities in the subsurface soil conditions, or irregular loading patterns.

Based on the composition of the onsite soils (primarily gravel) and the anticipated minimal fill loads, the potential for hydro-collapse onsite is minimal and should be within foundation tolerances upon the completion of the recommended unsuitable soil removals.

5.1.5 Expansion Potential

Expansion index testing was performed on samples taken during our subsurface investigation. Based on the results, it is anticipated that the majority of materials onsite are “very low” to “low” in expansion potential ($0 \leq EI \leq 50$, Appendix C) when tested per ASTM D: 4829.

5.1.6 Earthwork Adjustments

The values presented in Table 5-2 are deemed appropriate for estimating purposes and may be used in an effort to balance earthwork quantities. As is the case with every project, contingencies should be made to adjust the earthwork balance when grading is in-progress and actual conditions are better defined.

TABLE 5-2 Earthwork Adjustment Factors		
Geologic Unit	Adjustment Factor Range	Average
Young Alluvial Fan Deposits/afu	Shrink 10% to 20%	15%

5.1.7 Chemical Analyses

Chemical testing was performed on samples of material underlying the proposed site. Soluble sulfate test results indicate that the soluble sulfate concentrations of the soils tested are classified as negligible (Class S0) per ACI 318-14. Negligible chloride levels were detected in the onsite soils. Additional discussions on corrosion are presented in Section 7.9.

Corrosion tests results are presented in Appendix C.

5.2 Engineering Analysis

Presented below is a general discussion of the engineering analysis methods that were utilized to develop the conclusions and recommendations presented in this report.

5.2.1 Bearing Capacity and Lateral Earth Pressures

Ultimate bearing capacity values were obtained using the graphs and formula presented in NAVFAC DM-7.1. Allowable bearing was determined by applying a factor of safety of at least 3 to the ultimate bearing capacity. Static lateral earth pressures were calculated using Rankine methods for active and passive cases. If it is desired to use Coulomb forces, a separate analysis specific to the application can be conducted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Alta's findings during our subsurface investigation, the laboratory test results, our staff's previous experience in the area, it is Alta's opinion that the development of the site is feasible from a geotechnical perspective. Presented below are Alta's

recommendations that should be incorporated into site development and construction plans. All grading shall be accomplished under the observation and testing of the project geotechnical consultant in accordance with the recommendations contained herein and the City of Upland/Claremont criteria.

6.1 Remedial Grading Recommendations

6.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of off-site prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of Los Angeles/San Bernardino Department of Health Services.

6.1.2 Disposal of Existing Concrete

Existing concrete flatwork and debris associated with the previously demolished structure should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite. These recommendations should be approved by the Cities of Claremont and Upland.

6.1.3 Unsuitable Soil Removals

The undocumented artificial fill and the uppermost portions of the young alluvial fan deposits onsite are compressible and as such, are not suitable to support the proposed structures. Accordingly, it is recommended to completely remove the undocumented artificial fills and the highly weathered portions of the underlying alluvial across the site and as close to the property boundaries as possible.

Accordingly, in design fill and shallow cut areas, it is recommended to remove and re-compact the upper five (5) feet of existing soils on the building pads. In design cut areas, the building pad should be overexcavated to provide a minimum of two (2) feet below the bottom of the footings (Provided the 5-foot minimum removal is provided). This recommended removal combined with the foundation recommendations presented in Section 7.1 should provide suitable support for the proposed structures.

For fill areas in streets, in general, a minimum removal and recompaction of the upper two (2) feet of native soils is recommended. For cuts greater than two feet (2) in street areas, removals are not required. For cuts less than two (2) feet, the two (2) foot removal and recompaction applies.

The Project Geotechnical Consultant should observe the removal bottom prior to placing fill. If unsuitable soils such as undocumented artificial fill are exposed upon the completion of the removals recommended above, additional removals may be required. This recommended removal is based on the assumptions that limited fill above the existing ground surface will be placed onsite.

6.2 General Earthwork Recommendations

6.2.1 Compaction Standards

All fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent, as determined by ASTM Test Method: D-1557. Fill material should be moisture conditioned to optimum moisture or above, and as generally discussed in Alta's Earthwork Specification Section presented in Appendix E. Compaction shall be

achieved with the use of sheepsfoot rollers or similar kneading type equipment. Mixing and moisture conditioning will be required in order to achieve the recommended moisture conditions. Over-sized material should be handled based on the recommendations presented below in Section 6.2.2.

6.2.2 Over-Sized Rock Disposal Requirements

Oversized rock (>12 inches) is present in the underlying young alluvial fan deposits onsite. It is recommended that either the oversized rock be placed in fills in non-structural areas, or deep enough so as not to impact footing and utility construction. Placement of individual rocks in fill shall be conducted as per the details provided on Plate G- 15 (Appendix F).

6.2.3 Groundwater/Seepage

It is anticipated that groundwater will not be encountered during construction. It is possible that perched water conditions could be encountered depending on the time of year construction occurs.

6.2.4 Documentation of Removals

All removal/over-excavation bottoms should be observed and approved by the project Geotechnical Consultant prior to fill placement. Consideration should be given to surveying the removal bottoms and undercuts after approval by the geotechnical consultant and prior to the placement of fill. Staking should be provided in order to verify undercut locations and depths.

6.2.5 Treatment of Removal Bottoms

At the completion of removals/over-excavation, the exposed removal bottom should be ripped to a minimum depth of eight (8) inches, moisture-conditioned to above optimum moisture content and compacted in-place to the project standards.

6.2.6 Fill Placement

After removals, scarification, and compaction of in-place materials are completed, additional fill may be placed. Fill should be placed in eight-inch bulk maximum lifts, moisture conditioned to optimum moisture content or above, compacted and tested as grading/construction progresses until final grades are attained.

6.2.7 Mixing

Mixing of materials may be necessary to prevent layering of different soil types and/or different moisture contents. The mixing should be accomplished prior to and as part of compaction of each fill lift.

6.2.8 Import Soils

Import soils, if necessary, should consist of clean, structural quality, very low expansive, compactable materials similar to the on-site soils and should be free of trash, debris or other objectionable materials. The project Geotechnical Consultant should be notified not less than 72 hours in advance of the locations of any soils proposed for import. Import sources should be sampled, tested, and approved by the project Geotechnical Consultant at the source prior to the importation of the soils to the site. The project Civil Engineer should include these requirements on plans and specifications for the project.

6.2.9 Utility Trenches

6.2.9.1 Excavation

Utility trenches should be supported, either by laying back excavations or shoring, in accordance with applicable OSHA standards. Slight to moderate caving was observed in Alta's trenches, as such, the existing site soils are classified as Soil Types "B" and "C" per OSHA standards. Upon completion of

the recommended removals and recompaction, the artificial fill will be classified as Soil Type "B", while the underlying alluvium will still be classified as either "B or "C". The Project Geotechnical Consulting should be consulted if geologic conditions vary from what is presented in this report.

6.2.9.2 Backfill

Trench backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D-1557.

Onsite soils will not be suitable for use as bedding material but will be suitable for use in backfill provided oversized materials are removed. No surcharge loads should be imposed above excavations. This includes spoil piles, lumber, concrete trucks, or other construction materials and equipment. Drainage above excavations should be directed away from the banks. Care should be taken to avoid saturation of the soils. Compaction should be accomplished by mechanical means. Jetting of native soils will not be acceptable.

Under-slab trenches should also be compacted to project specifications. If select granular backfill ($SE > 30$) is used, compaction by flooding will be acceptable.

6.2.10 Backcut Stability

Temporary backcuts, if required during unsuitable soil removals, should be made no steeper than 1:1 without review and approval of the geotechnical consultant. Flatter backcuts may be necessary where geologic conditions dictate and where minimum width dimensions are to

be maintained. Caving was observed in the test pits onsite, indicating that backcuts in the upper soils may need to be shallower than 1:1.

Care should be taken during remedial grading operations in order to minimize risk of failure. Should failure occur, complete removal of the disturbed material will be required.

In consideration of the inherent instability created by temporary construction backcuts for removals, it is imperative that grading schedules are coordinated to minimize the unsupported exposure time of these excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing at-grade or near-grade excavations through a non-work weekend. Where improvements may be affected by temporary instability, either on or offsite, further restrictions such as slot cutting, extending work days, implementing weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed.

6.3 Storm Water Infiltration Systems

Preliminary infiltration testing was conducted at the site as part of this investigation, and the results are presented in Section 3.2. Based on our testing, the infiltration rates at the site are high. As such, infiltration-type WQMP systems are feasible.

From a geotechnical perspective, allowing storm water to infiltrate the onsite soil in concentrated areas increases the potential for settlement, liquefaction, and water-related damage to structures/improvements, such as wet slabs or pumping

subgrade. Care should be taken in designing systems that control the storm water as much as possible. A methodology for dealing with overflow should the infiltration system become clogged or full should be developed and maintained.

It is recommended that the Project Geotechnical Consultant observe the BMP excavations during construction to verify that the infiltration rates presented herein are appropriate. If it is determined that rates may be variable, additional infiltration testing should be undertaken.

If infiltration-type storm water systems are proposed, additional infiltration testing may be required at site-specific locations when the location and elevations for infiltration structures are determined.

6.4 Boundary Conditions

The site is bounded in areas by existing improvements such as Foothill Drive, Monte Vista Avenue, Andrew Drive and the Armstrong Nursery. Construction of retaining/screen walls or other improvements along these boundaries may require additional geotechnical recommendations concerning unsuitable soil removals and foundation design parameters. Boundary conditions for the project should be reviewed by the Project Geotechnical Consultant as the design progresses.

7.0 DESIGN CONSIDERATIONS

7.1 Structural Design

It is anticipated that multi-story, wood-frame residential structures with slab on-grade and shallow foundations will be constructed. Upon the completion of rough grading, finish grade samples should be collected and tested in order to provide specific recommendations as they relate to the individual building pads. These test results and corresponding design recommendations should be presented in a final rough grading report. Final slab and foundation design

recommendations should be made based upon specific structure sitings, loading conditions, and as-graded soil conditions.

It is anticipated that the majority of onsite soils will possess "very low" to "low" expansion potential when tested in general accordance with ASTM Test Method D: 4829. For budgeting purposes, the following foundation design requirements for a range of potential expansion characteristics are presented.

7.1.1 Foundations

Foundations may be preliminary designed based on the values presented in Table 7-1 below.

Table 7-1 Foundation Design Parameters*	
Allowable Bearing	2000 lbs/ft ² assuming a minimum footing width and embedment of 12 inches.
Lateral Bearing	250 lbs/ft ² at a depth of 12 inches plus 250 lbs/ft ² for each additional 12 inches of embedment to a maximum of 2000 lbs/ft ²
Sliding Coefficient	0.35
Differential Settlement	Dynamic: Differential = 1-inch in 40 feet Static: Differential = 0.5 inch in 40 feet

*These values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern depth and reinforcement requirements and should be evaluated.

7.1.2 Conventional Slab/Foundation Systems

Based on the onsite soils conditions and information supplied by the 2016 CBC, conventional slab/foundation systems may be designed in accordance with Tables 7-1 and 7-2.

TABLE 7-2	
CONVENTIONAL FOUNDATION DESIGN PARAMETERS	
Expansion Potential	<i>Very Low to Low</i>
Soil Category	I
Design Plasticity Index	10
Minimum Footing Embedment	12 inches*
*The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code.	
Minimum Footing Width	12-inches-The structural engineer should determine the minimum footing width based on loading and the latest California Building Code.
Minimum Footing Reinforcement	No. 4 rebar, two (2) on top, two (2) on bottom
Minimum Slab Thickness	4 inches (actual)
Minimum Slab Reinforcement	No. 3 rebar spaced 18 inches on center, each way
Under-Slab Requirement	See Section 7.2
Slab Subgrade Moisture	Minimum of 110 percent of optimum moisture to a depth of 12 inches prior to placing concrete.
Footing Embedment Adjacent to Swales and Slopes	If exterior footings adjacent to drainage swales are to exist within five (5) feet horizontally of the swale, the footing should be embedded sufficiently to assure embedment below the swale bottom is maintained. Footings adjacent to slopes should be embedded such that at least five- (5) feet is provided horizontally from edge of the footing to the face of the slope.
Garages	A grade beam reinforced continuously with the garage footings shall be constructed across the garage entrance, tying together the ends of the perimeter footings and between individual spread footings. This grade beam should be embedded at the same depth as the adjacent perimeter footings. A thickened slab, separated by a cold joint from the garage beam, should be provided at the garage entrance. Minimum dimensions of the thickened edge shall be six (6) inches deep. Footing depth, width and reinforcement should be the same as the structure. Slab thickness, reinforcement and under-slab treatment should be the same as the structure.

7.1.3 Post-Tensioned Slabs/Foundation Design Recommendations

Post-tensioned slabs for the project may be preliminarily designed utilizing the parameters presented in Tables 7-1 and 7-3. The parameters presented herein are based on methodology provided in the Design of Post-Tensioned Slabs-On-Ground, Third Edition, by the Post-Tensioning Institute, in accordance with the 2016 CBC.

TABLE 7-3 POST-TENSION SLAB DESIGN PARAMETERS						
Category	Expansion Potential	Minimum Embedment	Edge Lift		Center Lift	
			Em (ft)	Ym (inch)	Em (ft)	Ym (inch)
I	Very Low to Low	12 inches	5.1	0.61	9.0	0.26
Slab Subgrade Moisture						
Category I		Minimum 110% of optimum moisture to a depth of 12 inches prior to pouring concrete				
Embedment*						
The minimum outer footing embedment presented herein are based on expansion indexes. The structural engineer should verify the minimum embedment based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code. If mat slabs are utilized, alternate embedment depths can be provided.						
Moisture Barrier						
A moisture barrier should be provided in accordance with the recommendations presented in Section 7.2						
The parameters presented herein are based on procedures presented in the <u>Design of Post-Tensioned Slabs-On-Ground, Third Edition</u> . No corrections for vertical barriers at the edge of the slab, or for adjacent vegetation have been assumed. The design parameters are based on a Constant Suction Value of 3.9 pF.						

7.2 Moisture Barrier

A moisture and vapor retarding system should be placed below the slabs-on-grade in portions of the structure considered to be moisture sensitive and should be capable of effectively preventing the migration of water and reducing the transmission of water vapor to acceptable levels. Historically, a 10-mil plastic membrane, such as Visqueen, placed between two to four inches of clean sand, has been used for this purpose. The use of this system or other systems can be considered, at the discretion of the designer, provided the system reduces the vapor transmission rates to acceptable levels.

