

**Orange County Water District  
Smith Basin Improvement Project**

**Initial Study/Mitigated Negative Declaration**

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# Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

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- Appendix C – *Smith Basin Improvement Project Biological Assessment*, Orange County Water District, October 2019
- Appendix D – *Phase I Cultural Resources Assessment for the Smith Basin Rehabilitation Project, City of Orange, California*, VCS Environmental, January 2019
- Appendix E – *Preliminary Geotechnical Evaluation Smith Basin Scour Assessment, Orange County Water District, Villa Park, California*, Ninyo & Moore Geotechnical and Environmental Sciences Consultants, November 2015
- Appendix F -- *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Noise and Vibration Technical Memorandum*, Vista Environmental, February 2019
- Appendix G -- *AB52 Tribal Consultation*, Sagecrest Planning+Environmental, February 2020



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### SECTION 1.0 INTRODUCTION

#### 1.1 Purpose of Environmental Review

The California Environmental Quality Act (CEQA) requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. This Initial Study has been prepared to disclose and evaluate short-term construction related impacts and long-term operational impacts associated with the implementation of the Orange County Water District (OCWD) Smith Basin Improvement Project (Proposed Project).

Pursuant to Section 15367 of the State CEQA guidelines, OCWD is the Lead Agency and has the principal responsibility of approving and implementing the Proposed Project. As the Lead Agency, OCWD is required to ensure that the Proposed Project complies with CEQA and that the appropriate level of CEQA documentation is prepared. Through preparation of an Initial Study as the Lead Agency, OCWD would determine whether to prepare an Environmental Impact Report (EIR), Negative Declaration or Mitigated Negative Declaration (MND). If the Lead Agency finds that there is no evidence that a project activity either as proposed or as modified to include the mitigation measures identified in the Initial Study prior to its public circulation, would not cause a significant effect on the environment, the Lead Agency may prepare a Negative Declaration or Mitigated Negative Declaration. Based on the conclusions of this Initial Study, OCWD has recommended that the appropriate level of environmental documentation for the Proposed Project is an MND .

#### 1.2 Statutory Authority and Requirements

This Initial Study/Mitigated Negative Declaration has been prepared in accordance with the CEQA, Public Resources Code Section 21000 et seq. State CEQA Guidelines and OCWD CEQA Environmental Procedures.

#### 1.3 Technical Information and Studies

The following technical studies and information have been incorporated in the environmental impact evaluation prepared for the Smith Basin Improvement Project.

- Appendix A – *Prior Scoping*, Sagecrest Planning+Environmental, January 2020
- Appendix B – *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Air Quality and Greenhouse Gas Emissions Technical Memorandum*, Vista Environmental, February 2019
- Appendix C – *Smith Basin Improvement Project Biological Assessment*, Orange County Water District, October 2019
- Appendix D – *Phase I Cultural Resources Assessment for the Smith Basin Rehabilitation Project*, City of Orange, California, VCS Environmental, January 2019



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- Appendix E – *Preliminary Geotechnical Evaluation Smith Basin Scour Assessment, Orange County Water District, Villa Park, California*, Ninyo & Moore Geotechnical and Environmental Sciences Consultants, November 2015
- Appendix F -- *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Noise and Vibration Technical Memorandum*, Vista Environmental, February 2019
- Appendix G -- *AB52 Tribal Consultation*, Sagecrest Planning+Environmental, February 2020
- Appendix H – *Detailed Grading Plans*, Huitt-Zoliars, Inc., June 2019



## SECTION 2.0 PROJECT DESCRIPTION

### 2.1 Background

The Smith Recharge Basin (Smith Basin) is an existing OCWD groundwater management basin situated immediately north of the Santiago Basins as depicted in **Figure 1 - Regional Vicinity Map**. From the early 1950's to 1980's, Smith Basin was used as a quarry pit. In the 1970s, Villa Park Road was constructed, and Smith Basin was connected to the Santiago Basins (formerly referenced as the "Blue Diamond Pit") through a culvert beneath the roadway. In 1990, OCWD purchased Smith and Santiago Basins for ground water management operations and incorporated into the groundwater management system. Subsequently, the Burris Basin Pump Station and Santiago Pipeline were constructed, allowing Santa Ana River water stored in Burris Basin to be pumped into the Santiago Basins for groundwater recharge. In 2003, OCWD completed construction of the Santiago Basin Pump Station which allowed water to be pumped back into Burris Basin. This created operational flexibility for faster drawdown of the Santiago Basins to free up storage for storm water capture, when needed and to increase recharge in Santiago Creek. During average rainfall conditions, the District captures and recharges an estimated 50,000 to 70,000-acre feet of creek stormflow, most of it stored in the Santiago Basins. In September 2015, a scour assessment conducted by Ninyo & Moore Geotechnical Consultants documented erosion within the Smith Basin and identified the potential water sources causing the erosion, illustrated in **Figure 2 – Erosion Map** and **Figure 3 – Erosion Map Cross Sections**.

The Proposed Project is intended to repair and remediate erosion within Smith Basin caused by Santiago Creek, which currently flows in a shallow incision near the base of the failed slopes at the southern and eastern edges of the basin. The primary cause of the erosion is undercutting of the toe of the embankment from the southerly migration of Santiago Creek. Existing topography in the Basin indicates that the Santiago Creek bed is well defined and incised as it enters through the northeast corner of Smith basin. The basin contains a long narrow vegetated shelf along the north side of the basin that was historically used as an access road when the basin was part of a gravel quarry. A long, wide, relatively flat lowland courses through the middle and southern areas of the basin. Over time, the creek flow has moved from the northern side of the basin towards the south to its current alignment along the toe of the southern and eastern slopes. Flows in Santiago Creek are highly variable throughout the year, with the highest flows typically occurring during the rainy season (November – April) with low flows during the remainder of the year. In addition, during the rainy season when the downstream Santiago Basins are full, water is impounded in Smith Basin, covering approximately two-thirds of the bottom of the basin.

### 2.2 Previous Scoping

On June 26, 2018, the Orange County Water District initiated a Notice of Preparation (NOP) for a draft Environmental Impact Report for a project identified as the Smith Basin Improvement Project. The Proposed Project evaluated in this MND represents a substantial reduction in the overall improvements in comparison to the components identified in the 2018 NOP. Appendix A provides all previous scoping information under the NOP related project. A summary of the



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project identified in the 2018 NOP and the scoping efforts associated with that project are provided below.

### ***NOP Project Description***

The proposed project under the previous scoping (NOP Proposed Project) involved two (2) project alternatives. Alternative 1 involved improvement to increase geotechnical stability of the Smith Basin embankment slopes in six (6) areas. Under Alternative 2, all improvements under Alternative 1 would be included, except than under Alternative 2, Santiago Creek would be reestablished along the toe of the slopes in its current alignment and would maintain its current width and depth and would be protected in place with rip rap.

### ***NOP Comments Received***

OCWD received the following four (4) comment letters from agencies regarding the content of the NOP:

1. South Coast Air Quality Management District -- July 26, 2018
2. California Department of Fish and Wildlife – July 24, 2018
3. City of Orange – July 26, 2018
4. Orange County Public Works – July 24, 2018

#### ***South Coast Air Quality Management District (SCAQMD)***

The content of the SCAQMD comment letter involved notification of informational resources pertaining to the air quality section of the environmental analysis. SCAQMD provided guidance on the air quality analysis and mitigation measures; direction on project alternatives, if applicable; information on SCAQMD permit requirements; and direction to different data sources. All the information provided in SCAQMD's comment letter was for edification purposes.

#### ***California Department of Fish and Wildlife (CDFW)***

The letter provided by CDFW provided general information pertaining to the authority of CDFW, including information about CDFW permitting regulations, as well as comments and recommendations for the scope of the NOP project description. The CDFW recommendations included their support for Alternative 1 over Alternative 2; encouraged the avoidance of impacts to the sensitive species identified within the project area; stated the regulatory requirements and prohibitions regarding takings of sensitive and endangered species; and suggested OCWD consult the U.S. Department of Fish and Wildlife. Comments from the CDFW discussed CDFW policy regarding wetland and riparian habitats; suggested additional information be provided regarding staging areas and access routes; inclusion of feasible alternatives to ensure biological impacts are minimized; requested a biological resource report; substantial discussion on biological impacts; and suggested mitigation measures that may be appropriate, if applicable.





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### *City of Orange*

The City of Orange comment letter included a list of concerns pertaining to the NOP Proposed Project, including potential impacts to the adjacent single-family residential uses to the north and west of the Basin. The City also requested identification of any current or future impacts to City of Orange streets, bike lanes, and trails.