7.3 Seismic Design

The site has been identified as "D" site class in accordance with Table 20.3-1 of ASCE 7-10. Utilizing this information, the computer program USGS Seismic Design Maps Version 3.1.0 and ASCE 7-10 criterion, the spectral response accelerations that can be utilized for the project are presented on Figure 1. These parameters should be verified by the structural engineer. Additional parameters should be

USGS Design Maps Summary Report

User-Specified Input

Report Title 2-0128

Tue June 19, 2018 17:07:43 UTC

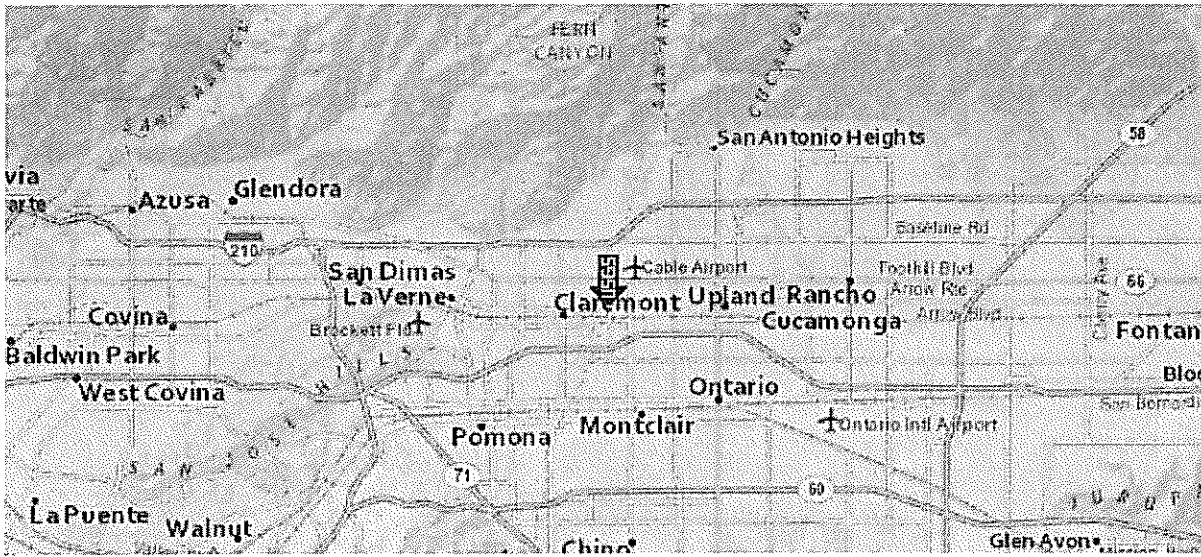
Building Code Reference Document ASCE 7-10 Standard

(which utilizes USGS hazard data available in 2008)

Site Coordinates 34.1076°N, 117.7001°W

Site Soil Classification Site Class D – “Stiff Soil”

Risk Category I/II/III



USGS-Provided Output

$S_s = 2.706 \text{ g}$

$S_{MS} = 2.706 \text{ g}$

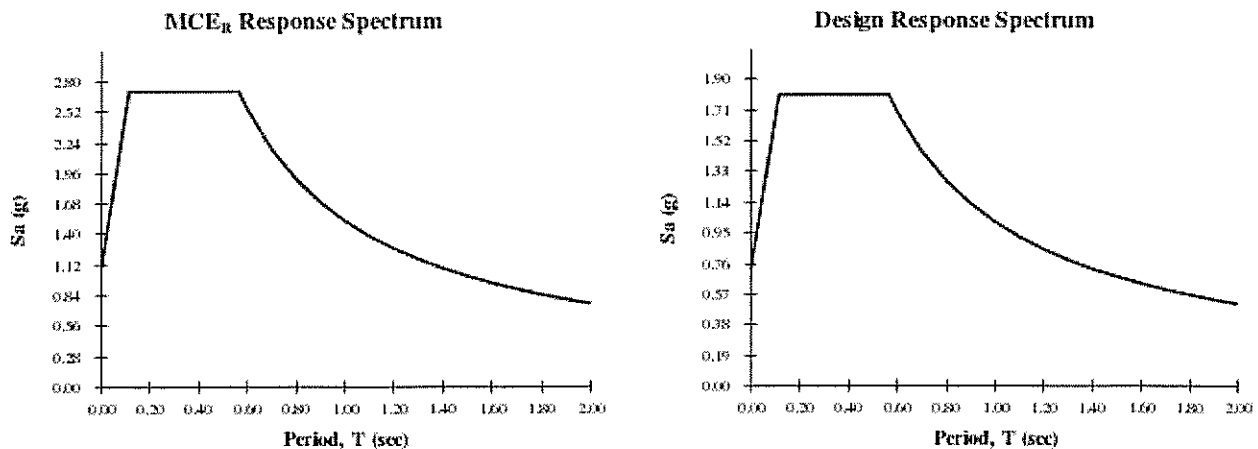
$S_{DS} = 1.804 \text{ g}$

$S_1 = 1.016 \text{ g}$

$S_{M1} = 1.525 \text{ g}$

$S_{D1} = 1.016 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the “2009 NEHRP” building code reference document.



For PGA_M , T_L , C_{RS} , and C_{R1} values, please [view the detailed report](#).

FIGURE 1

determined by the structural engineer based on the Occupancy Category of the proposed structures.

7.4 Fence and Garden Walls

Block walls, if used, should be embedded a minimum of 2 feet below the lowest adjacent grade. Construction joints (not more than 20 feet apart) should be included in the block wall construction. Side yard walls should be structurally separated from the rear yard wall.

7.5 Footing Excavations

Soils from the footing excavations should not be placed in slab-on-grade areas unless properly compacted and tested. The excavations should be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete placement. The Project Geotechnical Consultant should observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material.

7.6 Retaining Walls

Retaining walls should be founded on engineered fill and should be backfilled with granular soils that allow for drainage behind the wall. Suitable free-draining backfill material may need to be imported to the site. Foundations may be designed in accordance with the recommendations presented in Table 7-1, above. Unrestrained walls, free to horizontally move $0.0005H$ (for dense cohesionless backfill), may be designed to resist lateral pressures imposed by a fluid with a unit weight determined in accordance with the Table 7-4 below. The table also presents design parameters for restrained (at-rest) retaining walls. These parameters may be used to design retaining walls that may be considered as restrained due to the method of construction or location (corner sections of unrestrained retaining walls).

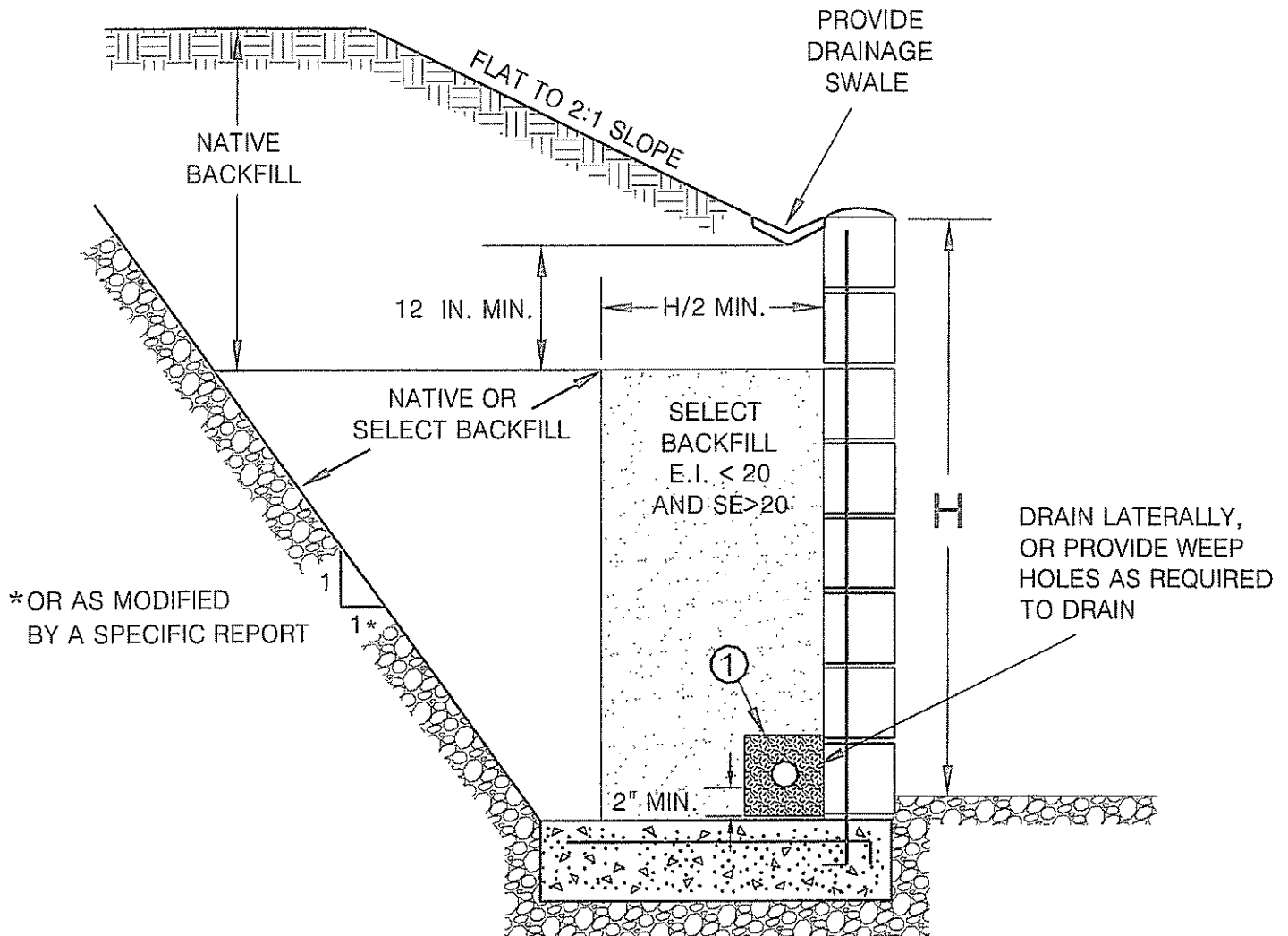
TABLE 7-4 Equivalent Fluid Pressures for 90% Compacted Fill (Select Material)		
Backfill	Active Pressure (psf/ft)	At-Rest Pressure (psf/ft)
Level	35	55

Per the requirements of the 2016 CBC, the seismic force acting on the retaining walls with backfill exceeding 6-feet in height may be resolved utilizing the formula $24H^2$ lb/lineal ft (H =height of the wall). This force acts at approximately $0.6H$ above the base of the wall (inverted triangle). The seismic value can be converted as required by the retaining wall engineer. Retaining walls should be designed in general accordance with Section 1807A.2 of the 2016 CBC.

- Restrained retaining walls should be designed for “at-rest” conditions.
- The design loads presented in the above table are to be applied on the retaining wall in a horizontal fashion and as such friction between wall and retained soils should not be allowed in the retaining wall analyses.
- Additional allowances should be made in the retaining wall design to account for the influence of construction loads, temporary loads, and possible nearby structural footing loads.
- Select backfill should be granular, structural quality backfill with a Sand Equivalent of 20 or better and an ASCE Expansion Index of 20 or less. The backfill must encompass the full active wedge area. The upper one foot of backfill should be comprised of native on-site soils (see Plate A).
- The wall design should include waterproofing (where appropriate) and backdrains or weep holes for relieving possible hydrostatic pressures. The backdrain should be comprised of a 4-inch perforated PVC pipe in a 1 ft. by 1 ft., $\frac{3}{4}$ -inch gravel matrix, wrapped with a geofabric. The backdrain should be installed with a minimum gradient of 2 percent and should be outletted to an appropriate location. For subterranean walls this may include drainage by sump pumps.
- No backfill should be placed against concrete until minimum design strengths are achieved in compression tests of cylinders.

It should be noted that the allowable bearing and lateral bearing values presented in Table 7-1 are based on level conditions at the toe. Modified design

RETAINING WALL BACKFILL DETAIL



①

PIPE: 4-INCH PERFORATED PVC, SCHEDULE 40, SDR35 OR APPROVED ALTERNATE
MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF
PIPE

ROCK: MINIMUM VOLUME OF 1 CU. FT. OF 3/4-IN. MAX. ROCK PER. LINEAL FOOT
OF PIPE, OR APPROVED ALTERNATE

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT



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VER. 1/10

PLATE A

parameters can be presented for retaining walls with sloping condition at the toe. Other conditions should be evaluated on a case by case basis.

7.7 Exterior Slabs and Walkways

Exterior concrete slabs and walkways should be designed and constructed in consideration of the following recommendations.

7.7.1 Subgrade Compaction

The subgrade below exterior concrete slabs should be compacted to a minimum of 90 percent relative compaction as determined by ASTM Test Method: D 1557.

7.7.2 Subgrade Moisture

The subgrade below concrete slabs should be moisture conditioned to a minimum of 110 percent of optimum moisture prior to concrete placement.

7.7.3 Concrete Slab Thickness

Concrete flatwork and driveways should be designed utilizing four-inch minimum thickness.

7.7.4 Concrete Slab Reinforcement

Utilization of reinforcement for flatwork and driveways is subject to a cost/benefit analysis. Reinforcement will decrease the amount of cracking that may occur in flatwork, however, planning for occasional repairs may be more cost effective. Utilizing closely spaced control joints is likely more cost-effective than utilizing reinforcement. The majority of the soils onsite are classified as very low to low in expansion potential. Consideration should be given to reinforcing flatwork with irregular (non-square/rectangular) shapes.

7.7.5 Control Joints

Weakened plane joints should be installed on walkways at intervals of approximately eight feet (maximum) or less. Exterior slabs should be designed to withstand shrinkage of the concrete.

7.8 Concrete Design

As stated in Section 5.1.7, negligible concentrations of sulfates were detected in the onsite soils. Therefore, the use of sulfate resistant concrete is not required per ACI 318-14 at this time. Post-grading conditions should be evaluated, and final recommendations made at that time.

7.9 Corrosion

The onsite soils are corrosive to buried metal objects. Consideration should be given to protecting buried metals from corrosion. Typical measures may include using non-corrosive backfill, protective coatings, wrapping, plastic pipes, or a combination of these methods. A corrosion engineer should be consulted if specific design recommendations are required by the improvement designer.

Per ACI 318-14, an exposure class of C1 would be applicable to metals encased in concrete (rebar in footings) due to being exposed to moisture from surrounding soils.

7.10 Site Drainage

Positive drainage away from the proposed structures should be provided and maintained. Roof, pad and lot drainage should be collected and directed away from the structures toward approved disposal areas through drainage terraces, gutters, down drains, and other devices. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures. Residents or Homeowner Associations should be made aware that they are responsible for maintenance and cleaning of

all drainage terraces, down drains, and other devices that have been installed to promote site and structure drainage.

7.11 Pavement Design

Pavement sections for the proposed streets shall be designed based on laboratory testing conducted on samples taken from the soil subgrade. Preliminarily, based on an assumed R-Value of 30, the pavement may be designed utilizing the sections presented in Table 7-4. These sections should be verified upon the completion of grading, based on R-Value testing.

Table 7-4		
Preliminary Pavement Sections		
Traffic Index	Pavement Section Options	
	OR	
5.0	3-inch AC on 6-inch AB	4-inch AC on 4-inch AB
5.5	3-inch AC on 7-inch AB	4-inch AC on 5-inch AB
6.0	3.5-inch AC on 7.5-inch AB	4-inch AC on 6.5-inch AB
AC-Asphalt Concrete		
AB-Caltrans Class II Base		

The underlying subgrade soil should be suitably moisture conditioned, processed and compacted to a minimum 90 percent of the laboratory maximum density (ASTM: D 1557) to at least twelve (12) inches below subgrade. After subgrade compaction, the exposed grade should then be "proof"-rolled with heavy equipment to ensure the grade does not "pump" and is verified as non-yielding. Aggregate base should consist of Class 2 (Caltrans) aggregate base and should be compacted to at least 95 percent of the maximum laboratory dry density as determined in accordance with ASTM Test Method: D 1557.

Preparation for compaction operations and pavement construction operations should be accomplished in accordance with the current requirements of the City of Claremont/Upland and under the observation and testing of the project geotechnical consultant.

8.0 LOT MAINTENANCE

Ongoing maintenance of the improvements is essential to the long-term performance of structures. As such, the owners must implement certain maintenance procedures. The attached "Maintenance and Improvement Considerations" presented in the Appendix D may be included as part of the sales packet to educate the owners in issues related to drainage, maintenance, backyard improvements, etc. The following recommendations should also be implemented.

8.1 Lot Drainage

Roof, pad and lot drainage should be collected and directed away from structures and slopes and toward approved disposal areas. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures and slopes. Residents should be made aware that they are responsible for maintenance and cleaning of all drainage terraces, down drains, and other devices that have been installed to promote structure and slope stability.

8.2 Burrowing Animals

Residents or owners should undertake a program for the elimination of burrowing animals.

9.0 FUTURE PLAN REVIEWS

This report represents a geotechnical review of the site. As the project design for the project progresses, site specific geologic and geotechnical issues should be considered in the design and construction of the project. Consequently, future plan reviews may be necessary. These reviews may include reviews of:

- Grading Plans
- Foundation Plans
- Utility Plans

These plans should be forwarded to the project Geotechnical Consultant for review.

10.0 CLOSURE

10.1 Geotechnical Review

For the purposes of this report, multiple working hypotheses were established for the project, utilizing the available data and the most probable model is used for the analysis. Future information collected during the proposed grading operations is intended to evaluate the hypothesis and as such, some of the assumptions summarized in this report may need to be changed. Some modifications of the grading recommendations may become necessary, should the conditions encountered in the field differ from the conditions hypothesized in this report.

Plans and sections of the project specifications should be reviewed by Alta to evaluate conformance with the intent of the recommendations contained in this report. If the project description or final design varies from that described in herein, Alta must be consulted regarding the applicability of the recommendations contained herein and whether any changes are required. Alta accepts no liability for any use of its recommendations if the project description or final design varies and Alta is not consulted regarding the alterations.

10.2 Limitations

This report is based on the following: 1) the information obtained from Alta's laboratory testing included herein; and 2) from the information presented in the referenced reports. The findings and recommendations are based on the results of the subsurface investigation, laboratory testing, and office analysis combined with an interpolation and extrapolation of conditions between and beyond the subsurface excavation locations. However, the materials adjacent to or beneath those observed may have different characteristics than those observed, and no precise representations are made as to the quality or extent of the materials not

observed. The results reflect an interpretation of the direct evidence obtained. Work performed by Alta has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality under similar conditions. No other representation, either expressed or implied, and no warranty or guarantee is included or intended.

The recommendations presented in this report are based on the assumption that an appropriate level of field review will be provided by a geotechnical consultant who is familiar with the design and site geologic conditions. That field review shall be sufficient to confirm that geotechnical and geologic conditions exposed during grading are consistent with the geologic representations and corresponding recommendations presented in this report.

The conclusions and recommendations included in this report are applicable to the specific design of this project as discussed in this report. They have no applicability to any other project or to any other location and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of Alta.

Alta has no responsibility for construction means, methods, techniques, sequences, procedures, safety precautions, programs in connection with the construction, acts or omissions of the CONTRACTOR or any other person performing any of the construction, or for the failure of any of them to carry out the construction in accordance with the final design drawings and specifications.

APPENDIX A

REFERENCES

APPENDIX A

Selected References

- Bryant, W.A., and Hart, E.W., 2007, Fault Rupture Hazard Zones in California, Alquist-Priolo Earthquake Zoning Act with index to Earthquake Fault Zones Maps, Special Publication 42, interim revision, California Department of Conservation, California Geological Survey.
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APPENDIX B

Subsurface Investigation

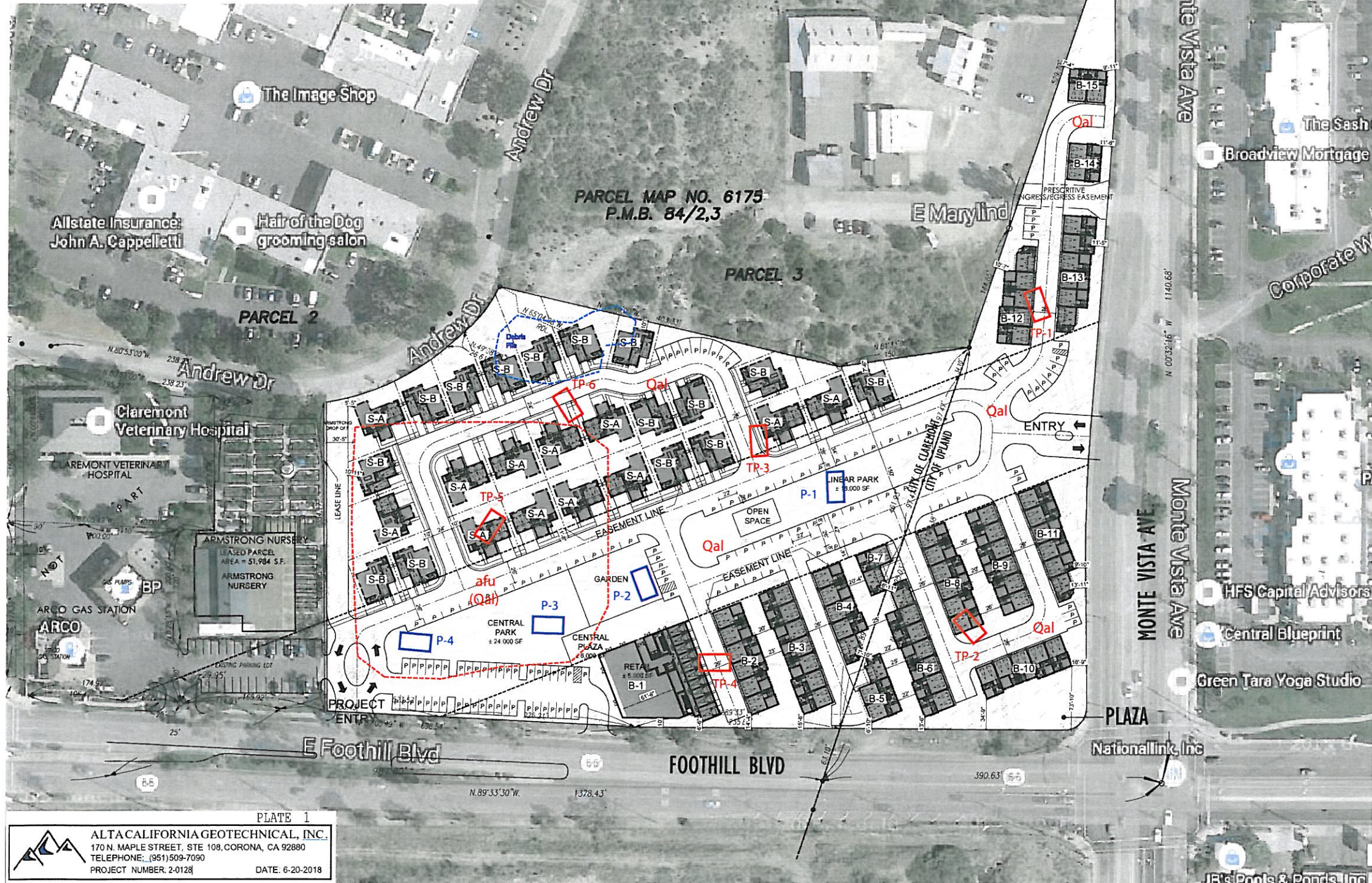
APPENDIX B
Subsurface Investigation

Alta's subsurface investigation consisted of excavating, logging, and sampling ten (10) excavator test pits. Details of the subsurface investigation are presented in Table B-1. The approximate locations of the exploratory excavations are shown on the accompanying site plan (Plate 1) and the Geotechnical Logs are attached.

TABLE B-1 <i>SURFACE INVESTIGATION DETAILS</i>			
Equipment	Range of Depths	Sampling Methods	Sample Locations
Excavator	Up to 20 feet	1. Bulk	1. Bulk-Select Depth

LEGEND

- afu - Artificial Fill-Undocumented
- Qal - Young Alluvial Fan Deposits (Bracketed where buried)
- TP-1 - Approximate Location of Excavator Test Pit
- P-1 - Approximate Location of Excavator Test Pit with Infiltration Test
- Geologic Contact
- Approximate boundary of Concrete Debris Pile



SITE SUMMARY

Developable Acres: ± 6.4 ac.

Unit Mix:

Single Family Detached
 S-A Plan (2,500 sf): ± 12 units (44%)
 S-B Plan (2,200 sf): ± 15 units (56%)
 ± 27 units

Townhomes

$\pm 21' \times 38'$ Towns: ± 61 units
 Carriage Towns: ± 7 units
 ± 68 units

Mixed Use

Flats: ± 10 units
TOTAL UNITS: ± 105 units

Density: ± 16.4 du/ac

Parking:

Garages: ± 200 spaces (2/unit)
 Driveways: ± 27 spaces (10'x18')
 On street: ± 84 spaces (8'x22' Parallel)
 (9'x18' Perpendicular)
Total: ± 311 spaces (3.0 sp/unit)

Retail Parking: ± 43 spaces

Setbacks:

Front	Residential:	7'
	Retails:	5'
Sides		5'
Rear		5'

Building Separation:

SFD	10'
Townhomes	
Front to Front	20'
Side to Side	6' Min.
Rear	28'

Street Width:

Main:	26'
Main w/ Parallel parking one side (8x22):	34'
Main w/ Parallel parking both sides:	42'

Private Drive: 26' (SFD: 24')

PLATE 1
 ALTACALIFORNIA GEOTECHNICAL, INC.
 170 N. MAPLE STREET, STE 108, CORONA, CA 92880
 TELEPHONE: (951) 509-7090
 PROJECT NUMBER: 2-0128 DATE: 6-20-2018

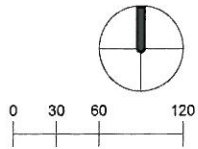


Walbern Development
 29222 Rancho Viejo Road
 Suite 207
 San Juan Capistrano, CA 92675
 949.276.7570
 walberndevelopment.com

Foothill East
 Claremont, CA

#2018-0231

SITE PLAN



A1.0

Project No.	2-0128
Date Excavated	May 31, 2018
Excavated by	James Coyne
Equipment	Caterpillar 375L Excavator

TABLE I
LOG OF TEST PITS

Test Pit No.	Depth (ft.)	USCS	Description
TP-1	0.0-20.0	GP	<p><u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to fine grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 3', roots and debris, caving.</p> <p>@4ft. tan brown, loose to moderately dense, fine gravel <1", slight caving</p> <p>@5ft. coarse gravel <3"</p> <p>@10ft. medium to coarse grained</p> <p>@15ft. fine to coarse gravel <3"</p> <p>TOTAL DEPTH 20.0 FT</p> <p>NO GROUNDWATER OBSERVED</p> <p>CAVING OBSERVED ABOVE 5.0 FT.</p>
TP-2	0.0-15.0	GP	<p><u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, caving.</p> <p>@2.5ft, trace boulders <2', roots</p> <p>@4.5ft, fine to medium grained tan brown, loose to moderately dense, fine gravel</p> <p>@9.0ft. fine to coarse gravel, trace boulder <1.5'</p> <p>TOTAL DEPTH 15.0 FT</p> <p>NO GROUNDWATER ENCOUNTERED</p> <p>CAVING OBSERVED ABOVE 4.5 FT</p>

Test Pit No.	Depth (ft.)	USCS	Description
TP -3	0.0-15.0	GP	<p>YOUNG ALLUVIAL FAN DEPOSITS (Qal): SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', trace boulders up to 1.5', roots and debris, caving.</p> <p>@5ft. tan brown, loose to moderately dense, some sand</p> <p>@8ft. coarse gravel, some cobble</p> <p>TOTAL DEPTH 15.0 FT</p> <p>NO GROUNDWATER ENCOUNTERED</p> <p>CAVING OBSERVED ABOVE 5.0 FT</p>

Test Pit No.	Depth (ft.)	USCS	Description
TP -4	0.0-15.0	GP	<p>YOUNG ALLUVIAL FAN DEPOSITS (Qal): SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', trace boulders up to 2.5', roots and debris, caving.</p> <p>@7.5 roots, slight caving</p> <p>@9ft. tan brown, loose to moderately dense</p> <p>TOTAL DEPTH 15.0 FT</p> <p>NO GROUNDWATER ENCOUNTERED</p> <p>CAVING OBSERVED above 9.0 ft.</p>

Test Pit No.	Depth (ft.)	USCS	Description
TP -5	0.0-1.5	SP	<u>ARTIFICIAL FILL-UNDOCUMENTED:</u> GRAVELLY SAND, fine to medium grained, grey brown, dry, loose to moderately dense, fine to coarse gravel <3", trace cobble <5"
	1.5-15.0	GP	<u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, some caving. @3ft. slight caving @9ft. tan brown, moderately dense
TOTAL DEPTH 15.0 FT NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 5.0 FT.			

Test Pit No.	Depth (ft.)	USCS	Description
TP-6	0.0-15.0	GP	<u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, caving. @5.0ft. fine to coarse grained, tan brown, loose to moderately dense
TOTAL DEPTH 15.0 FT NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 5.0 FT.			

Test Pit No.	Depth (ft.)	USCS	Description
P-1	0.0-5.0	GP	<u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, caving.
TOTAL DEPTH 5.0 FT NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT			

Test Pit No.	Depth (ft.)	USCS	Description
P-2	0.0-5.0	GP	<p><u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, caving.</p> <p>TOTAL DEPTH 5.0 FT NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT</p>

Test Pit No.	Depth (ft.)	USCS	Description
P-3	0.0-2.5	SP	<p><u>ARTIFICIAL FILL-UNDOCUMENTED:</u> GRAVELLY SAND, fine to medium grained, grey brown, dry, loose to moderately dense, fine to coarse gravel <3", trace cobble <5"</p>
	2.5-10.0	GP	<p><u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, some caving. @8ft. fine to medium grained, tan brown, loose to moderately dense</p> <p>TOTAL DEPTH 10.0 FT NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 8FT.</p>

Test Pit No.	Depth (ft.)	USCS	Description
P-4	0.0-2.0	SP	<u>ARTIFICIAL FILL-UNDOCUMENTED:</u> GRAVELLY SAND, fine to medium grained, grey brown, dry, loose to moderately dense, fine to coarse gravel <3", trace cobble <5"
	2.0-10.0	GP	<u>YOUNG ALLUVIAL FAN DEPOSITS (Qal):</u> SANDY GRAVEL and COBBLE, very fine to medium grained sand, grey brown, dry, very loose to loose, fine to coarse gravel <3", cobble <1', some boulders up to 2.5', roots and debris, some caving. @7ft. fine to medium grained, tan brown, loose to moderately dense TOTAL DEPTH 10.0 FT NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED

APPENDIX C

Laboratory Testing

LABORATORY TESTING

The following laboratory tests were performed on a representative sample in accordance with the applicable latest standards or methods from the ASTM, California Building Code (CBC) and California Department of Transportation.

Classification

Soils were classified with respect to the Unified Soil Classification System (USCS) in accordance with ASTM D-2487 and D-2488.

Particle Size Analysis

Modified hydrometer testing was conducted to aid in classification of the soil. The results of the particle size analysis are presented in Table C.

Expansion Index Tests

Two (2) expansion index tests were performed to evaluate the expansion potential of typical on-site soil. Testing was carried out in general conformance with ASTM Test Method D-4829. The results are presented in Table C.

Chemical Analyses

Chemical testing of a selected sample was performed by Alta. The results of these tests are presented on Table C.

TABLE C
SUMMARY OF LABORATORY TEST DATA
P.N. 2-0218

Boring/Pit No.	Depth (ft)	Soil Type	Soil Description	Group Symbol - Unified Soil Classification System	Maximum Dry Density		Direct Shear	Grain Size Analysis				Expansion Index	Sulfate Content (%)	Other Tests Remarks
					Maximum Density (pcf)	Optimum Moisture (%)		Gravel (% + No. 4 Screen)	% Sand	% Silt (0.074 to 0.005mm)	% Clay (-0.005 mm)			
TP-1	4	A	Sandy Gravel/Gravelly Sand	GP/SP	-	-	-	48	41	8	3	0	Not Detected	Chloride: 5ppm pH:6.3
TP-2	5	B	Sandy Gravel/Gravelly Sand	GP/SP	-	-	-	37	54	6	3	0	Not Detected	Chloride: 5ppm pH:6.4

Alta California Geotechnical, Inc.

APPENDIX D

Maintenance Considerations

MAINTENANCE AND IMPROVEMENT CONSIDERATIONS

General

Owners purchasing property must assume a certain degree of responsibility for improvements and for maintaining conditions around their home. Of primary importance from a geotechnical standpoint are maintaining drainage patterns and minimizing the soil moisture variation below all improvements. Such design, construction and owner maintenance provisions may include:

- Employing contractors for improvements who design and build in recognition of local building codes and specific site soils conditions.
- Establishing and maintaining positive drainage away from all foundations, walkways, driveways, patios, and other improvements.
- Avoiding the construction of planters adjacent to structural improvements. Alternatively, planter sides/bottoms can be sealed with an impermeable membrane and drained away from the improvements via subdrains into approved disposal areas.
- Sealing and maintaining construction/control joints within concrete slabs and walkways to reduce the potential for moisture infiltration into the subgrade soils.
- Utilizing landscaping schemes with vegetation that requires minimal watering. Watering should be done in a uniform manner, as equally as possible on all sides of the foundation, keeping the soil "moist" but not allowing the soil to become saturated.
- Maintaining positive drainage away from structures and providing roof gutters on all structures with downspouts that are designed to carry roof runoff directly into area drains or discharged well away from the foundation areas.
- Avoiding the placement of trees closer to the proposed structures than a distance of one-half the mature height of the tree.
- Observation of the soil conditions around the perimeter of the structure during extremely hot/dry or unusually wet weather conditions so that modifications can be made in irrigation programs to maintain relatively uniform moisture conditions.

Sulfates

Owners should be cautioned against the import and use of certain inorganic fertilizers, soil amendments, and/or other soils from offsite sources in the absence of specific information relating to their chemical composition. Some fertilizers have been known to leach sulfate compounds into soils and increase the sulfate concentrations to potentially detrimental levels.

Site Drainage

- The owners should be made aware of the potential problems that may develop when drainage is altered through construction of hardscape improvements. Ponded water, drainage over the slope face, leaking irrigation systems, overwatering, or other conditions which could lead to ground saturation must be avoided.
- No water should be allowed to flow over the slopes. No alteration of pad gradients should be allowed that would prevent pad and roof runoff from being directed to approved disposal areas.
- Drainage patterns have been established at the time of the fine grading should be maintained throughout the life of the structure. No alterations to these drainage patterns should be made unless designed by qualified professionals in compliance with local code requirements and site-specific soils conditions.

Slope Drainage

- Residents should be made aware of the importance of maintaining and cleaning all interceptor ditches, drainage terraces, down drains, and any other drainage devices, which have been installed to promote slope stability.
- Subsurface drainage pipe outlets may protrude through slope surfaces and/or wall faces. These pipes, in conjunction with the graded features, are essential to slope and wall stability and must be protected in-place. They should not be altered or damaged in any way.