### *Orange County Public Works*

The Orange County Public Work Department commented on the NOP Proposed Project, including the clarification that the discussion on Hydrology and Water Quality state whether or not the NOP Proposed Project would qualify as a Priority Development Project and require preparation of a Water Quality Management Plan. Orange County Public Works also noted typographical errors within the NOP and noted Orange County Public Works permit requirements.

### ***Project Adjustments and Changes to Project Description***

In August 2018, the OCWD reevaluated the NOP Proposed Project and began the revision process to the scope of work. Limits were placed on the proposed improvements, substantially reducing the number of areas proposed for stabilization from six (6) to three (3) and realigning the Santiago Creek to its prior alignment instead of stabilizing it in its current location. Due to the material reduction in the project description, OCWD prepared this new Initial Study to evaluate the potential for significant physical impacts to the environment.

### **2.3 Project Site Location**

The proposed improvement activities would occur within the area of Smith Basin, in the Cities of Orange and Villa Park, and portion of unincorporated county land in Orange County. As shown in **Figure 1** and **Figure 4 – Project Area**, the Smith Basin is bounded by Lemon Street to the west, Cannon Street to the east, Villa Park Road to the south and Santiago Boulevard to the north. The Project Site can be regionally accessed by State Route 55 via the Chapman Avenue exit. The Smith Basin is located downstream of Villa Park Dam and Santiago Reservoir and receive incoming flows from Santiago Creek, which drains into and out of the basin. The Project Site is located at Township T4 South, Range R9 West on U.S.G.S. Quad Map for Orange.

The Smith Basin and the adjacent Santiago Basins were previously aggregate mines (for sand and gravel aggregate) prior to their purchase by OCWD in 1990. The Smith Basin embankment slopes vary from 50 feet to 80 feet in height and from approximately 1:1 to 2:1 in slope ratio; near the southwest corner of the basin, the embankment slope is approximately 1:1. A portion of the north embankment slope has been improved with concrete v-ditch drainage. A maintenance road is present along the top of the eastern embankment slope and along the eastern portion of the southern embankment slope. Portions of the basin interior and lower areas of the southern and eastern embankment slopes are covered with dense vegetation. Portions of the southern and eastern embankment slopes have experienced heavy erosion, largely from major flood events. Most of the construction work for the Proposed Project would be at least 40 feet below the surrounding ground surface adjacent to the Smith Basin.



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The Proposed Project would include grading and vegetation removal, three (3) areas identified for repair, and staging area. The extent of these areas is shown in **Figure 5 - Smith Basin Improvement Project Limits**.

### *Areas of Grading and Vegetation Removal*

A portion of the bottom of Smith Basin would be re-graded to repair the existing slope damage and re-establish Santiago Creek to its former alignment. Re-establishing the embankment slopes (Figure 5 - Areas 1, 2, and 3) would require the current low-flow path of Santiago Creek to be moved northward and westward back towards its former location. Soil would be excavated from the bottom of Smith Basin and placed on the damaged slopes to restore them to a more stable grade.

Smith Basin is a water retention basin with California coastal sage scrub habitat on steep slopes and upland shelves, and riparian habitat supported by a creek with perennial low flow and seasonal flood water. The basin slopes are covered in coastal sage scrub and/or non-native vegetation. The north slope is a mixture of non-native weedy species with scattered patches of degraded California coastal sage plantings while the south slope primarily consists of dominant California coastal sage with only sparse non-native weedy growth. Approximately one-half of the existing vegetation in the bottom of Smith Basin would be removed to complete the slope repairs and creek alignment restoration. The embankments, groins, and slopes would all be left suitable for establishing native plants after construction.

### *Areas of Repair*

Area 1 is located on the southern embankment slope adjacent to Villa Park Road. The southern embankment slope was constructed at an approximate slope ratio of 1.7:1 based on the pre-erosion topography. An area approximately 450 feet in length is located along the toe of the embankment slope and is progressively eroding during high water flow events, dated since approximately 1981. The erosion has created a near vertical scarp estimated to be up to 25 feet in height.

Area 2 is located on the eastern embankment slope adjacent to Oak Ridge Private School and the northern end of North Santiago Boulevard. The area of erosion is approximately 700 feet in length. The approximate 700-foot long area located along the toe of the embankment slope is progressively eroding during the high-water flow events, dated since approximately 1969. The erosion has created a near vertical scarp that reaches a height of 35 feet at the southwest end.

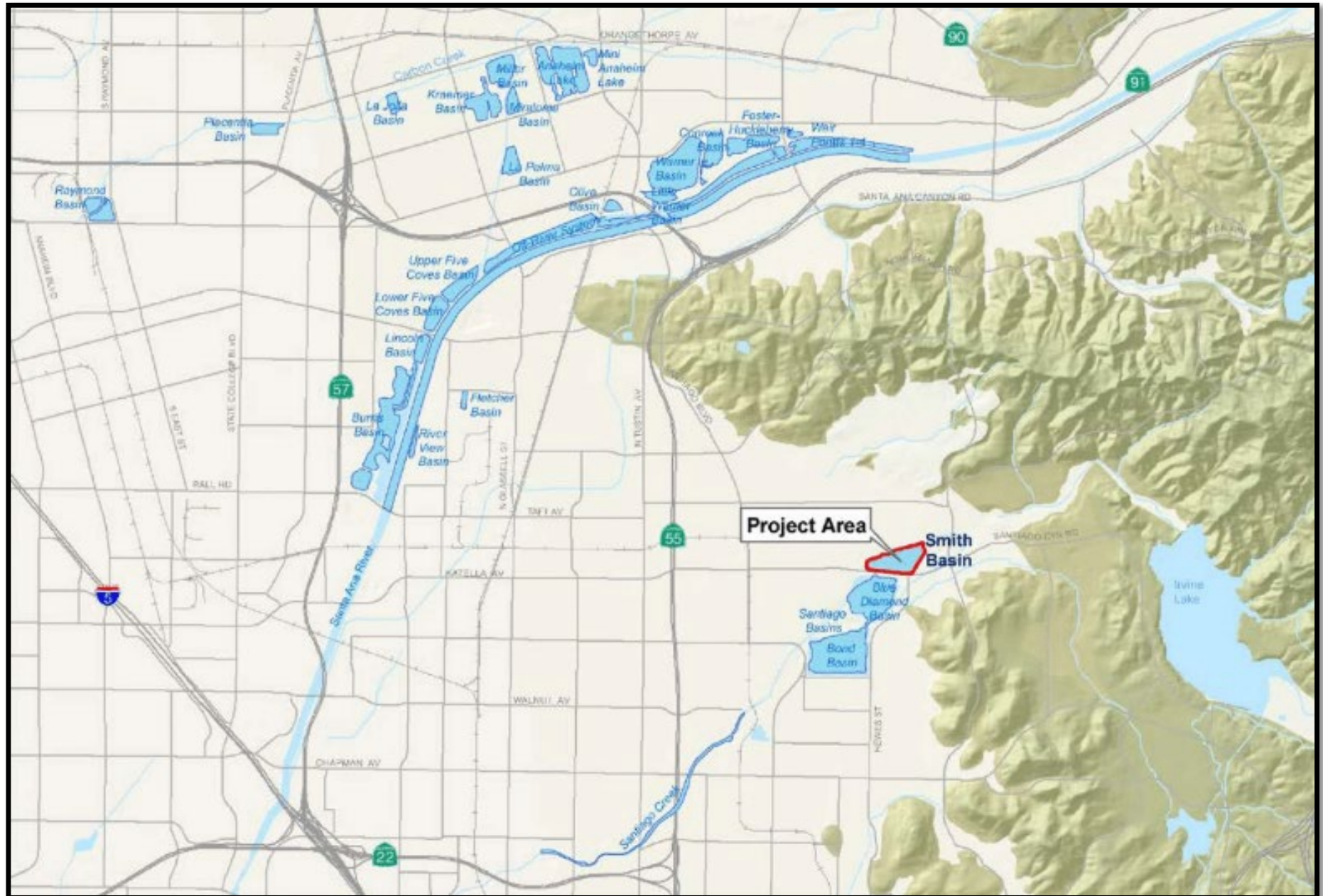
Area 3 is located near the top of the embankment slope near the west corner of the basin. The embankment slope is relatively steep. The erosion was first observed in the 1970 aerial photographs concurrent to when the grading for the residential property to the west and north was being performed. Over the years, the erosion gully has widened and retreated to the west, toward the adjacent residential property. Access to the slope area is restricted due to steepness and vegetation. The erosion gully has a relatively steep side slope that are estimated to be about 6 to 10 feet in height.

### *Staging Area*



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A staging area would be located onsite within the southwestern corner of the Project Site, with direct access provided via maintenance road located along the top of the eastern embankment slope and along the eastern portion of the southern embankment slope (Figure 5).