Planting and Irrigation of Slopes

- Seeding and planting of the slopes should be planned to achieve, as rapidly as possible, a well-established and deep-rooted vegetal cover requiring minimal watering.
- It is the responsibility of the landscape architect to provide such plants initially and of the residents to maintain such planting. Alteration of such a planting scheme is at the resident's risk.
- The resident is responsible for proper irrigation and for maintenance and repair of properly installed irrigation systems. Leaks should be fixed immediately.
- Sprinklers should be adjusted to provide maximum uniform coverage with a minimum of water usage and overlap. Overwatering with consequent wasteful runoff and serious ground saturation must be avoided.
- If automatic sprinkler systems are installed, their use must be adjusted to account for seasonal and natural rainfall conditions.

Burrowing Animals

- Residents must undertake a program to eliminate burrowing animals. This must be an ongoing program in order to promote slope stability.

Owner Improvement

Owner improvements (pools, spas, patio slabs, retaining walls, planters, etc.) should be designed to account for the terrain of the project, as well as expansive soil conditions and chemical characteristics. Design considerations on any given lot may need to include provisions for differential bearing materials, ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special geologic surcharge loading conditions, expansive soil stresses, and long-term creep/settlement.

All owner improvements should be designed and constructed by qualified professionals utilizing appropriate design methodologies, which account for the on-site soils and geologic conditions. Each lot and proposed improvement should be evaluated on an individual basis.

Setback Zones

Manufactured slopes may be subject to long-term settlement and creep that can manifest itself in the form of both horizontal and vertical movement. These movements typically are produced as a result of weathering, erosion, gravity forces, and other natural phenomenon. A setback adjacent to slopes is required by most building codes, including the California Building Code. This zone is intended to locate and support the residential structures away from these slopes and onto soils that are not subject to the potential adverse effects of these natural phenomena.

The owner may wish to construct patios, walls, walkways, planters, swimming pools, spas, etc. within this zone. Such facilities may be sensitive to settlement and creep and should not be constructed within the setback zone unless properly engineered. It is suggested that plans for such improvements be designed by a professional engineer who is familiar with grading ordinances and design and construction requirements. In addition, we recommend that the

designer and contractor familiarize themselves with the site specific geologic and geotechnical conditions on the specific lot.

APPENDIX E

Earthwork Specifications

ALTA CALIFORNIA GEOTECHNICAL, INC.
EARTHWORK SPECIFICATIONS

These specifications present the generally accepted standards and minimum earthwork requirements for the development of the project. These specifications shall be the project guidelines for earthwork except where specifically superseded in preliminary geology and soils reports, grading plan review reports or by the prevailing grading codes or ordinances of the controlling agency.

A. GENERAL

1. The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications.
2. The project Geotechnical Engineer and Engineering Geologist, or their representatives, shall provide observation and testing services, and Geotechnical consultation for the duration of the project.
3. All clearing, grubbing, stripping and site preparation for the project shall be accomplished by the Contractor to the satisfaction of the Geotechnical Engineer/Engineering Geologist.
4. It is the Contractor's responsibility to prepare the ground surface to receive fill to the satisfaction of the Geotechnical Engineer and to place, spread, mix, moisture condition, and compact the fill in accordance with the job specifications and as required by the Geotechnical Engineer. The Contractor shall also remove all material considered by the Geotechnical Engineer to be unsuitable for use in the construction of engineered fills.
5. The Contractor shall have suitable and sufficient equipment in operation to handle the amount of fill being placed. When necessary, equipment will be shut down temporarily in order to permit the proper preparation of fills.

B. PREPARATION OF FILL AREAS

1. Excessive vegetation and all deleterious material should be disposed of offsite as required by the Geotechnical Engineer.

Existing fill, soil, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills shall be removed and hauled from the site. Where applicable, the Contractor may obtain the

approval of the Soils Engineer and the controlling authorities for the project to dispose of the above described materials, or a portion thereof, in designated areas onsite.

After removal of the deleterious materials have been accomplished, earth materials deemed unsuitable in their natural, in-place condition, shall be removed as recommended by the Geotechnical Engineer/Engineering Geologist.

2. Upon achieving a suitable bottom for fill placement, the exposed removal bottom shall be disced or bladed by the Contractor to the satisfaction of the Geotechnical Engineer. The prepared ground surfaces shall then be brought to the specified moisture content mixed as required, and compacted and tested as specified. In localities where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to contact the proper authorities to visit the site.
3. Any underground structure such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other structures not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer and/or the controlling agency for the project.

C. ENGINEERED FILLS

1. Any material imported or excavated on the property may be utilized as fill, provided the material has been determined to be suitable by the Geotechnical Engineer. Deleterious materials shall be removed from the fill as directed by the Geotechnical Engineer.
2. Rock or rock fragments less than twelve inches in the largest dimension may be utilized in the fill, provided they are not placed in concentrated pockets and the distribution of the rocks is approved by the Geotechnical Engineer.
3. Rocks greater than twelve inches in the largest dimension shall be taken offsite, or placed in accordance with the recommendations of the Geotechnical Engineer in areas designated as suitable for rock disposal.
4. All materials to be used as fill, shall be tested in the laboratory by the Geotechnical Engineer. Proposed import materials shall be approved by the Geotechnical Engineer 48 hours prior to importation.
5. The fill materials shall be placed by the Contractor in lifts, that when compacted, shall not exceed six inches. Each lift shall be spread evenly and shall be

thoroughly mixed to achieve a near uniform moisture condition and a uniform blend of materials.

All compaction shall be achieved at or above the optimum moisture content, as determined by the applicable laboratory standard. The Contractor will be notified if the fill materials are too wet or too dry to achieve the required compaction standard.

6. When the moisture content of the fill material is below the limit specified by the Geotechnical Engineer, water shall be added and the materials shall be blended until a uniform moisture content, within specified limits, is achieved. When the moisture content of the fill material is above the limits specified by the Geotechnical Engineer, the fill materials shall be aerated by discing, blading, mixed with dryer fill materials, or other satisfactory methods until the moisture content is within the specified limits.
7. Each fill lift shall be compacted to the minimum project standards, in compliance with the testing methods specified by the controlling governmental agency, and in accordance with recommendations of the Geotechnical Engineer.

In the absence of specific recommendations by the Geotechnical Engineer to the contrary, the compaction standard shall be the most recent version of ASTM:D 1557.

8. Where a slope receiving fill exceeds a ratio of five-horizontal to one-vertical, the fill shall be keyed and benched through all unsuitable materials into sound bedrock or firm material, in accordance with the recommendations and approval of the Geotechnical Engineer.
9. Side hill fills shall have a minimum key width of 15 feet into bedrock or firm materials, unless otherwise specified in the soil report and approved by the Geotechnical Engineer in the field.
10. Drainage terraces and subdrainage devices shall be constructed in compliance with the ordinances of the controlling governmental agency and/or with the recommendations of the Geotechnical Engineer and Engineering Geologist.
11. The Contractor shall be required to maintain the specified minimum relative compaction out to the finish slope face of fill slopes, buttresses, and stabilization fills as directed by the Geotechnical Engineer and/or the governing agency for the project. This may be achieved by either overbuilding the slope and cutting

back to the compacted core; by direct compaction of the slope face with suitable equipment; or by any other procedure which produces the required result.

12. The fill portion of fill-over-cut slopes shall be properly keyed into rock or firm material; and the fill area shall be stripped of all soil or unsuitable materials prior to placing fill.

The design cut portion of the slope should be made first and evaluated for suitability by the Engineering Geologist prior to placement of fill in the keyway above the cut slope.

13. Pad areas in cut or natural ground shall be approved by the Geotechnical Engineer. Finished surfaces of these pads may require scarification and recompaction, or over excavation as determined by the Geotechnical Engineer.

D. CUT SLOPES

1. The Engineering Geologist shall observe all cut slopes and shall be notified by the Contractor when cut slopes are to be started.
2. If, during the course of grading, unforeseen adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Soil Engineer shall investigate, analyze and make recommendations to remediate these problems.
3. Non-erodible interceptor swales shall be placed at the top of cut slopes that face the same direction as the superjacent, prevailing drainage.
4. Unless otherwise specified in specific geotechnical reports, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of controlling governmental agencies.
5. Drainage terraces shall be constructed in compliance with the ordinances of the controlling governmental agencies, and/or in accordance with the recommendations of the Geotechnical Engineer or Engineering Geologist.

E. GRADING CONTROL

1. Fill placement shall be observed and tested by the Geotechnical Engineer and/or his representative during grading.

Field density tests shall be made by the Geotechnical Engineer and/or his representative to evaluate the compaction and moisture compliance of each fill lift. Density tests shall be conducted at intervals not to exceed two feet of fill

height. Where sheepsfoot rollers are used, the fill may be disturbed to a depth of several inches. Density determinations shall be taken in the compacted material below the disturbed surface at a depth determined by the Geotechnical Engineer or his representative.

2. Where tests indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction, or improper moisture content is in evidence, that particular layer or portion thereof shall be reworked until the required density and/or moisture content has been attained. Additional fills shall not be placed over an area until the previous lift of fill has been tested and found to meet the density and moisture requirements for the project and the previous lift is approved by the Geotechnical Engineer.
3. When grading activities are interrupted by heavy rains, fill operations shall not be resumed until field observations and tests by the Geotechnical Engineer indicate the moisture content and density of the fill are within the specified limits.
4. During construction, the Contractor shall properly grade all surfaces to maintain good drainage and prevent the ponding of water. The Contractor shall take remedial action to control surface water and to prevent erosion of graded areas until such time as a permanent drainage and erosion devices have been installed.
5. Observation and testing by the Geotechnical Engineer and/or his representative shall be conducted during filling and compacting operations in order that he will be able to state in his opinion that all cut and filled areas are graded in accordance with the approved specifications.
6. Upon the completion of grading activities and after the Geotechnical Engineer and Engineering Geologist have finished their observations of the work, final reports shall be submitted. No further excavation or fill placement shall be undertaken without prior notification of the Geotechnical Engineer and/or Engineering Geologist.

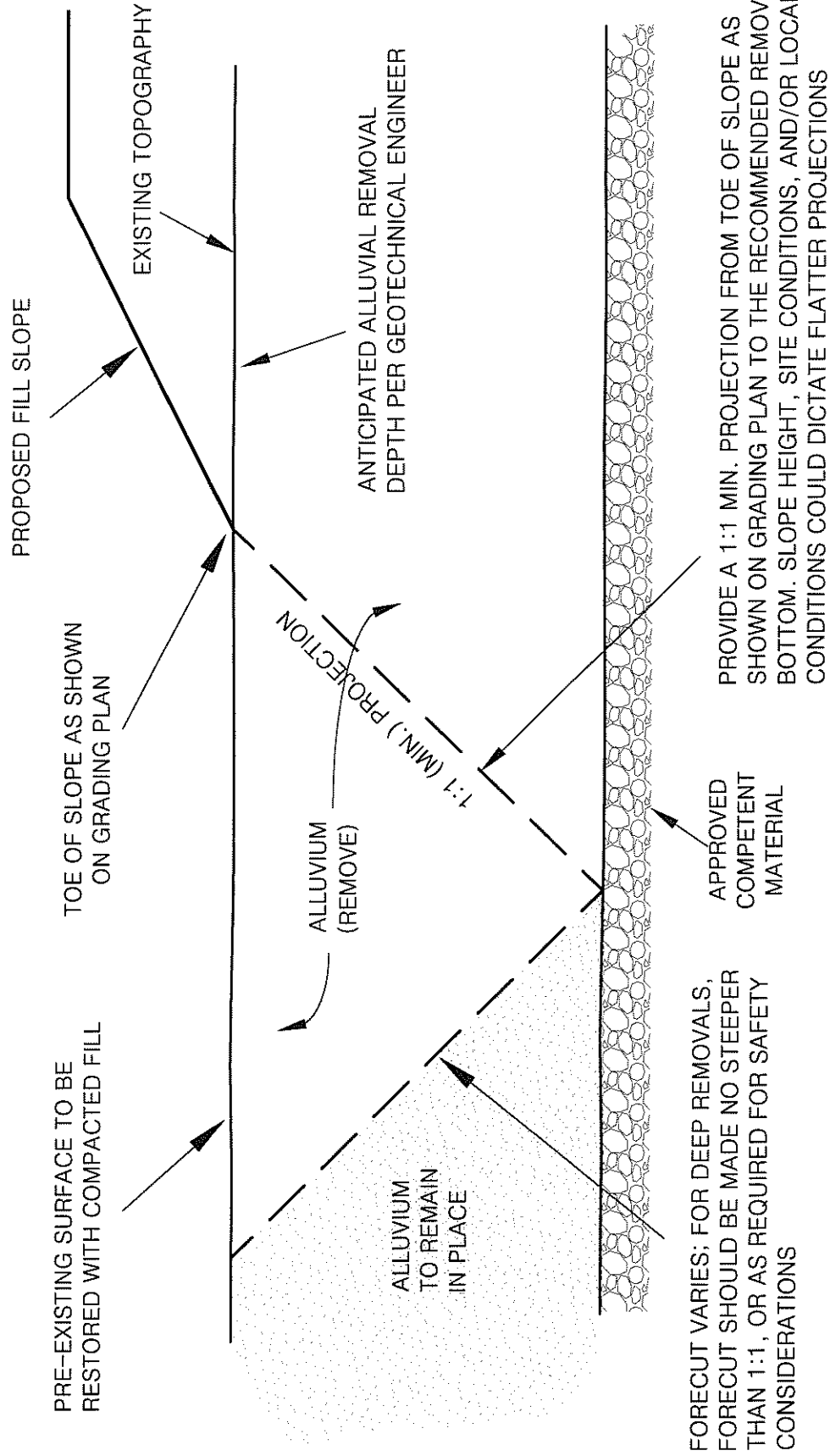
F. FINISHED SLOPES

All finished cut and fill slopes shall be planted and irrigated and/or protected from erosion in accordance with the project specifications, governing agencies, and/or as recommended by a landscape architect.

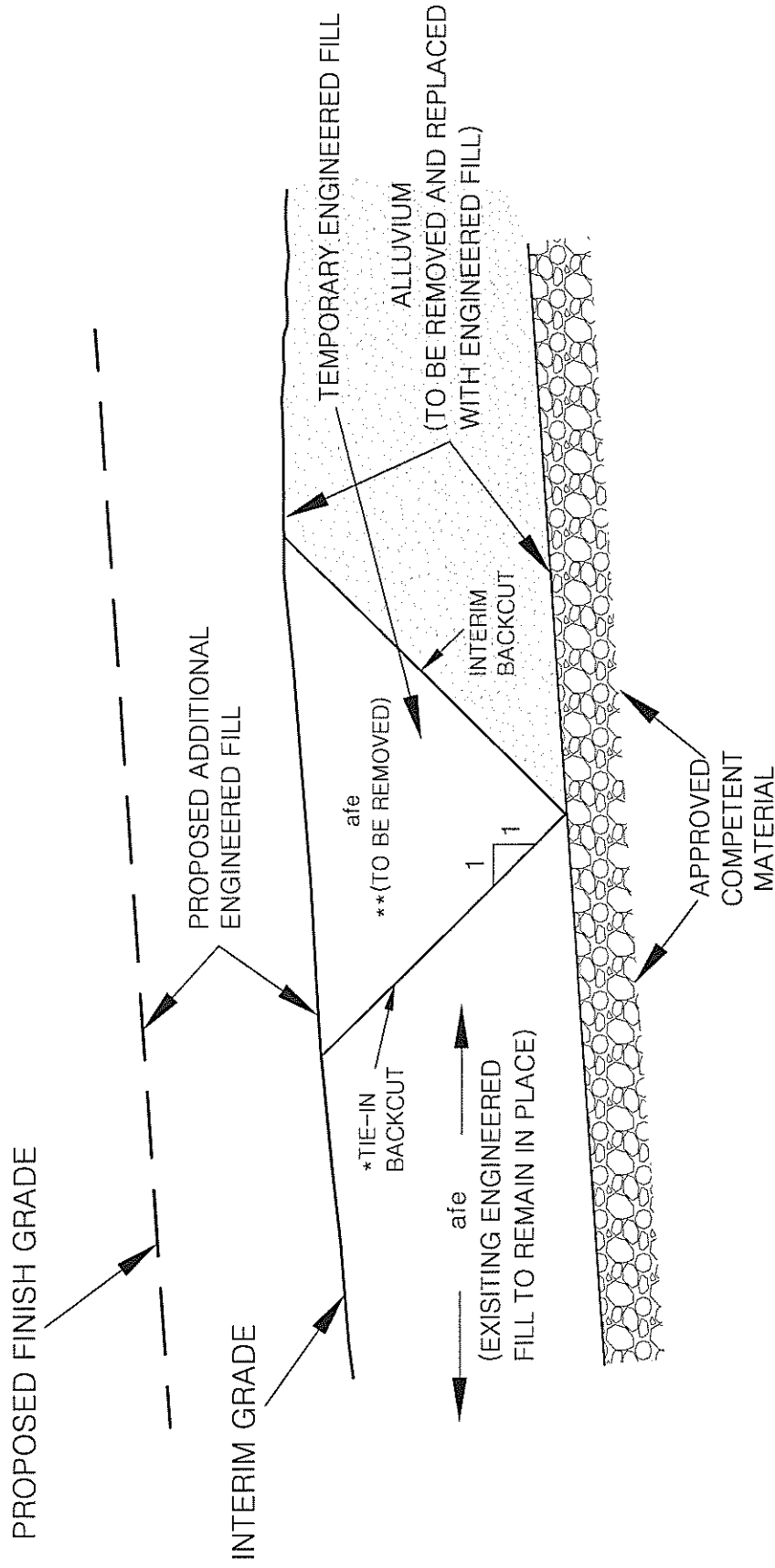
APPENDIX F

Grading Details

DETAIL FOR FILL SLOPE TOEING OUT ON FLAT ALLUVIATED CANYON



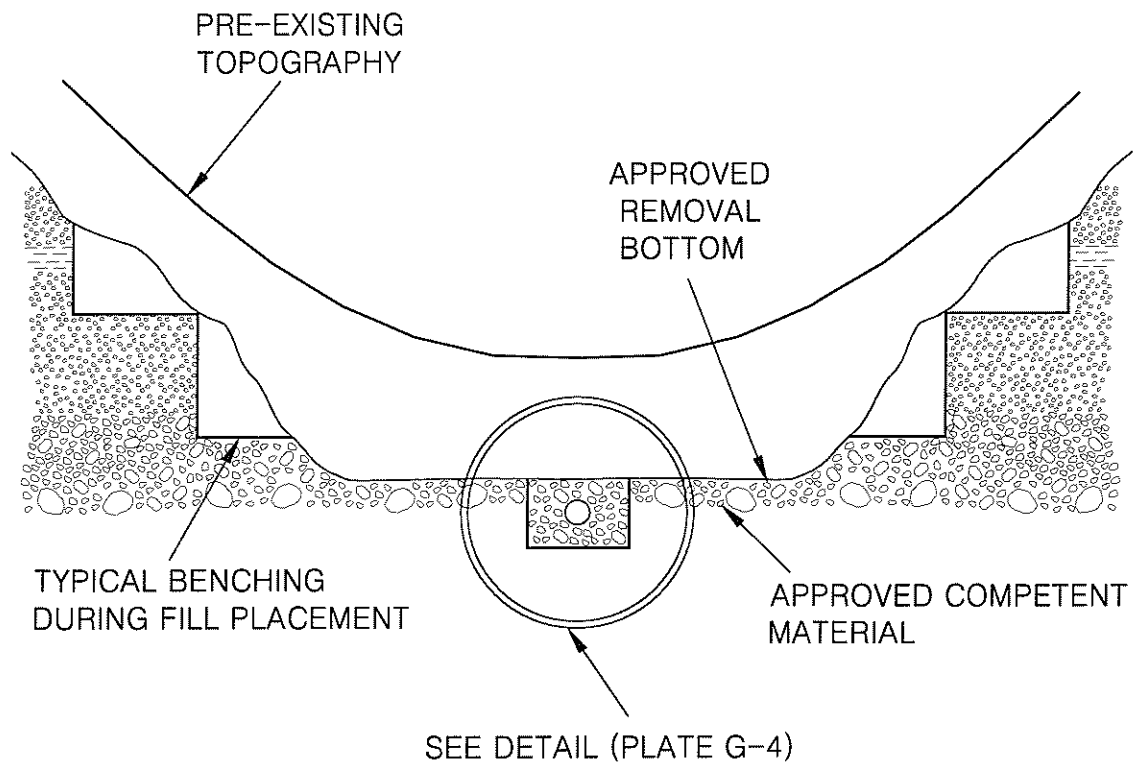
REMOVAL ADJACENT TO EXISTING FILL



* INITIATE 1:1 TIE-IN BACKCUT TO INTERCEPT TOE OF INTERIM BACKCUT

** AS PART OF TIE-IN FOR ADDITIONAL ENGINEERED FILL

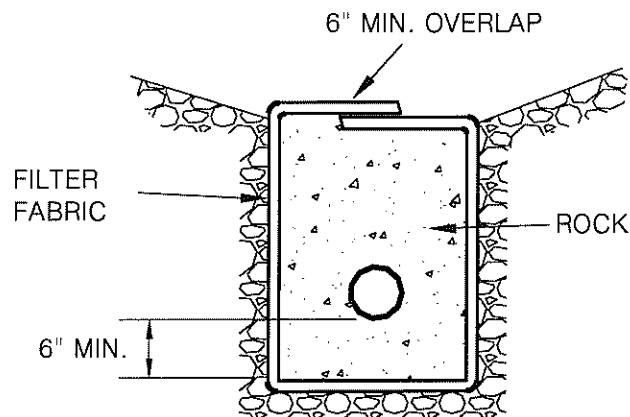
CANYON SUBDRAIN



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VER. 3/12

PLATE G-3

CANYON SUBDRAIN DETAIL



PERFORATED PIPE SURROUNDED WITH ROCK AND FILTER FABRIC

ROCK: MIN. VOLUME OF 9 CU.FT. PER LINEAL FT. OF 3/4 IN. MAX. ROCK

PIPE: 6 IN. ABS OR PVC PIPE WITH A MINIMUM OF 8 PERFORATIONS

(1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE

ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527,

SCHD. 40 ASTM D1785, SCHD. 40

FILTER FABRIC: MIRAFL 140 FILTER FABRIC OR APPROVED EQUIVALENT

NOTES:

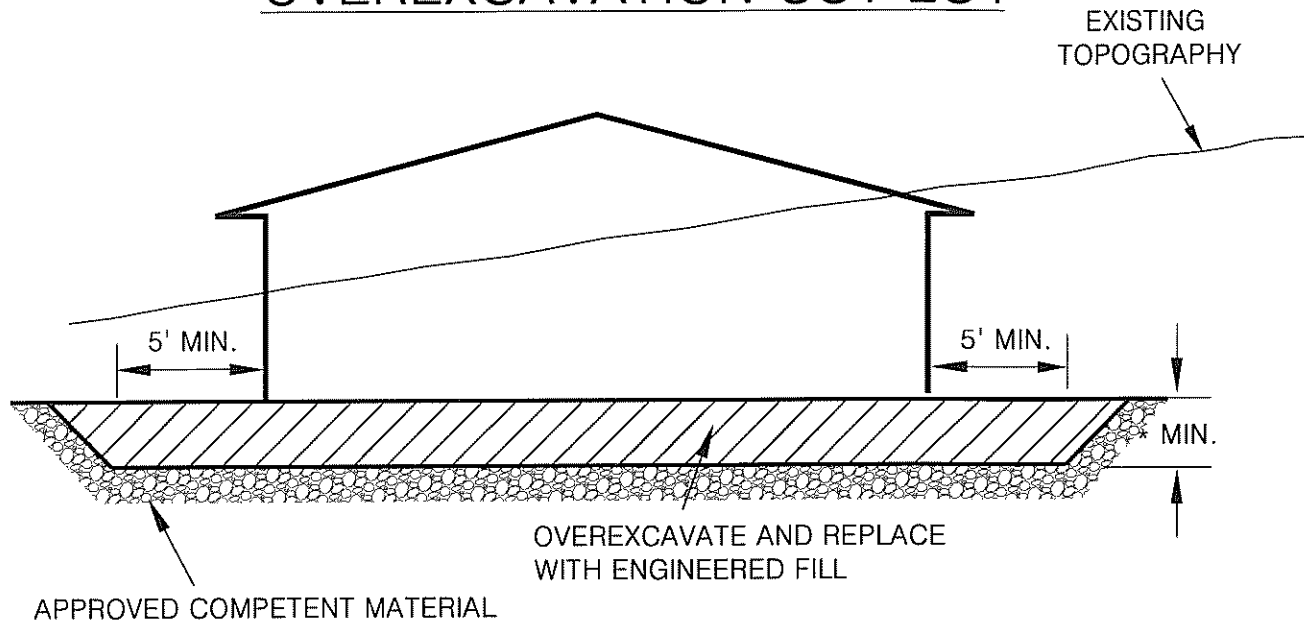
1. FOR CONTINUOUS RUN IN EXCESS OF 500. FT USE 8 IN. DIA. PIPE
2. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)



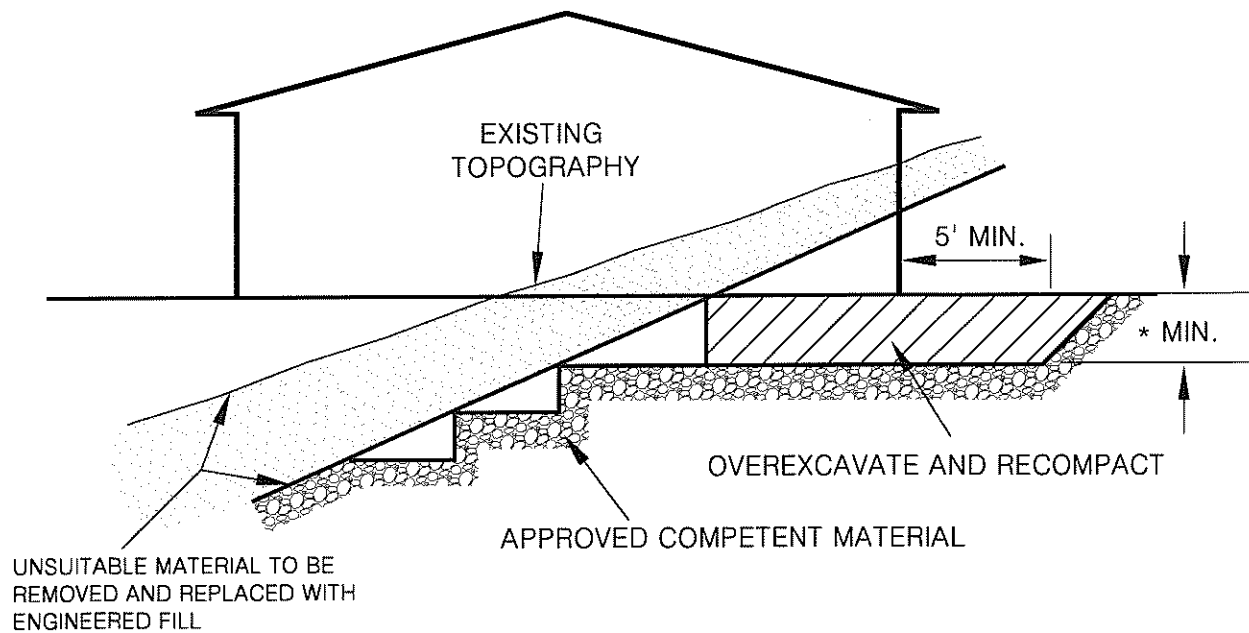
ALTA CALIFORNIA GEOTECHNICAL, INC.
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PLATE G-4

OVEREXCAVATION CUT LOT



CUT-FILL LOT (TRANSITION)



*NOTE ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF $\frac{1}{3}$ OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET (SEE PLATE G-16)

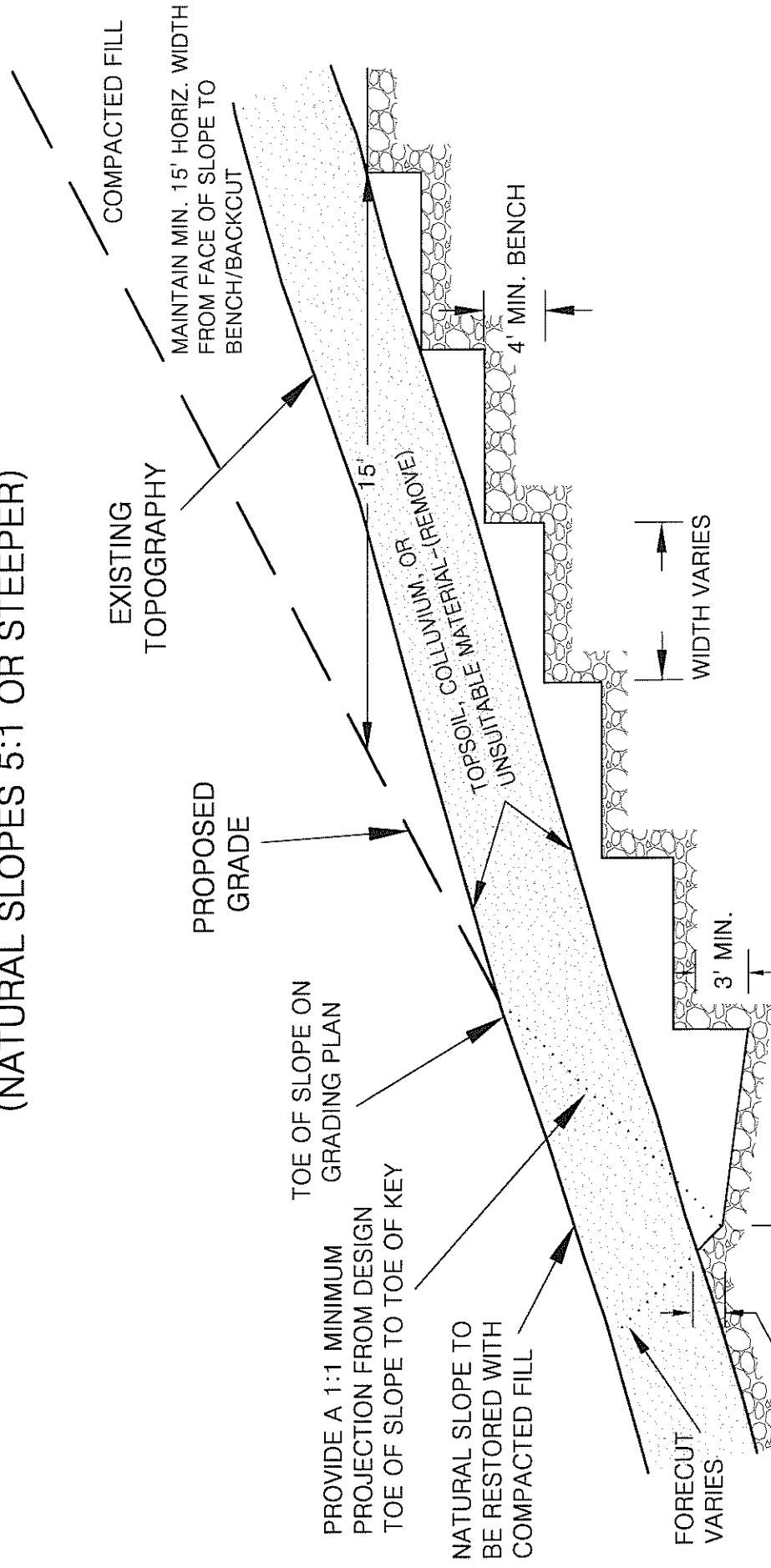


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PLATE G-5

SIDE HILL SLOPE FILL DETAIL

(NATURAL SLOPES 5:1 OR STEEPER)



NOTES: 1. WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, SEE PLATE G-1. WHERE THE NATURAL SLOPE APPROACHES OR EXCEEDS THE DESIGN SLOPE RATIO, SPECIAL RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER.

2. THE NEED FOR AND PLACEMENT OF DRAINS WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST BASED UPON EXPOSED FIELD CONDITIONS.



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PLATE G-6

SHORT-TOP FILL SLOPE

PROPOSED GRADE

EXISTING TOPOGRAPHY

CATCH POINT

*DESIGN CUT SLOPE

UNSUITABLE SOIL (REMOVE)

APPROVED COMPETENT MATERIAL

15' MIN.

15' MIN.

WIDTH MAY VARY

NEED AND LOCATION OF HEEL DRAIN TO BE DETERMINED BASED UPON FIELD CONDITIONS, SEE DETAIL PLATE G-8

MIN. KEY DIMENSION 15'X2'X3' FOR SLOPE HEIGHTS LESS THAN 30 FT.

SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2



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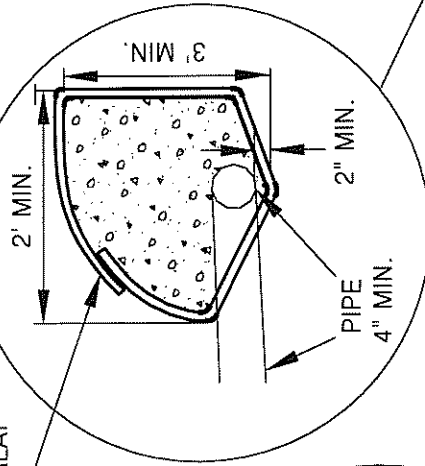
STABILIZATION/BUTTRESS FILL BACKDRAIN

NOTE:

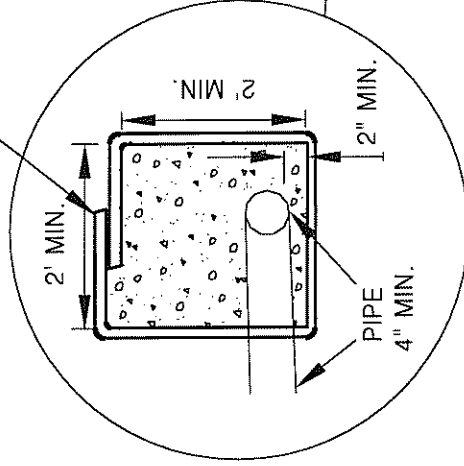
1. ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40
2. SOLID PIPE OUTLETS TO BE PROVIDED EVERY 100 FT. AND JOINED TO PERFORATED BACKDRAIN PIPE WITH "L" OR "T"s. MIN. 2% GRADIENT.
3. GRAVEL TRENCH TO BE FILLED WITH 3/4 IN. MAXIMUM ROCK
4. THE NECESSITY FOR UPPER TIER BACKDRAINS SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST. UPPER TIER OUTLETS SHOULD DRAIN INTO PAVED TERRACE DRAINS.
5. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)

ALTERNATIVE NO. 1

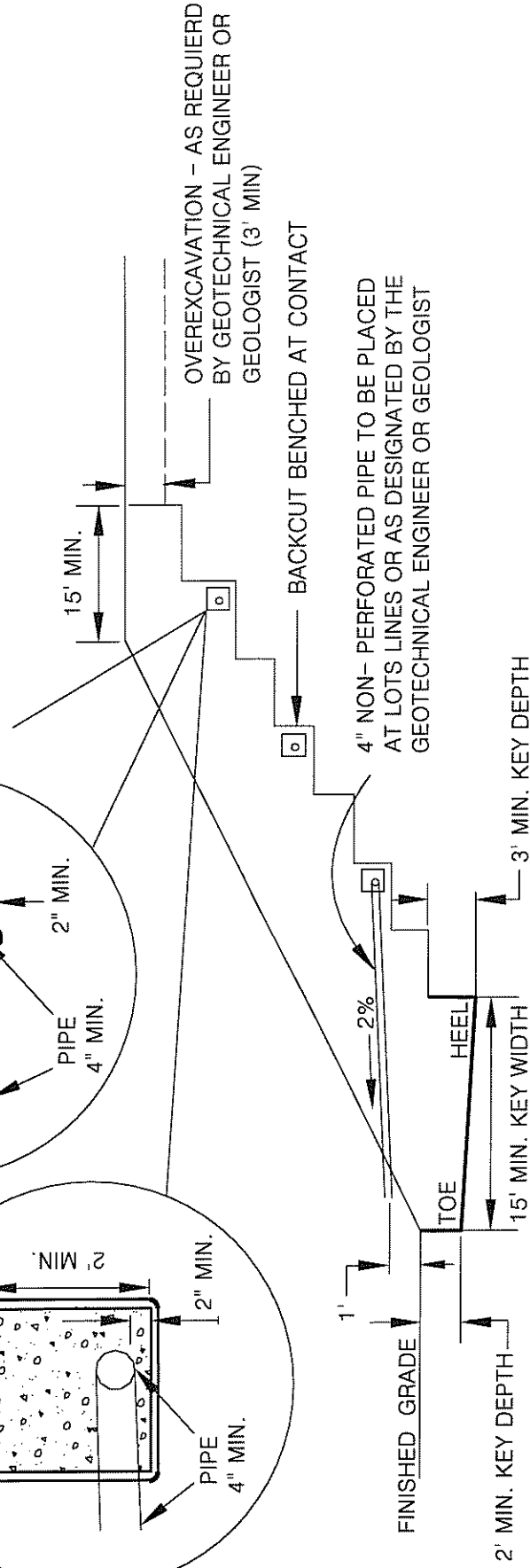
FILTER FABRIC
MIN. 6" OVERLAP



ALTERNATIVE NO. 2



TYPICAL 2 FT. X 2 FT. 3/4 IN. MAX. ROCK FILLED TRENCH WITH 4 IN. DIA. ABS OR PVC PIPE OR APPROVED SUBSTITUTE. PROVIDE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FOOT IN BOTTOM HALF OF PIPE. PIPE IS TO EXTEND FULL LENGTH OF BUTTRESS OR STABILIZATION FILL WITH A MINIMUM GRADIENT OF 2% TO OUTLET PIPES.

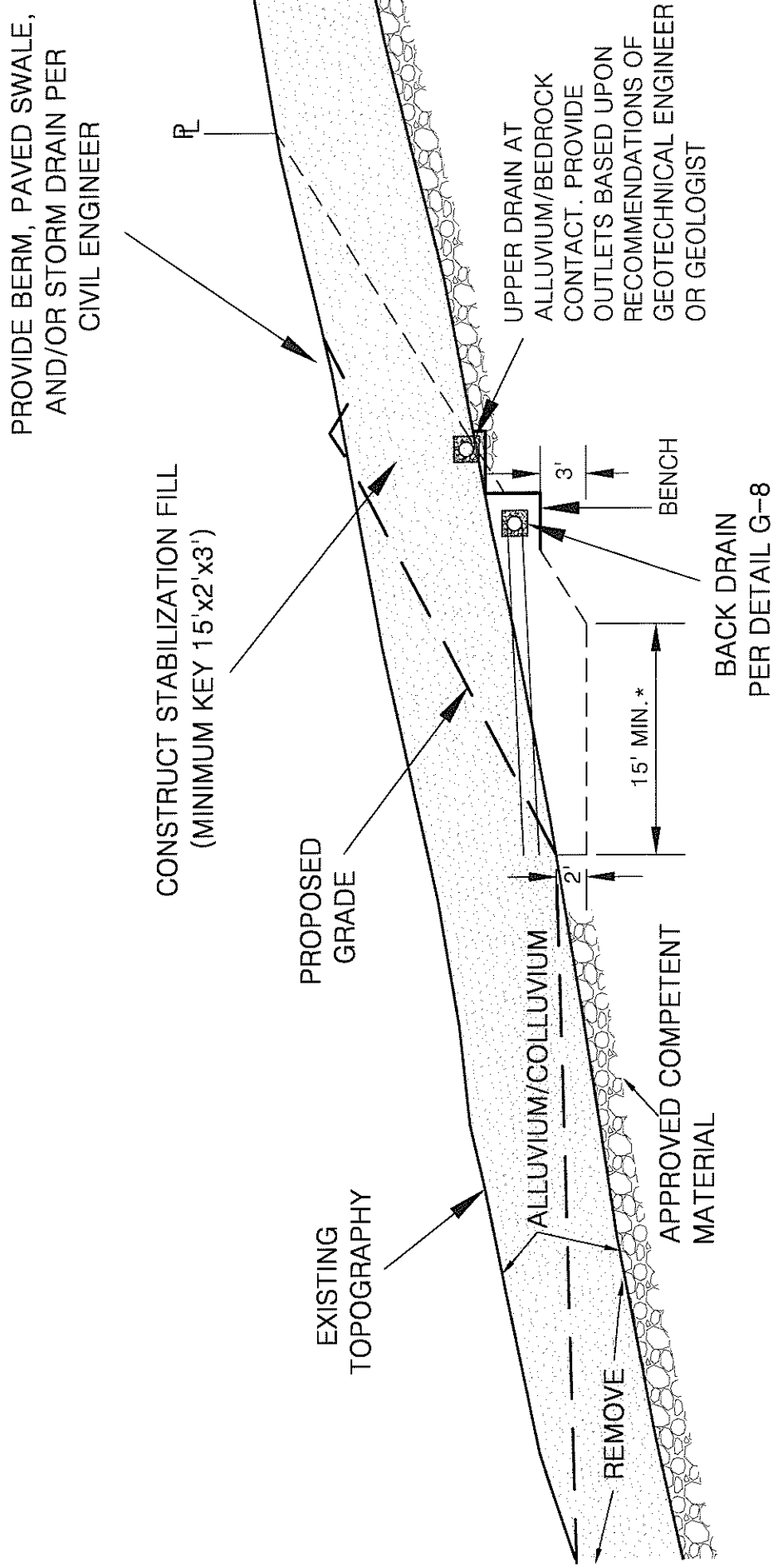


ALTA CALIFORNIA GEOTECHNICAL, INC.

VER. 3/12

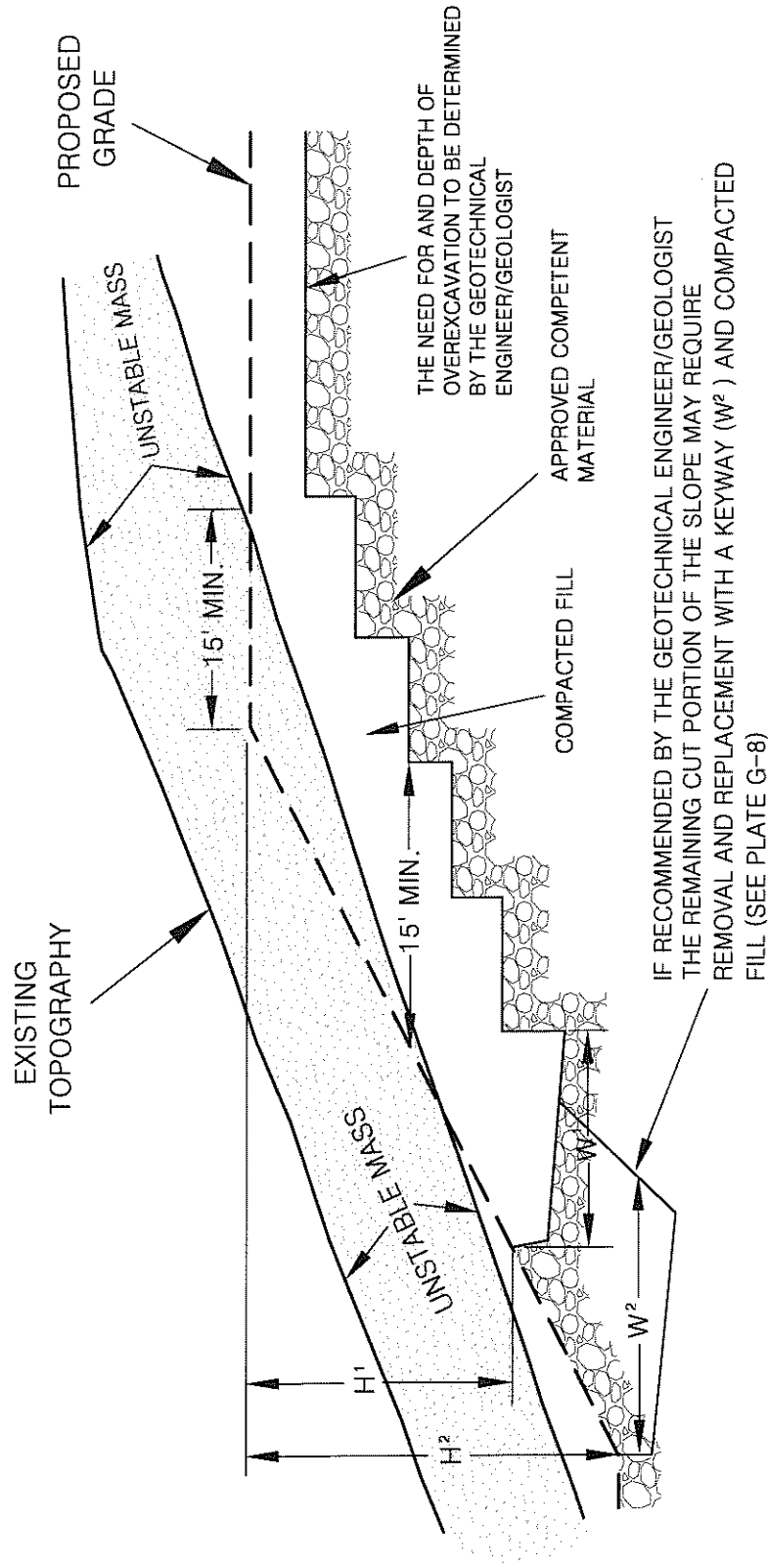
PLATE G-8

STABILIZATION FILL (UPSLOPE ALLUVIATED AREA)



* FOR SLOPE HEIGHTS LESS THAN 30 FT.
SLOPES GREATER THAN 30 FT., KEY
WIDTH IS SLOPE HEIGHT DIVIDED BY 2

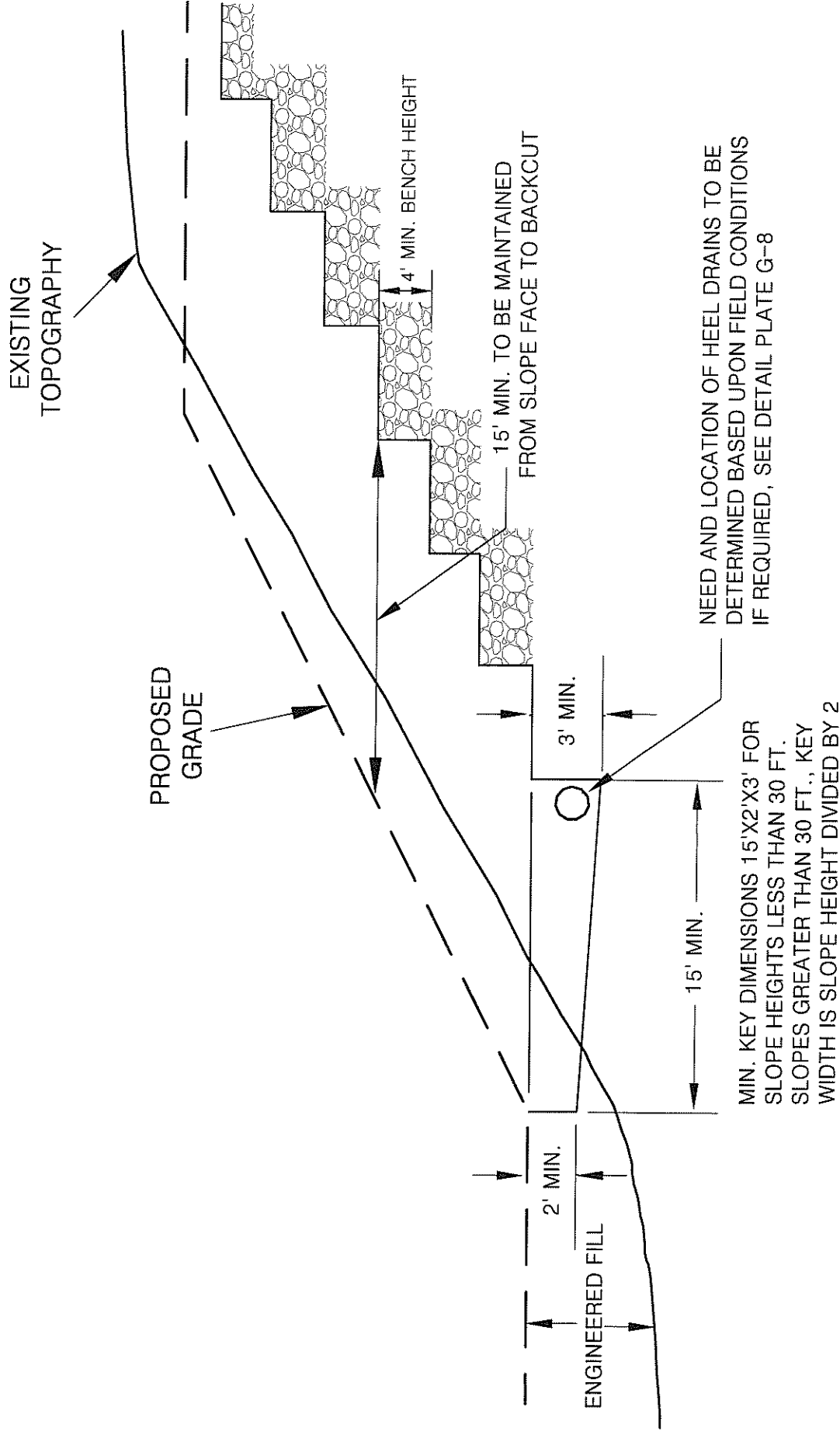
SELECTIVE GRADING DETAIL FOR STABILIZATION FILL UNSTABLE MATERIAL EXPOSED IN PORTION OF CUT SLOPE



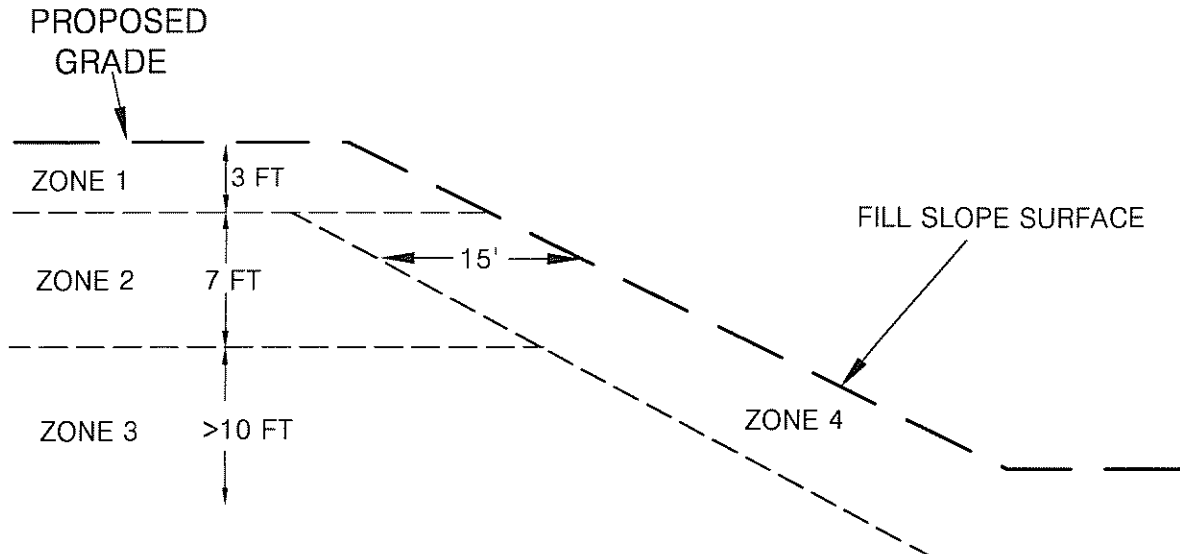
NOTES: 1. BACKDRAINS ARE NOT REQUIRED UNLESS SPECIFIED.