**Figure 1: Regional Vicinity Map**

Source: Orange County Water District



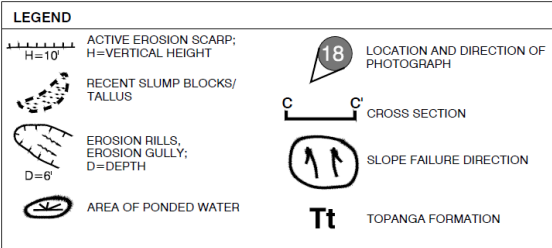
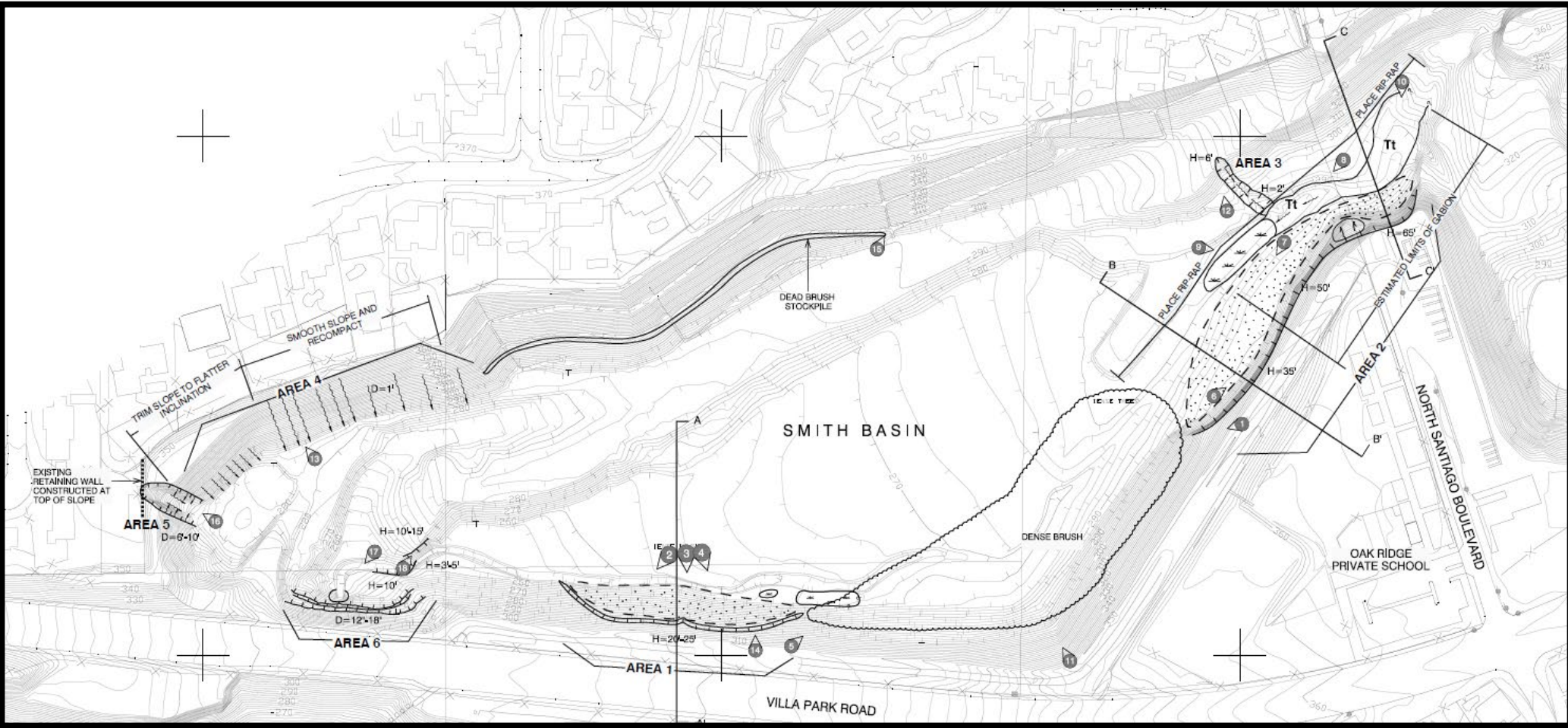


Figure 2: Erosion Map

Source: Ninyo & Moore

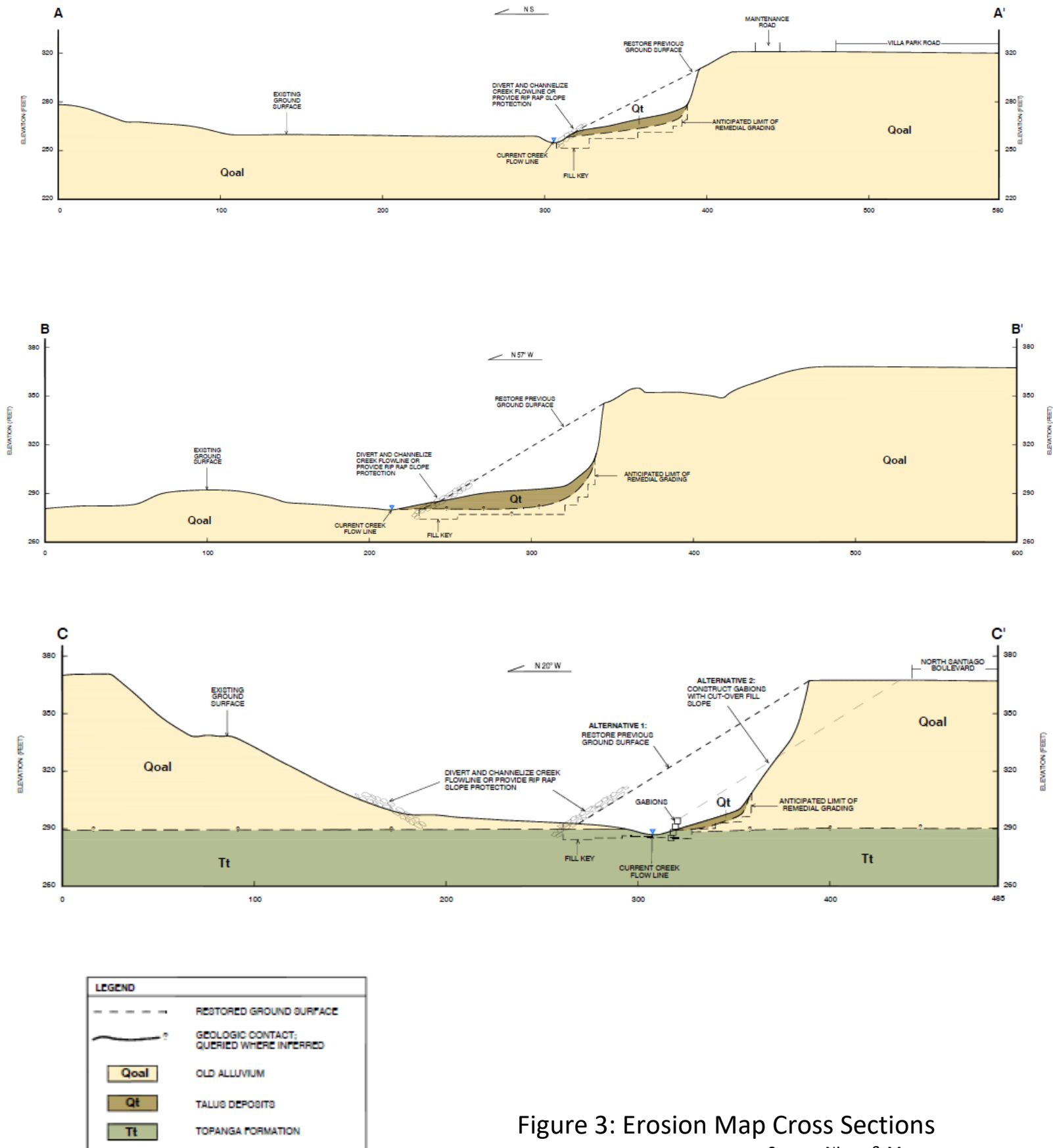






Figure 4: Project Area

Source: Orange County Water District





Figure 5: Smith Basin Improvement Project Limits

Source: Orange County Water District





## 2.4 Proposed Project

The purpose of the Proposed Project is to:

(1) Reconstruct failure slopes to:

- (a) Alleviate safety concerns; and
- (b) Reduce risk of future slope failure that would harm or destroy riparian vegetation and environmental resources.

(2) Regrade the bottom of Smith Basin to restore Santiago Creek in its original alignment to reduce future erosion and slope failure.

The Proposed Project activities includes re-establishing the historical access road on the north; re-grading the bottom of Smith Basin to restore Santiago Creek in its former alignment nearer the middle of the basin; repairing and reconstructing the slopes in the basin; constructing six (6) groins to slow water flow along the southern slope; and restoration of removed vegetation. A comprehensive design plan of the Proposed Project is detailed in **Figure 6 – Grading Design Plan**. Detailed grading plan sets are located in Appendix H – *Detailed Grading Plans*.

### ***Slope Repairs and Stabilization***

The Smith Basin Improvement Project involves geotechnical improvements to areas in Smith Basin that have experienced substantial erosion on the basin slopes (Figure 2). Smith Basin would be repaired and/or improved to increase geotechnical stability. In order to access Smith Basin with the equipment to complete this work, the historic access road along the toe of the northern slope of the basin would be restored and graded to its original condition. This road would become the main access into and out of the bottom of Smith Basin and accessed from Santiago Road on the northeast edge of the Project Site.

The Proposed Project would involve moving approximately 200,000 cubic yards of sediment and rock (existing fill) from the basin interior to repair eroded slopes on the south and western sides of the basin, re-establishing a 2:1 slope. Soil would be excavated from the bottom of Smith Basin and placed on the damaged slopes to restore them to a more stable grade. The repair of the failed slopes would require excavation along the base of the failures and placement of engineered fill. First, the eroded slump blocks would be removed, and a fill keyway that extends through the footprint of the slope fill would be excavated. Approximately 20,000 cubic yards will be excavated and recompact in the keyway. Upon filling of the keyways, the slope reconstruction would continue from the bottom of the basin and proceed upwards to the top. Engineered fill would be placed in layers to construct the buttress fill and reconstruct the slope up to the existing top of the slope. Reconstruction activities would extend approximately 40 feet beyond both ends of the existing eroded areas. Future slope stability would be facilitated with the addition of six (6) groins extending out from the southern toe-of-slope, along with two sills placed in the basin interior. All earthwork would be balanced on-site with no import or export of soils occurring.



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During execution of the work, equipment would be staged in unvegetated upland area near the southwestern quadrant of Smith Basin. No off-site equipment staging would occur.

### ***Santiago Creek Alignment***

As part of the improvements Santiago Creek would be re-established to its former alignment within the central portion of the basin. Santiago Creek would flow in a southwesterly direction from the northeast corner of the basin to the existing outlet at the culvert under Villa Park Road in the southwest corner of the basin. The realigned creek low-flow channel would be constructed with a width of approximately fifteen feet and depth of two feet. The creek regrading would be completed concurrent with the excavation of the slope repairs. As stated above, approximately 200,000 cubic yards of soil would be excavated within Smith Basin to re-grade the creek alignment and repair the slopes and all grading would be balanced on-site. The high flow creek channel would include the whole width of Smith Basin. The realigned Creek would vary from 100 feet at the inlet, to 550 feet wide at the middle, and back down to 100 feet wide at the outlet. The depth of the Creek would vary through the basin from a depth of 10 – 20 feet deep. Rip rap would be placed along the base of the repaired slopes at the mouth of the Basin for slope protection.

The grading associated with the Proposed Project would result in a shelf that extends from the inlet to approximately 700 feet downstream of the inlet. The basin grade would drop approximately fifteen feet downstream of this shelf into the remainder of the basin. This shelf would be constructed across the basin with six (6) groins and ponds on either side of the drop to slow the creek velocity in the basin and prevent erosion. The proposed groins would be constructed perpendicular to the slope along the south side of the basin.

### ***Vegetation Removal and Restoration***

Approximately 50% of the existing vegetation in the bottom of Smith Basin would be removed to complete the slope repairs and creek alignment restoration. Approximately 7.56 acres of wetland waters would be temporarily impacted by the Proposed Project as well as approximately 2.65 acres of upland native habitat (Coastal Sage Scrub/mix) through vegetation removal and grading. Mitigation measures MM BIO-3 and MM-BIO-4 are identified in the environmental impact analysis to address the potential for impacts associated with vegetation removal.



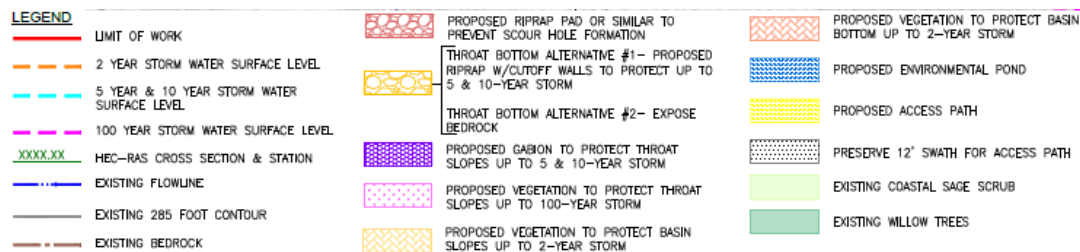
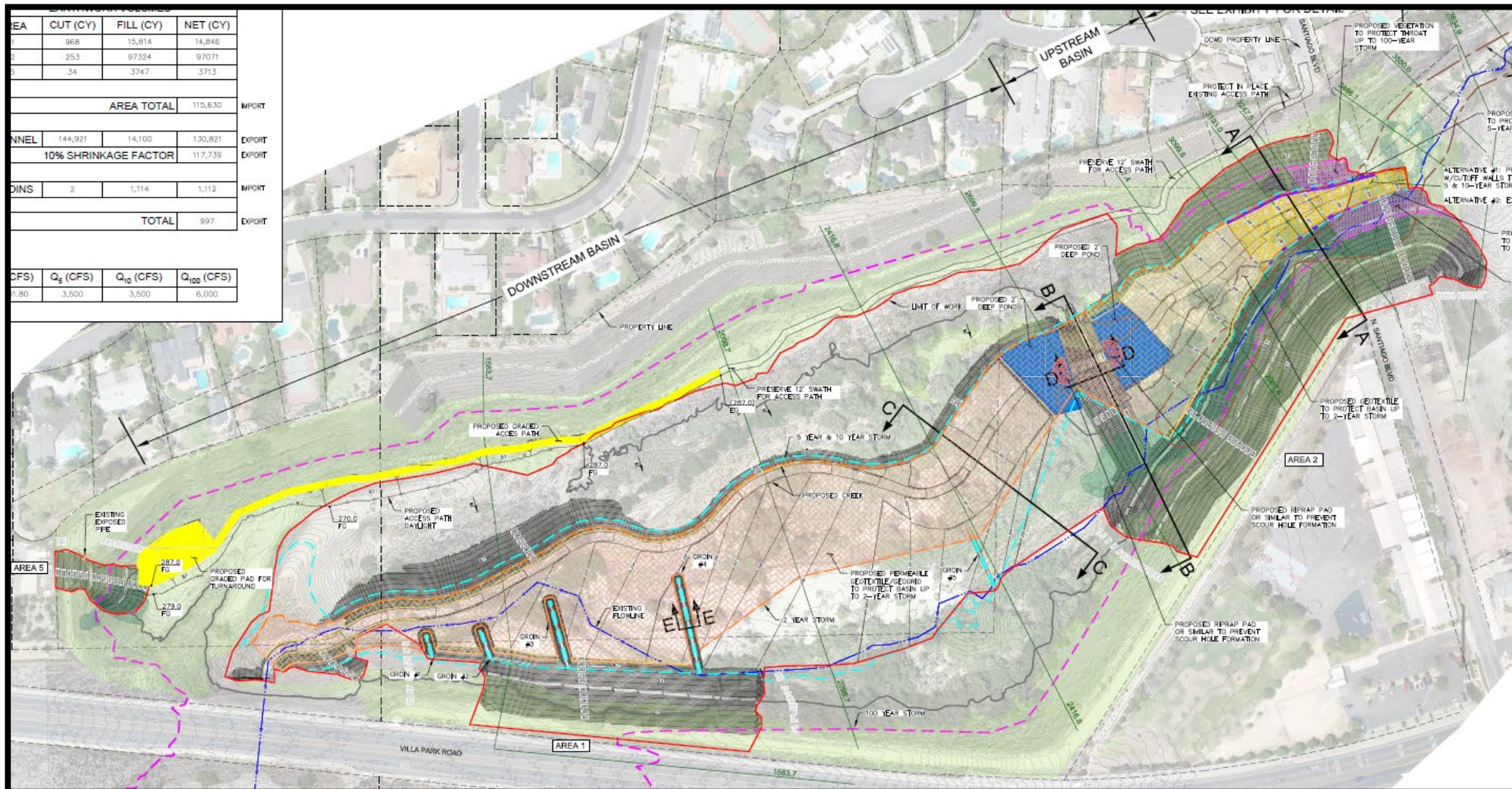


Figure 6: Grading Design Plan

Source: Huitt-Zoliars, Inc.