2. "W" SHALL BE EQUIPMENT WIDTH (15') FOR SLOPE HEIGHT LESS THAN 25 FEET. FOR SLOPES GREATER THAN 25 FEET, "W" SHALL BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER/GEOLOGIST. AT NO TIME SHALL "W" BE LESS THAN H/2.

SKIN FILL SLOPE OVER NATURAL GROUND



DETAIL FOR MAXIMUM PARTICLE DIMENSION



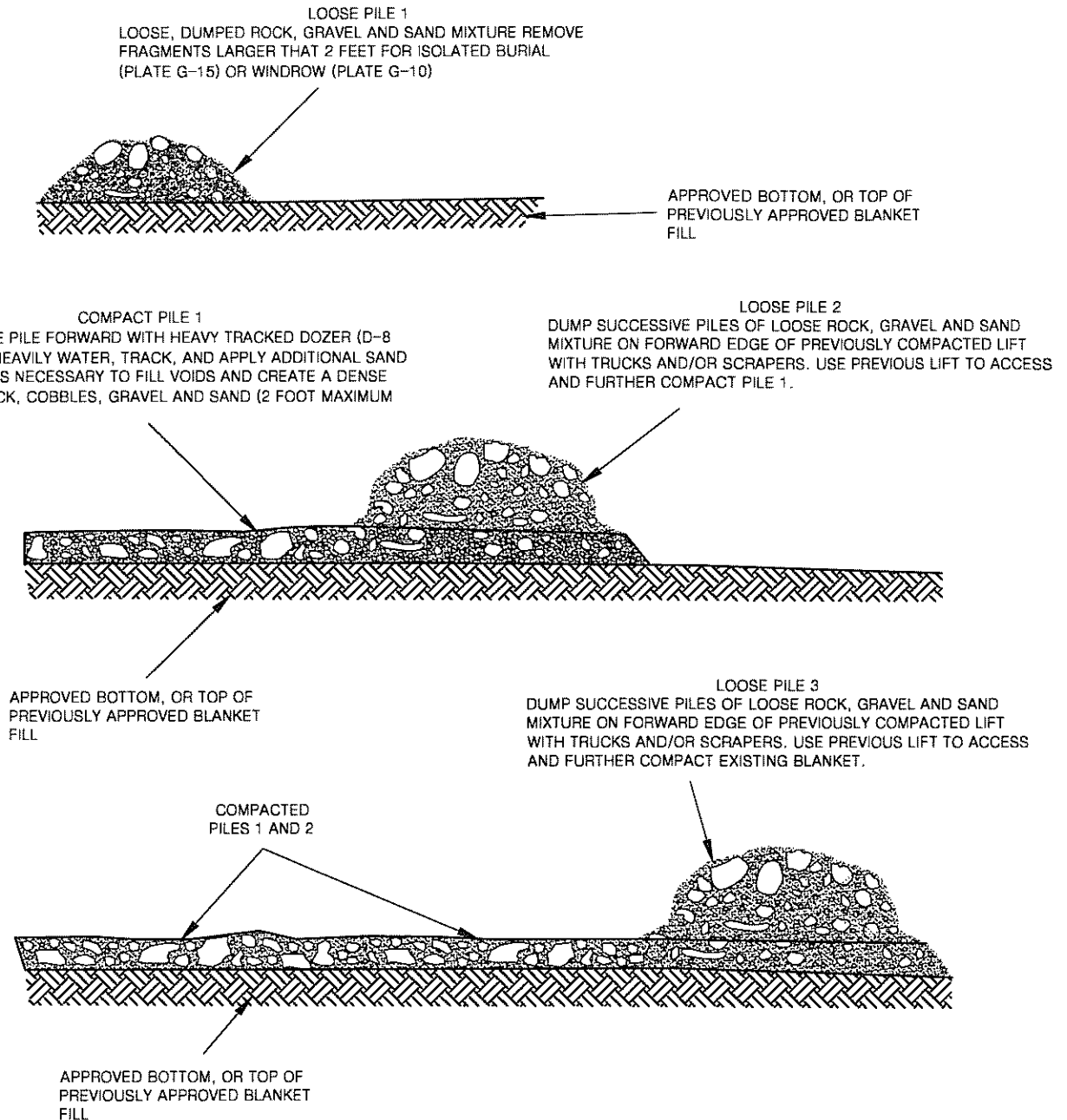
ZONE	DEPTH	PARTICLE MAX. DIMENSION	PLACEMENT METHOD
1	0-3 ft.	≤ 0.5 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)
2	3-10 ft.	≤ 2.0 ft.	ROCK BLANKETS (SEE PLATE G-13)
3	>10 ft.	≤ 8.0 ft.	ROCK BLANKETS (PLATE G-13) ROCK WINDROW (PLATE G-14) INDIVIDUAL ROCK BURIED (PLATE G-15)
4	15 HORIZONTAL FEET FROM FILL SLOPE FACE	≤ 1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)



ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 2/15

PLATE G-12

ROCK BLANKET DETAILS



OBSERVATION TESTING AND APPROVAL PROCEDURES
OBSERVE EQUIPMENT. SCRAPERS AND TRUCKS SHOULD BE FULLY SUPPORTED ON BLANKET WITHOUT SIGNIFICANT YIELDING. EXCAVATE TEST/OBSERVATION PITS TO CONFIRM EXISTENCE OF MIXTURE OF VARIOUS PARTICLE SIZES, WITHOUT SIGNIFICANT VOIDS, AND FORMING A DENSE, COMPACTED FILL MATRIX. TEST BY ASTM D1556, D2922 AND/OR D3017 WHEN APPROPRIATE. RECORD LIMITS AND ELEVATION OF BLANKET. ALL FILL AND COMPACTION OPERATIONS TO BE CONDUCTED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. SUBSEQUENT LIFTS TO BE APPLIED ONLY AFTER OBSERVATION AND CONFIRMATION OF SUITABILITY OF FILL AND RELEASE BY THE GEOTECHNICAL ENGINEER. BLANKETS TO BE CONSTRUCTED IN ACCORDANCE WITH PLATE G-12.

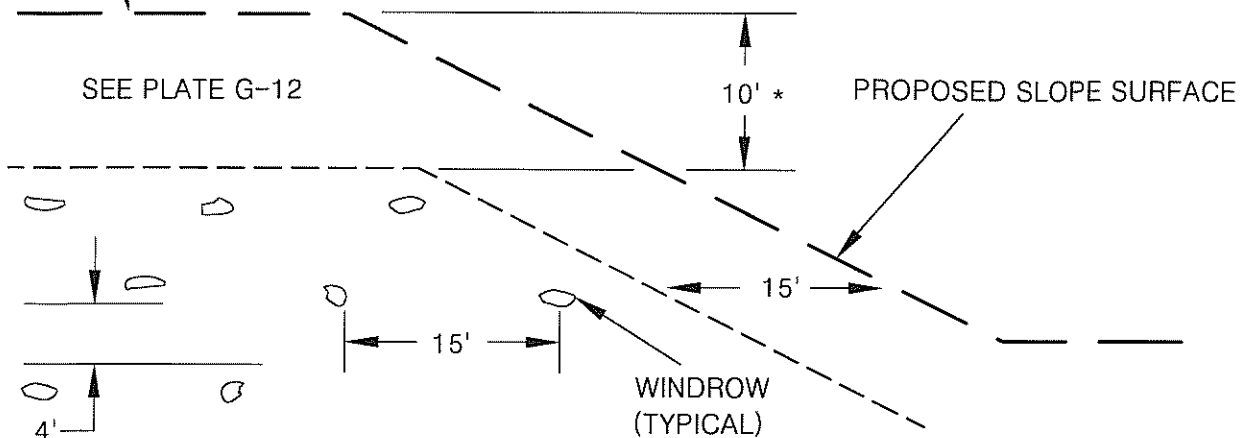


ALTA CALIFORNIA GEOTECHNICAL, INC.
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PLATE G-13

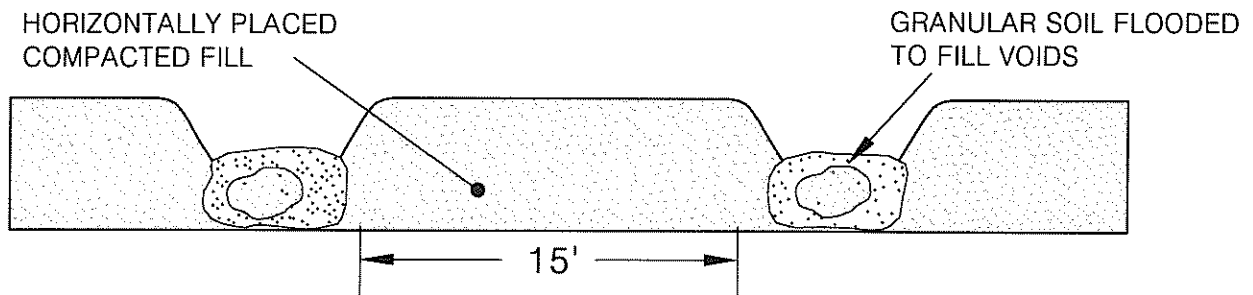
PROPOSED
GRADE

ROCK WINDROW DETAIL



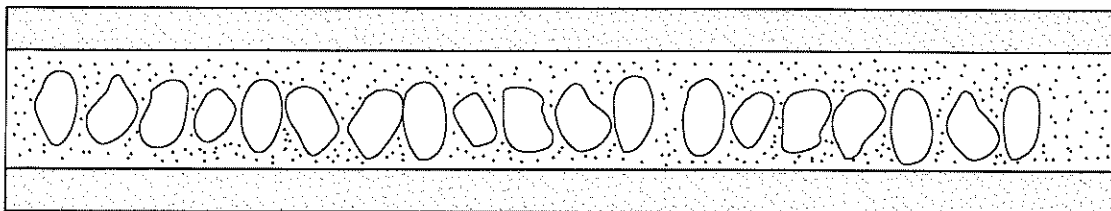
NOTE: OVERSIZED MATERIAL SHOULD BE REMOVED FROM THE 15' CLEAR ZONES WITH SPECIAL EQUIPMENT, SUCH AS A ROCK RAKE, PRIOR TO PLACING THE NEXT FILL LIFT.
*VARIANCES TO THE ABOVE ROCK HOLD DOWN MAY BE GRANTED SUBJECT TO APPROVAL BY THE OWNER, GEOTECHNICAL ENGINEER, AND GOVERNING AGENCY

TYPICAL WINDROW DETAIL (END VIEW)



NOTE: COMPACTED FILL SHALL BE BROUGHT UP TO A HIGHER ELEVATION ALONG EACH WINDROW SO GRANULAR SOIL CAN BE FLOODED IN A "TRENCH CONDITION".

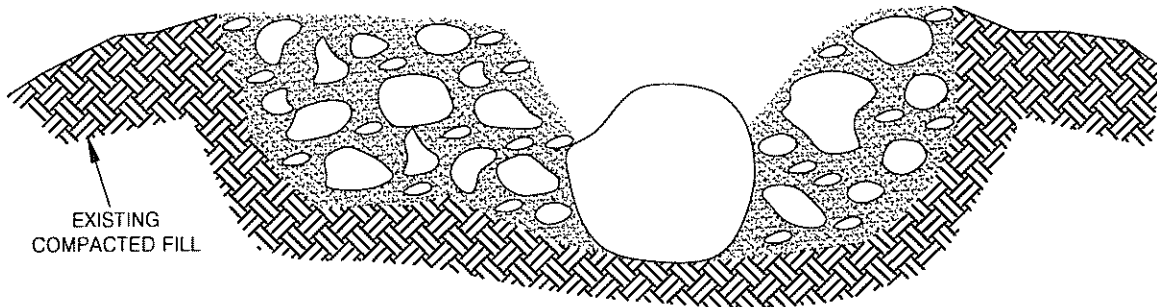
PROFILE VIEW



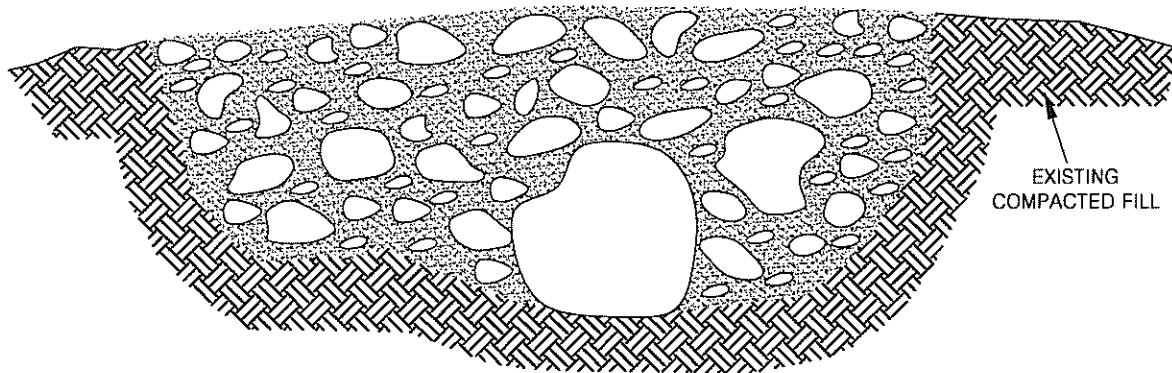
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PLATE G-14