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### Construction Phasing Plan

As shown in Figure 5 – *Smith Basin Improvement Project Limits*, construction crews would access the work site from the maintenance access road on the western basin slope. All construction equipment would be staged in the southwestern corner of Smith Basin, as shown in Figure 5. The Proposed Project would be constructed in three phases:

- Phase 1 – Basin Site Preparation and Santiago Creek Realignment Rip Rap
- Phase 2 – Reconstruction of Slopes (Areas 1 and 2)
- Phase 3 – Reconstruction of Slopes (Area 3)

### Phase 1 – Basin Site Preparation and Santiago Creek Realignment Rip Rap

Phase 1 would involve regrading the bottom of Smith Basin, repairing and reconstructing the Basin slopes, and placing and backfilling rip rap. The bottom of Smith Basin would be graded to establish the alignment of the Santiago Creek in a southwesterly direction from the northeast corner of the Basin to the outlet at the culvert under Villa Park Road. Equipment used to regrade, repair, reconstruct, and backfill includes a bulldozer, tracked excavator, skidder, off-road haul truck, dump truck, tub grinder, wheel loader, water and work truck. Rip rap would be placed along the base of the repaired slopes at the mouth of the Basin. These activities are expected to take approximately 12 days to complete. Approximate equipment usage, hours of operation, and total days for completion of this phase are shown in Table 1 – *Phase 1 – Site Preparation and Santiago Creek Realignment*.

**Table 1: Phase 1 - Site Preparation and Santiago Creek Realignment**

Equipment	Pieces of Equipment	Hours of Operation	Total Days	Total Hours of Operation	HP Rating
Bulldozer	1	8	8	64	250
Tracked Excavator	1	8	8	64	200
Skidder	1	8	8	64	200
Off-Road Haul Truck	1	8	8	64	350
Dump Truck	1	8	8	64	350
Tub Grinder	1	8	8	64	300
Wheel Loader	1	8	8	64	250
Water Truck	1	8	8	64	350
Work Truck	1	8	8	128	300





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### Phase 2 – Reconstruction of Slopes (Areas 1 and 2)

Phase 2 would involve grading and excavation to regard the bottom of Smith Basin and reconstruct the slopes in Areas 1 and 2. Reconstruction of these slopes would start from the bottom of the slope and proceed upwards to the top. Reconstruction would extend approximately 40 feet beyond both ends of the existing eroded areas. The final step of construction would include placement of straw waddle and hydro-seeded with a blend of native seeds. Equipment for the Phase 2 activities would include; tracked excavator, wheel loader, off-road haul truck, dump trucks, water truck and work truck. These activities are expected to occur over a five-week period. Approximate equipment usage, hours of operation, and total days for completion of this phase are shown in Table 2 – *Phase 2 – Reconstruction of Slopes (Areas 1 and 2)*.

**Table 2: Phase 2 – Reconstruction of Slopes (Areas 1 and 2)**

Equipment	Pieces of Equipment	Hours of Operation	Total Days	Total Hours of Operation	HP Rating
Tracked Excavator	1	8	4	32	200
Wheel Loader	1	8	4	32	250
Off-Road Haul Truck	1	8	4	32	350
Dump Truck	12	8	2	192	350
Water Truck	1	8	4	32	350
Work Truck	1	8	4	32	300



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### Phase 3 – Reconstruction of Slopes (Area 3)

Phase 3 would involve rough grading and excavation to fill the deep gullies to match the slopes immediately adjacent to the slope in Area 3 as depicted in Figure 5. Reconstruction of the slope would be completed in one phase and start from the bottom of the slope and proceed upwards to the top. The limits of excavation would extend approximately 10 feet beyond the current edge of the gully. The gullied area would be over excavated to create a fill keyway at the bottom of the gully. Approximately 1,000 cubic yards would be over excavated and recompacted in the keyway. Engineered fill would then be placed in the fill keyway. After the fill keyway is filled, approximately 4,000 cubic yards of engineered fill would be placed in layers to match the adjacent slopes. After the gullies are filled and trimmed to match adjacent slopes, straw waddle and a native blend of hydro-seed would be placed over the repaired area. Equipment for Phase 3 would include; a bulldozer, tracked excavator, compactor, dump truck, water and work truck. These activities are expected to occur over a two-day period. Approximate equipment usage, hours of operation, and total days for completion of this phase are shown in Table 3 – *Phase 3 – Reconstruction of Slopes (Area 3)*.

**Table 3: Phase 3 – Reconstruction of Slopes (Area 3)**

Equipment	Pieces of Equipment	Hours of Operation	Total Days	Total Hours of Operation	HP Rating
Bulldozer	1	8	2	16	250
Tracked Excavator	1	8	2	16	200
Compactor	1	8	2	16	200
Dump Truck	4	8	2	64	350
Water Truck	1	8	2	16	350
Work Truck	2	8	2	32	300

### Phase 4 – Vegetation Restoration

Phase 4 activities include those required to restore the vegetation removed by construction activities per the mitigation measures identified in this document. This work would be completed mostly by hand, and the only equipment anticipated for the work consists of support for the planting crew.



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### 2.5 Permits and Approvals

The Initial Study/Mitigated Negative Declaration prepared for the Smith Basin Improvement Project would be used as the supporting CEQA environmental documentation for the following approvals and permits.

- Orange County Water District project approval and related construction contracts and agreements.
- Orange County Flood Control District project approval and encroachment permits
- US Army Corps of Engineers Clean Water Act Section 404 Permit
- California Department Fish and Wildlife Section 1600 Stream Bed Alteration Agreement
- Regional Water Quality Control Board 401 Water Quality Certification



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**SECTION 3.0 ENVIRONMENTAL CHECKLIST**

- I. **Project Title:** **Smith Basin Improvement Project**
- II. **Lead Agency Name and Address:** Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708
- III. **Project Contact:** Shawn Nevill
- IV. **Location:** City of Orange and City of Villa Park
- V. **Environmental Determination: On the basis of this initial evaluation, I find that:**

a)	<input type="checkbox"/>	The Proposed Project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
b)	<input checked="" type="checkbox"/>	<b>Although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.</b>
c)	<input type="checkbox"/>	The Proposed Project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.
d)	<input type="checkbox"/>	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 (EIR No. - ) pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the project, nothing further is required.
e)	<input type="checkbox"/>	Pursuant to Section 15164 of the CEQA Guidelines, an EIR (EIR No. - ) has been prepared earlier and only minor technical changes or additions are necessary to make the previous EIR adequate and these changes do not raise important new issues about the significant effects on the environment. An ADDENDUM to the EIR shall be prepared.
f)	<input type="checkbox"/>	Pursuant to Section 15162 of the CEQA Guidelines, an EIR (EIR No. - ) has been prepared earlier; however, subsequent proposed changes in the project and/or new information of substantial importance will cause one or more significant effects not previously discussed. A SUBSEQUENT EIR shall be prepared.

Shawn Nevill  
**Signature**

3-4-20  
**Date**





## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>I.</b>	<b>AESTHETICS</b> – 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"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>II.</b>	<b>AGRICULTURAL AND FOREST RESOURCES:</b> 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 prepared by the California Department of Conservation as an optional model to use in assessing impacts on agricultural 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 the 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 to non-agricultural uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>III.</b>	<b>AIR QUALITY –Would the project:</b>				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IV.</b>	<b>BIOLOGICAL RESOURCES – Would the project:</b>				
a)	Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and wildlife Services?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local regional plans, policies and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Have a substantially adverse effect on federally protected wetlands through direct removal, filling hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	state habitat conservation plan?				
<b>V.</b>	<b>CULTURAL RESOURCES – Would the project:</b>				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the CEQA Guidelines?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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"/>
<b>VI.</b>	<b>ENERGY – Would the project:</b>				
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with, or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII.</b>	<b>GEOLOGY AND SOILS – Would the project:</b>				
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i.	Rupture of an unknown earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii.	Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii.	Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv.	Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Have soils incapable of adequately	<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
	supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				
f)	Directly or indirectly disturb or destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VIII.</b>	<b>GREENHOUSE GAS EMISSIONS — Would the project:</b>				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IX.</b>	<b>HAZARDOUS AND HAZARDOUS MATERIALS – Would the project:</b>				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
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 the result in a safety hazard or excessive noise for people residing or working within the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>X.</b>	<b>HYDROLOGY AND WATER QUALITY – Would the project:</b>				
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:			<input checked="" type="checkbox"/>	
i.	Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii.	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XI.</b>	<b>LAND USE AND PLANNING – Would the project:</b>				
a)	Physically divide an established community?	<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
b)	Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XII.</b>	<b>MINERAL RESOURCES – Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIII.</b>	<b>NOISE – Would the project result in:</b>				
a)	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	For a project located within the vicinity of a private airstrip or airport land use plan or, where such 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIV.</b>	<b>POPULATION AND HOUSING – Would the project:</b>				
a)	Induce substantial unplanned population growth in an area, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Displace substantial numbers 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"/>
<b>XV.</b>	<b>PUBLIC SERVICES</b>				
a)	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				



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVI.</b>	<b>RECREATION</b>				
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 type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVII.</b>	<b>TRANSPORTATION - Would the project:</b>				
a)	Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVIII.</b>	<b>TRIBAL CULTURAL RESOURCES – Would the project:</b>				
	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 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
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>XIX.</b>	<b>UTILITIES – Would the project:</b>				
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Have sufficient water supplies available to serve the project and reasonable foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Result in the 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 providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Comply with federal, state and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XX.</b>	<b>WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire severity zones, would the project:</b>				
a)	Substantially impair an adopted emergency management response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>





## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

		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 exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XXI.</b>	<b>MANDATORY FINDINGS OF SIGNIFICANCE – Does the project:</b>				
a)	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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

### SECTION 4.0 ENVIRONMENTAL ANALYSIS

The following environmental analysis responds to the environmental issues listed on the OCWD CEQA Checklist Form. The analysis identifies the level of anticipated impact that would occur at the Project Site and incorporates mitigation measures to reduce potentially significant impacts to the environment to a less than significant level.

#### 4.1 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is un an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### 4.1.1 Environmental Analysis

###### a) *Would the project have a substantial adverse effect on a scenic vista?*

**Less Than Significant Impact:** Smith Basin is a groundwater basin and a part of the greater Santiago Basins complex, which has an appearance of a large lake. However, the Smith Basin does not maintain an appearance of a large lake, as Villa Park Road separates Smith Basin from the Blue Diamond and Bond Pits. Smith Basin maintains an appearance of a depressed land formation with vegetated portions of slope and floor bottom. The Santiago Creek cuts through the Smith Basin floor. Additionally, residential uses adjacent to the north and west have private views of the Project Site. The City of Orange General Plan Natural Resources Element<sup>1</sup> identifies the nearest viewscape corridor on Jamboree Road and Chapman Avenue, approximately 2.7

<sup>1</sup>Page NR-37 Figure NR-4: Viewscape Corridors

<https://www.cityoforange.org/DocumentCenter/View/571/General-Plan---Natural-Resources-Element-PDF>



## Smith Basin Improvement Project Draft Initial Study/Mitigated Negative Declaration

miles to the southeast of the Project Site. The City of Villa Park Open Space/Conservation Element<sup>2</sup> Figure V-2 – *Open Space Land* shows the groundwater recharge basin as open space, which is consistent with the Santa Ana/Santiago Creek Greenbelt Plan adopted by both the County of Orange and Cities of Villa Park and Orange.

Due to intervening topography and development, the Project Site is not visible from either the Jamboree Road or the Chapman Avenue viewscape corridors. The passive open space would not be impacted permanently as the Proposed Project does not involve the construction of any structures that would substantially modify existing views of the basin. Implementation of the Proposed Project would require the operation of heavy construction equipment within the basin for the duration of the repair project. The construction activity would occur throughout areas of the basin, as shown in Figure 5. It would be unlikely that the construction would be within the viewshed of any public views because the construction activities would primarily occur below the grade of most prominent public viewing locations. Therefore, impacts associated with a scenic vista would be less than significant and no mitigation would be required.

*b) Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

**No Impact:** According to the California Department of Transportation Scenic Highways Program<sup>3</sup>, State Route 91 is the closest designated and/or eligible State Scenic Highway to the Project Site. This segment of State Route 91 is a little over 2.5 miles to the Project Site. The distance and intervening topography and structures between State Route 91 and the Project Site would be outside the view shed of a motorist on State Route 91. The Project Site does not contain any scenic resources, rock outcroppings, or historic buildings. Therefore, there would be no impacts associated with scenic resources within a state scenic highway and no mitigation would be required.

*c) Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is un an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality??*

**Less than Significant Impact:** Smith Basin is an active groundwater management facility and has a natural open space visual character. The Proposed Project involves the repair and restoration of the existing slopes, including the installation of six groins, realignment of the Santiago Creek, and vegetation restoration. Upon completion, the Basin's slopes would be restored to their previous condition before they were damaged by erosion. The Santiago Creek would be realigned to its previous flow path. Additionally, vegetation within the disturbed area would be restored. During construction, heavy equipment would be operating within the basin. The

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<sup>2</sup>

<http://villapark.org/LinkClick.aspx?fileticket=SH6689wJbN4%3d&portalid=0&timestamp=1580150204789>

<sup>3</sup>

[https://web.archive.org/web/20190525115144/http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/index.htm](https://web.archive.org/web/20190525115144/http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm)



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construction activity would occur throughout areas of the basin, as shown in Figure 5. It would be unlikely that the construction would be within the viewshed of any prominent public views because the construction activities would primarily occur below the grade of most prominent public viewing locations. Once construction is complete, the Project Site would be visually similar to its pre-project but with slopes previously exhibiting erosion (gullied areas) restored and the groins placed in areas necessary for slope stability near the basin floor, and restoration of native coastal sage scrub habitat and mixed riparian vegetation. Therefore, potential impacts associated with the visual character or quality of the site and its surroundings would be less than significant and no mitigation would be required.

*d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

**No Impact:** Implementation of the Proposed Project would not introduce any permanent or temporarily new sources of light into the project area. Therefore, no impacts associated with light and glare would occur and no mitigation would be required.

### **4.1.2 Mitigation Measures**

No mitigation measures associated with impacts to Aesthetics apply to the Proposed Project.

### **4.1.3 Conclusion**

Potential impacts of the Proposed Project associated with Aesthetics would be less than significant and no mitigation would be required.



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### 4.2 Agricultural Resources/Forest Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.2.1 Environmental Analysis

a) *Would the project convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance to non-agriculture uses?*

**No Impact:** The State of California Farmland Mapping and Monitoring Program<sup>4</sup>, indicates that there is no Prime Farmland, Unique Farmland or Farmland of Statewide Importance on the Project Site. Therefore, no impacts associated with farmland would occur and no mitigation would be required.

b) *Would the project conflict with existing zoning for agriculture use, or a Williamson Contract?*

**No Impact:** The City of Orange, Orange County, City of Villa Park Zoning Maps<sup>5,6,7</sup> show that the Project Site is zoned for Sand and Gravel in the City and County of Orange, and designated as

<sup>4</sup> <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/ora14.pdf>

<sup>5</sup> <https://www.cityoforange.org/DocumentCenter/View/626/Citywide-Zoning-Map-PDF?bidId=>

<sup>6</sup> <http://villapark.org/Portals/0/Documents/Departments/Planning/Maps/Zoning%20map.pdf?ver=2017-06-23-192200-593&timestamp=1580345614993>

<sup>7</sup> <https://www.ocgis.com/ocpw/LandRecords/> Accessed January 27, 2020



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Orange County Flood Control District land in Villa Park. The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Project Site is not zoned for agricultural uses, nor is it subject to a Williamson Contract<sup>8</sup>. Therefore, no impacts associated with a conflict with existing zoning for agricultural use, or a Williamson Contract would occur and no mitigation would be required.

*c) Would the project 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 of Orange, Villa Park, and Orange County Zoning Maps show that the Project Site is zoned for Sand and Gravel or designated as a part of the Orange County Flood Control District (depending on portion of Project Site in each jurisdiction), and not for forest land, timberland, or timberland zoned Timberland Production. Therefore, no impacts associated with conflict with zoning for timberland uses would occur and no mitigation would be required.

*d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact:** The City of Orange, Villa Park, and Orange County Zoning Maps show that the Project Site is zoned for Sand and Gravel or designated as a part of the Orange County Flood Control District (depending on portion of Project Site in each jurisdiction) and is currently used as a groundwater recharge basin in all jurisdictions. The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Therefore, no impacts associated with the conversion of the Project Site from existing forest land to non-forest land would occur and no mitigation would be required.

*e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agriculture use or conversion of forest land to non-forest use?*

**No Impact:** Currently, there is no existing farmland on the Project Site. Therefore, no impacts associated with the loss of any forest land or result in the conversion forest lands to non-forest lands would occur and no mitigation would be required.

### **4.2.2 Mitigation Measures**

No mitigation measures associated with impacts to Agriculture and Forestry Services apply to the Proposed Project.

### **4.2.3 Conclusion**

There would be no impacts of the Proposed Project associated with Agriculture and Forestry Services and no mitigation would be required.