ISOLATED ROCK BURIAL DETAILS

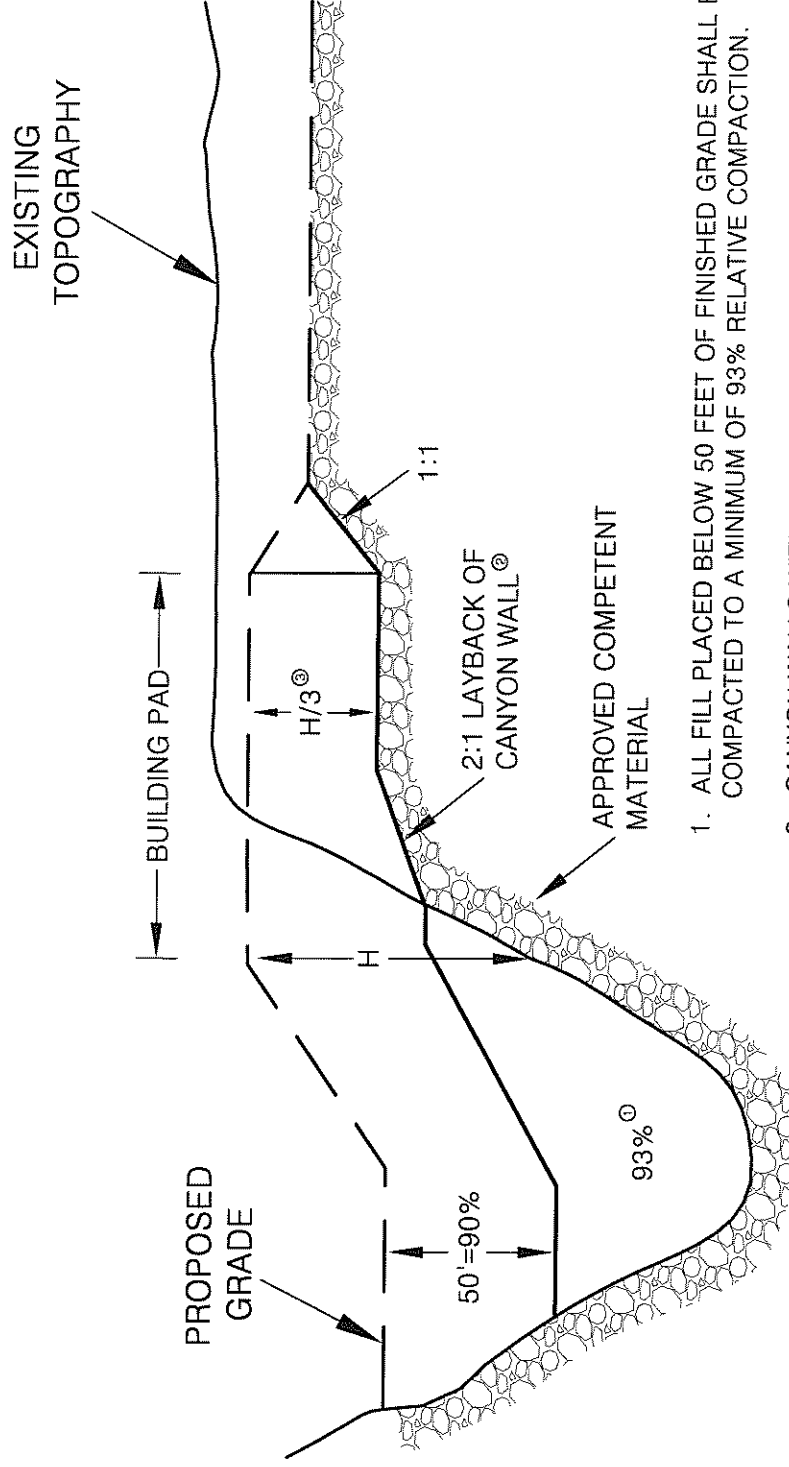


EXCAVATE HOLE INTO EXISTING FILL PRISM, PLACE BOULDER (< 8 feet in maximum dimension) INTO EXISTING COMPACTED FILL. SURROUND WITH SAND, GRAVEL, COBBLES AND WATER HEAVILY. TRACK WITH D8 OR LARGER EQUIPMENT UNTIL RESULTING FILL FULLY SUPPORTS EQUIPMENT. OBSERVE AND/OR TEST IN ACCORDANCE WITH ASTM D1556, D2922 OR D3017. ROCKS LARGER THAN 8 FEET SHALL BE FURTHER REDUCED IN SIZE BY SECONDARY BREAKING.



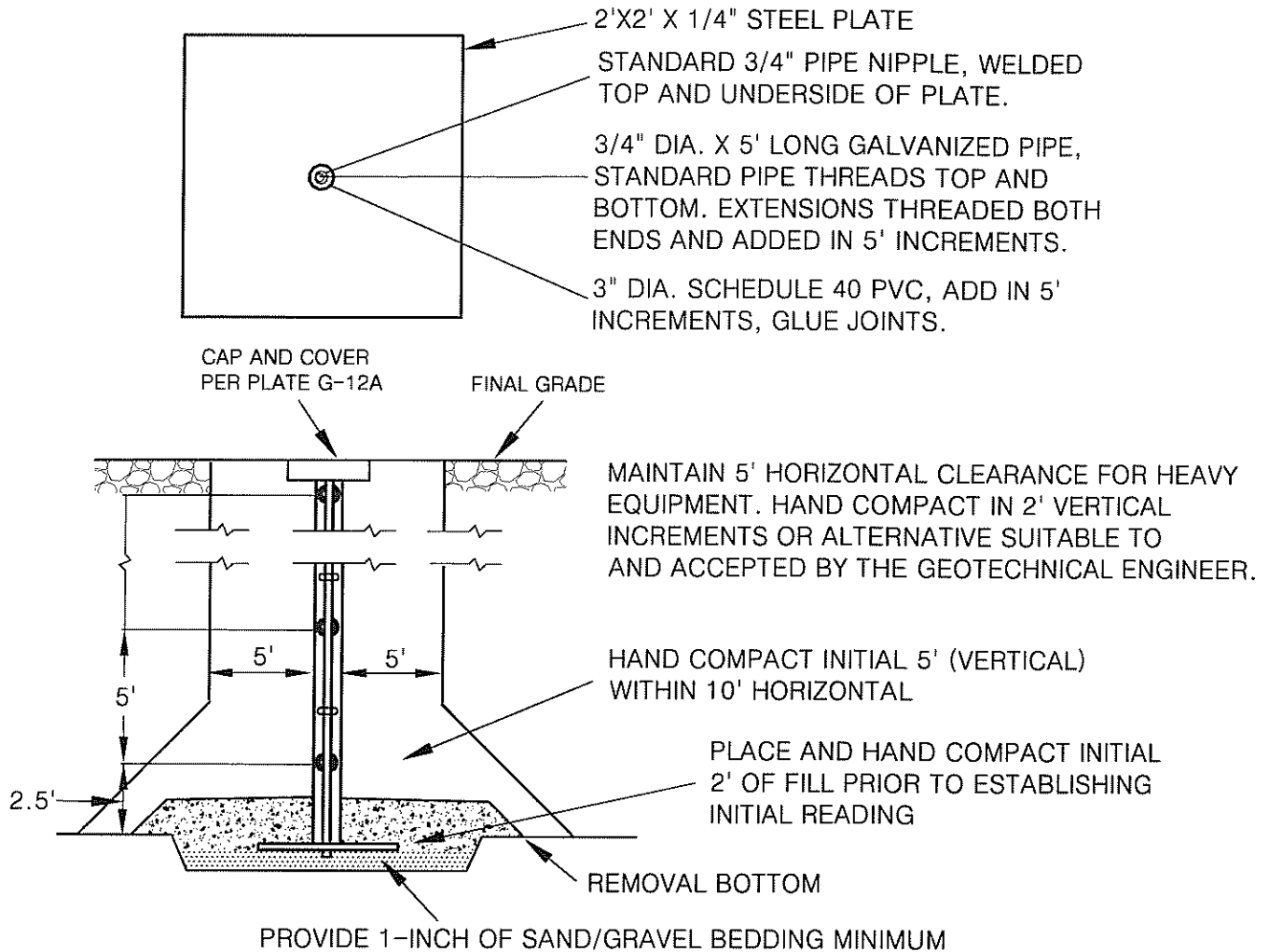
RELATIVE COMPACTION VS. DEPTH

CANYON WALL LAY BACK DIFFERENTIAL FILL OVEREXCAVATION DETAILS



1. ALL FILL PLACED BELOW 50 FEET OF FINISHED GRADE SHALL BE COMPACTED TO A MINIMUM OF 93% RELATIVE COMPACTION.
2. CANYON WALLS WITHIN 50 FEET OF FINISHED GRADE SHALL BE LAID BACK TO A SLOPE RATIO OF 2:1 OR FLATTER.
3. ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF 1/3 OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET.
4. IF THE 2:1 LAY BACK OF THE CANYON WALL IS IMPRACTICAL, THEN AS AN ALTERNATIVE THE INCREASED COMPACTION STANDARDS IN NOTE 1 SHOULD BE EXTENDED UP TO H/3 AND THE LAY BACK WILL NOT BE REQUIRED.

SETTLEMENT PLATE DETAIL



NOTES:

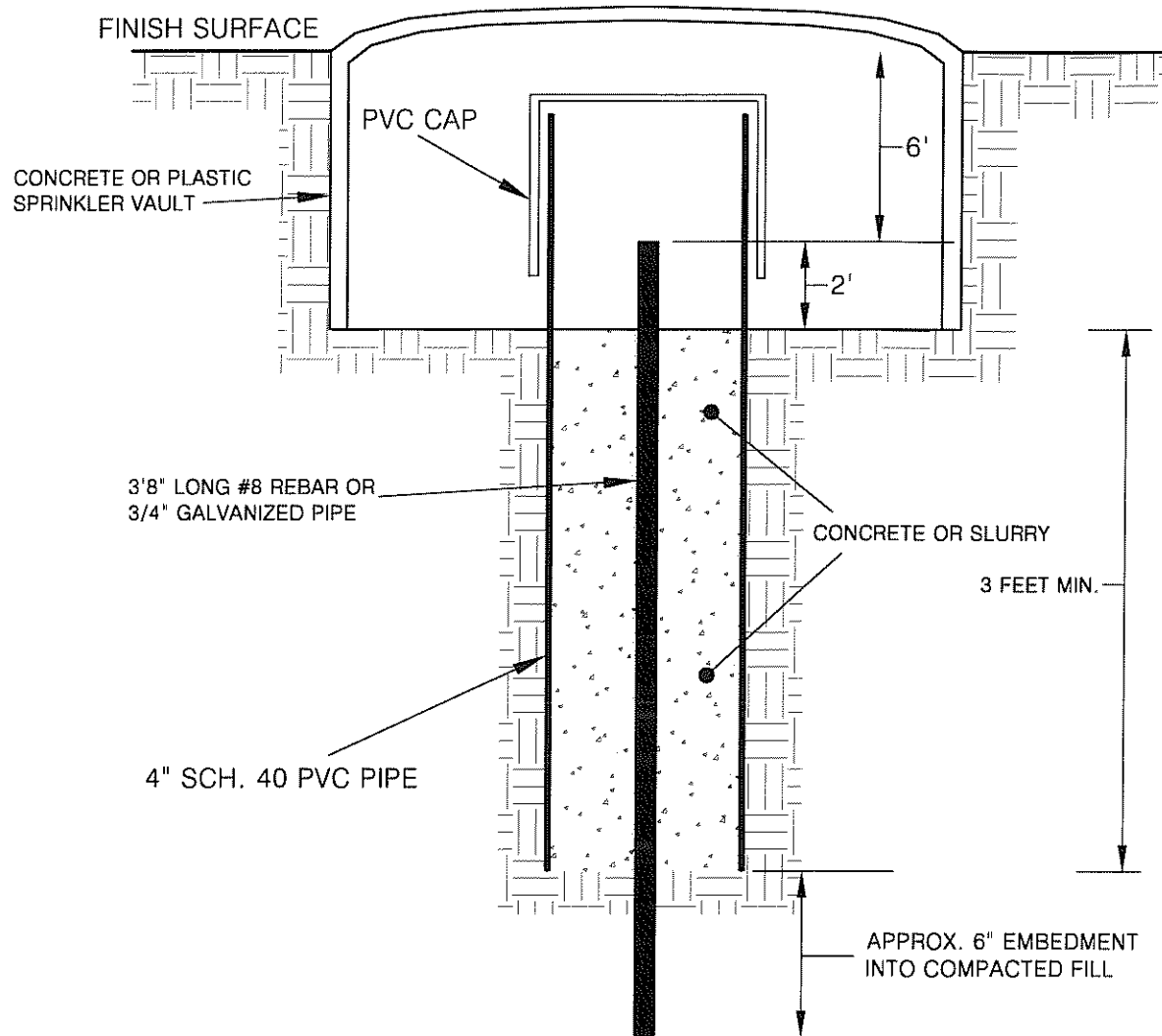
- 1) LOCATIONS OF SETTLEMENT PLATES SHALL BE CLEARLY MARKED AND READILY VISIBLE (RED FLAGGED) TO EQUIPMENT OPERATORS.
- 2) CONTRACTOR SHALL MAINTAIN 10' HORIZONTAL CLEARANCE FOR HEAVY EQUIPMENT WITHIN 5' (VERTICAL) OF PLATE BASE. FILL WITHIN CLEARANCE AREA SHALL BE HAND COMPACTED TO PROJECT SPECIFICATIONS OR COMPACTED BY ALTERNATIVE APPROVED BY THE GEOTECHNICAL ENGINEER.
- 3) AFTER 5' (VERTICAL) OF FILL IS IN PLACE, CONTRACTOR SHALL MAINTAIN 5' HORIZONTAL EQUIPMENT CLEARANCE. FILL IN CLEARANCE AREA SHALL BE HAND COMPACTED (OR APPROVED ALTERNATIVE) IN VERTICAL INCREMENTS NOT TO EXCEED 2 FEET.
- 4) IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE OR EXTENSION RESULTING FROM EQUIPMENT OPERATING WITHIN PRESCRIBED CLEARANCE AREA, CONTRACTOR SHALL IMMEDIATELY NOTIFY GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATE AND EXTENSION RODS TO WORKING ORDER.



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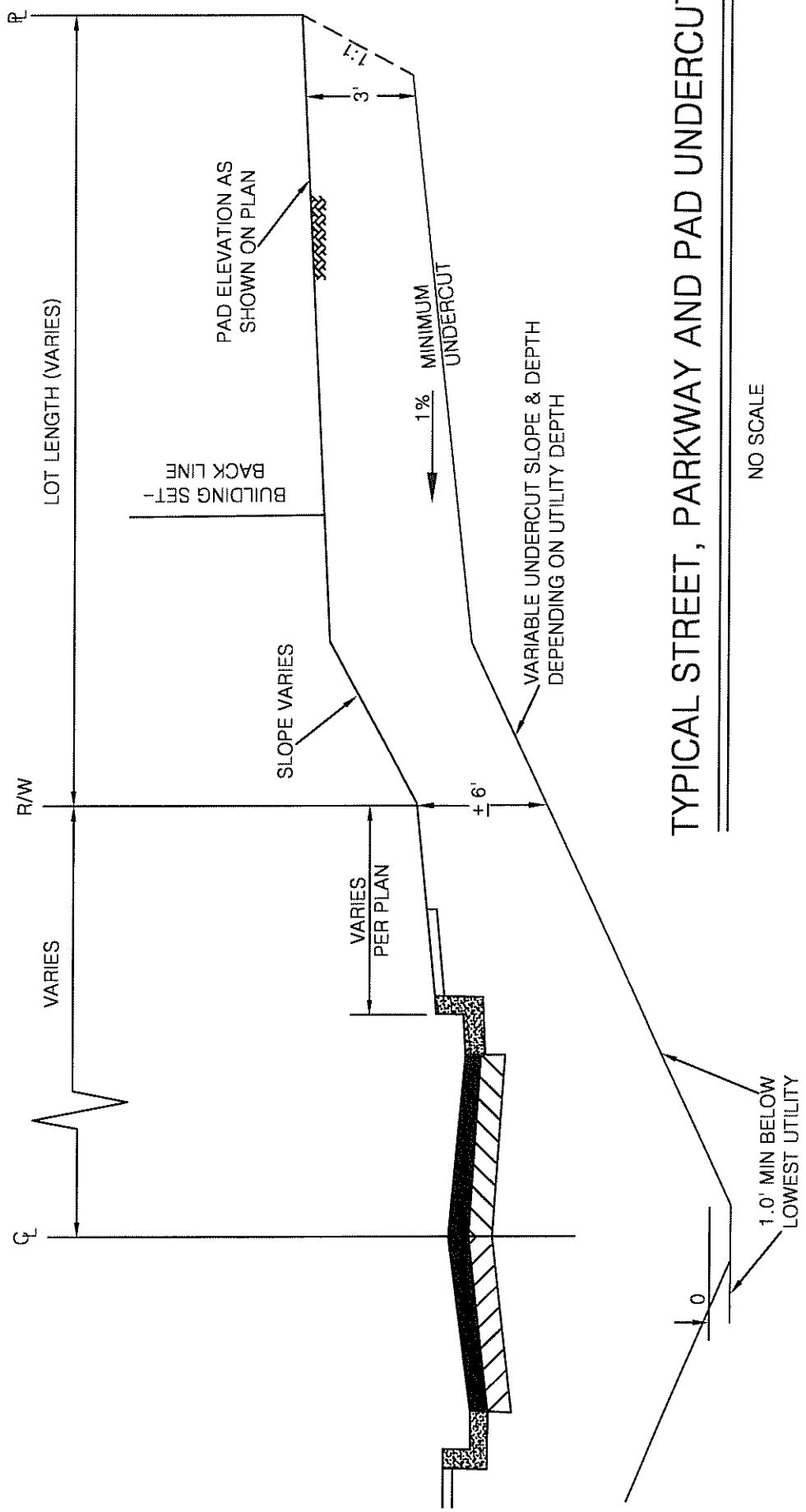
PLATE G-17

SURFACE SETTLEMENT MONUMENT DETAIL



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PLATE G-18



TYPICAL STREET, PARKWAY AND PAD UNDERCUT

NO SCALE