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<sup>8</sup> <https://www.conservation.ca.gov/dlrp/wa>



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### 4.3 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

An Air Quality and Greenhouse Gas Emissions Technical Memorandum was completed to determine potential impacts to air quality associated with the development of the Proposed Project (Appendix B - *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Air Quality and Greenhouse Gas Emissions Technical Memorandum*, Vista Environmental, February 2019). The results of the analysis are based on CalEEMod version 2016.3.2.

#### 4.3.1 Environmental Analysis

##### a) Conflict with or obstruct implementation of the applicable air quality plan?

**Less Than Significant Impact With Mitigation:** The SCAQMD 2016 Air Quality Management Plan (AQMP)<sup>9</sup> is the applicable air quality plan for the Proposed Project. The Proposed Project would be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

1. Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Whether the project will exceed the assumptions in the AQMP or increments based on the year of project build out and phase.

<sup>9</sup><https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>



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### Criterion 1 - Increase in the Frequency or Severity of Violations?

#### *Construction Related Impacts*

Short-term construction air emissions would result in significant impacts based on SCAQMD regional thresholds of significance or local thresholds of significance. Table 4 – *Construction Related Regional Criteria Pollutant Emissions* shows the NO<sub>x</sub> emissions would exceed the SCAQMD's regional emissions thresholds during the Santiago Creek realignment rip rap phase (Phase 1B). Table 4 also shows that none of the other analyzed criteria pollutants would exceed the regional emissions thresholds during any of the other phases of construction. This would be considered a significant impact.

**Table 4 - Construction-Related Regional Criteria Pollutant Emissions**

Activity	Pollutant Emissions (pounds/day) <sup>1</sup>					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Phase 1 A– Site Preparation Clearing and Grubbing</b>						
Onsite <sup>2</sup>	5.49	53.76	25.82	0.09	4.41	3.21
Offsite <sup>3</sup>	0.09	0.06	0.82	0.00	0.26	0.07
<b>Total</b>	<b>5.58</b>	<b>53.82</b>	<b>26.64</b>	<b>0.09</b>	<b>4.67</b>	<b>3.28</b>
<b>Phase 1B – Santiago Creek Realignment Rip Rap</b>						
Onsite	9.92	101.95	55.28	0.19	3.67	3.38
Offsite	0.18	0.12	1.53	0.00	0.48	0.13
<b>Total</b>	<b>10.10</b>	<b>102.07</b>	<b>56.81</b>	<b>0.19</b>	<b>4.15</b>	<b>3.51</b>
<b>Phase 2A – Area 1 Slope Embankment</b>						
Onsite	7.48	87.53	47.20	0.11	7.22	4.60
Offsite	0.09	0.06	0.82	0.00	0.26	0.07
<b>Total</b>	<b>7.57</b>	<b>87.59</b>	<b>48.02</b>	<b>0.11</b>	<b>7.48</b>	<b>4.67</b>
<b>Phase 2B – Area 2 Slope Embankment</b>						
Onsite	7.48	87.53	47.20	0.11	7.22	4.60
Offsite	0.09	0.06	0.82	0.00	0.26	0.07
<b>Total</b>	<b>7.57</b>	<b>87.59</b>	<b>48.02</b>	<b>0.11</b>	<b>7.48</b>	<b>4.67</b>





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Activity	Pollutant Emissions (pounds/day) <sup>1</sup>					
	VOC	NOx	CO	SO <sub>2</sub>	PM10	PM2.5
<b>Phase 3 – Area 3 Slope Embankment</b>						
Onsite	5.56	57.34	29.28	0.09	4.57	3.33
Offsite	0.10	0.07	0.89	0.00	0.28	0.08
<b>Total</b>	<b>5.66</b>	<b>57.41</b>	<b>30.17</b>	<b>0.09</b>	<b>4.85</b>	<b>3.41</b>
<b>SCQAMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Exceeds Threshold?	No	<b>YES</b>	No	No	No	No

Notes:

<sup>1</sup> Based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.

<sup>2</sup> Onsite emissions from equipment not operated on public roads.

<sup>3</sup> Offsite emissions from vehicles operating on public roads.

Source: CalEEMod Version 2016.3.2.

**MM AIR-1** would require that all diesel-powered off-road equipment utilized for the Proposed Project meet the Tier 3 or higher emissions standards. Table 5 – *Mitigated Construction Related Regional Criteria Pollutant Emissions* below shows that with implementation of **MM AIR-1**, all analyzed criteria pollutants would be within regional emissions thresholds during all phases of construction. The data provided in Table 5 above shows that none of the analyzed criteria pollutants would exceed local emissions thresholds for any phase of construction.

**Table 5 – Mitigated Construction Related Regional Criteria Pollutant Emissions**

Activity	Pollutant Emissions (pounds/day) <sup>1</sup>					
	VOC	NOx	CO	SO <sub>2</sub>	PM10	PM2.5
<b>Phase 1 A– Site Preparation Clearing and Grubbing</b>						
Onsite <sup>2</sup>	2.14	41.45	46.45	0.09	3.92	2.86
Offsite <sup>3</sup>	0.11	0.07	0.82	0.00	0.26	0.07
<b>Total</b>	<b>2.25</b>	<b>41.52</b>	<b>47.27</b>	<b>0.09</b>	<b>4.18</b>	<b>2.93</b>
<b>Phase 1B – Santiago Creek Realignment Rip Rap</b>						
Onsite	4.53	87.65	98.22	0.19	3.32	3.32
Offsite	0.20	0.13	1.53	0.00	0.48	0.13
<b>Total</b>	<b>4.73</b>	<b>87.78</b>	<b>99.75</b>	<b>0.19</b>	<b>3.80</b>	<b>3.45</b>



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Activity	Pollutant Emissions (pounds/day) <sup>1</sup>					
	VOC	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Phase 2A – Area 1 Slope Embankment</b>						
Onsite	2.61	50.52	56.62	0.11	5.71	3.36
Offsite	0.11	0.07	0.82	0.00	0.26	0.07
<b>Total</b>	<b>2.72</b>	<b>50.59</b>	<b>57.44</b>	<b>0.11</b>	<b>5.97</b>	<b>3.43</b>
<b>Phase 2B – Area 2 Slope Embankment</b>						
Onsite	2.61	50.52	56.62	0.11	5.71	3.36
Offsite	0.11	0.07	0.82	0.00	0.26	0.07
<b>Total</b>	<b>2.72</b>	<b>50.59</b>	<b>57.44</b>	<b>0.11</b>	<b>5.97</b>	<b>3.43</b>
<b>Phase 3 – Area 3 Slope Embankment</b>						
Onsite	2.27	43.89	49.19	0.09	4.01	2.96
Offsite	0.12	0.07	0.89	0.00	0.28	0.08
<b>Total</b>	<b>2.39</b>	<b>43.96</b>	<b>50.08</b>	<b>0.09</b>	<b>4.29</b>	<b>3.04</b>
<b>SCQAMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Exceeds Threshold?	No	No	No	No	No	No

**Notes:**

<sup>1</sup> Based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403 and **MM AIR-1** that requires all diesel powered equipment to meet the Tier 3 or higher emissions standards.

<sup>2</sup> Onsite emissions from equipment not operated on public roads.

<sup>3</sup> Offsite emissions from vehicles operating on public roads.

Source: CalEEMod Version 2016.3.2.

### *Operation Related Impacts*

The ongoing operation of the Proposed Project would generate air pollutant emissions that are inconsequential on a regional basis and would not result in significant impacts based on SCAQMD thresholds of significance. the ongoing operation of Smith Basin would primarily be passive and would not typically require the use of any off-road equipment. Therefore, potential impacts associated with the frequency or severity of violations would be less than significant and no mitigation would be required. The Proposed Project would be consistent with the first criterion.



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### Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the Proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the Proposed Project are based on the same forecasts as the AQMP. Regional population, housing, and employment projections developed by SCAG, are based in part on the City's General Plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy prepared by SCAG, to determine priority transportation projects and determine vehicle miles traveled within the SCAG region. The Proposed Project does not include the construction of any habitable structures, therefore changes in the population, housing, or employment growth projections due to the Proposed Project do not have the potential to substantially affect SCAG's demographic projections and the assumptions in SCAQMD's AQMP. Therefore, the Proposed Project would be consistent with the second criterion.

With incorporation of **MM AIR-1**, potential impacts associated with the conflict with or obstruct implementation of an applicable air quality plan would be less than significant.

*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?*

**Less Than Significant Impact With Mitigation:** The Proposed Project would not 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Cumulative projects include proposed or approved local development as well as general ambient growth within the project area. The greatest source of emissions is from mobile sources, which travel throughout the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. Accordingly, the cumulative analysis for the Proposed Project's air quality must be generic by nature. The project area is out of attainment for ozone and PM10 and PM2.5 particulate matter. In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts incorporates a three-tiered approach to assess cumulative air quality impacts.

- Consistency with the SCAQMD project specific thresholds for construction and operations;
- Project consistency with existing air quality plans; and
- Assessment of the cumulative health effects of the pollutants.



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### ***Consistency with Project Specific Thresholds***

The potential air emissions from construction and operations of the Proposed Project were analyzed for both regional and local air quality impacts, as well as potential toxic air impacts (Appendix B). The Proposed Project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation with incorporation of mitigation measure **MM AIR-1**. The following section calculates the potential air emissions associated with the construction and operations of the Proposed Project and compares the emissions to the SCAQMD standards.

#### ***Construction Emissions***

The Proposed Project would require the use of multiple pieces of equipment over three phases of construction. The overall construction of the Proposed Project would take approximately two months. The construction equipment utilized during each phase of construction has been detailed in Section 2.0 – *Project Description*.

#### ***Construction-Related Regional Impacts***

Construction-related regional emissions from the Proposed Project were calculated using the CalEEMod model. Table 4 above shows that the worst-case summer or winter daily construction-related criteria pollutant emissions would exceed the regional emissions thresholds for NO<sub>x</sub> during any of the construction phases for the Proposed Project. **MM AIR-1** would require that all diesel-powered off-road equipment utilized for the Proposed Project meet the Tier 3 or higher emissions standards. Table 6 shows that with implementation of **MM AIR-1**, all analyzed criteria pollutants would be within regional emissions thresholds during all phases of construction. Therefore, with implementation for **MM AIR-1**, potential impacts to regional air quality would be less than significant.

#### ***Construction-Related Local Impacts***

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the vicinity of the Project Site, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from construction were analyzed through utilizing the methodology described in *Localized Significance Threshold Methodology* (LST Methodology), prepared by SCAQMD, revised October 2009. The LST Methodology found the primary criteria pollutant emissions of concern are NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. In order to determine if any of these pollutants require a detailed analysis of the local air quality impacts, each phase of construction was screened using the SCAQMD's Mass Rate LST Look-up Tables. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily onsite emissions of CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> from the Proposed Project could result in a significant impact to the local air quality. Table 6 - *Construction-Related Local Criteria Pollutant Emissions* shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds during the construction phases of the Proposed Project. Therefore, potential impacts



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associated with local air quality during construction would be less than significant and no mitigation would be required.

**Table 6 – Construction Related Local Criteria Pollutant Emissions**

Construction Phase	Pollutant Emissions (pounds/day) <sup>1</sup>			
	NOx	CO	PM10	PM2.5
Phase 1A – Site Preparation Clearing and Grubbing	53.76	25.82	7.10	4.06
Phase 1B – Santiago Creek Realignment Rip Rap	87.65	98.22	3.32	3.32
Phase 2A – Area 1 Slope Embankment Repair	50.52	56.62	5.71	3.36
Phase 2B - Area 2 Slope Embankment Repair	50.52	56.62	5.71	3.36
Phase 3 - Area 3 Slope Embankment Repair	43.89	49.19	4.01	2.96
SCAQMD Thresholds <sup>2</sup>	<b>183</b>	<b>1,253</b>	<b>13</b>	<b>7</b>
Exceeds Thresholds?	No	No	No	No

**Notes:**

1 Based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403 and **MM AIR-1** that requires all equipment to meet the Tier 3 or higher emissions standards.

2 The nearest sensitive receptors are at Oak Ridge Private School, located adjacent to the east side of the Basin and the single-family homes located on the north and west sides of the Basin. According to SCAQMD Methodology, all receptors closer than 25 meters are based on the 25 meter threshold.

Source: Calculated from SCAQMD's Mass Rate Look-up Tables for five acres in Air Monitoring Area 17, Central Orange County.

### *Operational Emissions*

The proposed sediment restoration activities would consist of three phases of construction that would be completed over an approximately two-month period. Annually, OCWD would remove overgrown vegetation and debris and inspect the slopes within Smith Basin. No changes are proposed to the annual maintenance activities that currently occur within the Smith Basin and all maintenance activities would be conducted in accordance with Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities Streambed Alteration Agreement 1600-2012-0013-R5.

### *Construction-Related Impacts*

The CalEEMod model has been utilized to calculate the construction-related regional emissions from the Proposed Project. The worst-case summer or winter daily construction-related criteria pollutant emissions from the Proposed Project for each phase of construction activities are shown below in Table 5 and the CalEEMod model run printout is in Appendix B.

### *Consistency with Air Quality Plans*

As discussed in Section 4.3(a), the Proposed Project does not include the construction of any habitable structures, therefore changes in the population, housing, or employment growth



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projections due to the Proposed Project do not have the potential to substantially affect SCAG's demographic projections and the assumptions in SCAQMD's AQMP. Therefore, no impact associated with an inconsistency with the current land use designations with respect to the regional forecasts utilized by the AQMPs would occur and no mitigation would be required.

### ***Cumulative Health Impacts***

The Air Basin is designated as nonattainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (elderly, children, and the sick). Therefore, when the concentrations of those pollutants exceed the standard, it is likely that some sensitive individuals in the population would experience health effects. The regional analysis detailed in Section 4.3.1(a) found that the Proposed Project would not exceed the SCAQMD regional significance thresholds for VOC, PM<sub>10</sub> and PM<sub>2.5</sub>. The regional analysis did determine the Proposed Project would exceed the SCAQMD regional significance threshold for NO<sub>x</sub> (ozone precursors); however, **MM AIR-1** would reduce NO<sub>x</sub> emissions from the Proposed Project, resulting in NO<sub>x</sub> not exceeding these thresholds. Therefore, with implementation of **MM AIR-1**, potential cumulative health impacts would be less than significant.

Therefore, with implementation of **MM AIR-1**, potential significant impacts associated with 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 would be less than significant.

#### *c) Expose sensitive receptors to substantial pollutant concentrations?*

**No Impact:** The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. The nearest sensitive receptors are residents at the single-family homes located immediately adjacent to the southwest, west, and north of the Project Site. The nearest school is Oakridge Private School, located immediately adjacent to the southeast of the Project Site. The local concentrations of criteria pollutant emissions produced in the nearby vicinity of the Project Site, which may expose sensitive receptors to substantial concentrations, have been calculated in Section 4.3.1(b) and would not exceed any air quality thresholds. Therefore, no impacts associated with exposure to sensitive receptors would occur and no mitigation would be required.

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

**No Impact:** The Proposed Project would not create objectionable odors affecting a substantial number of people. Potential odor impacts have been analyzed separately for construction and operations.

### ***Construction-Related Odor Impacts***

Potential sources that may emit odors during construction activities include the operation of construction equipment outlined in Section 2.0 – *Project Description*. The objectionable odors



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that may be produced during the construction process would be temporarily and would not likely be noticeable for extended periods of time beyond the Project Site's boundaries. Due to the transitory nature of construction odors, no impacts associated with odors would occur and no mitigation would be required.

### ***Operations-Related Odor Impacts***

Annually, OCWD would remove overgrown vegetation and debris and inspect the slopes within Smith Basin. No changes are proposed to the annual maintenance activities that currently occur within the Smith Basin and all maintenance activities would be conducted in accordance with Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities Streambed Alteration Agreement 1600-2012-0013-R5. Therefore, no impacts associated with the objectionable odors due to operation of the Proposed Project would occur and no mitigation would be required.

#### ***4.3.2 Mitigation Measures***

**MM AIR-1:** Prior to the start of construction and throughout the construction period, the OCWD Project Manager shall ensure that all off-road diesel-powered equipment utilized for the Proposed Project shall be registered with the California Air Resources Board (CARB) and be labelled detailing that the equipment meets or exceeds Tier 3 emissions standards.

#### ***4.3.3 Conclusion***

Potential impacts of the Proposed Project associated with Air Quality would be less than significant with incorporation of **MM AIR-1**.





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### 4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local regional plans, policies and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantially adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>

A Biological Assessment was completed to determine potential impacts to biological resources associated with the development of the Proposed Project (Appendix C – *Smith Basin Improvement Project Biological Assessment*, Orange County Water District, October 2019).



#### **4.4.1 Environmental Analysis**

##### **Existing Conditions**

##### ***Sensitive Species***

The OCWD staff biologist conducted a database search of special status plant and wildlife species listed in the California Native Plant Society Online Survey of Rare Plants, U.S. Department of Interior Information Planning and Conservation System Database and the California Department of Fish and Game Natural Diversity Data Base for the Orange U.S.G.S. Quadrangle to determine the potential for special status plant and wildlife species to occur on the Project Site. Subsequent to the database search, the OCWD staff biologist conducted a field survey of the Project Site to determine the presence of any special status species or habitat within the study area. Based on the database search and Project Site survey, the potential for the species to occur on the Project Site was determined. A complete listing of special status plant and wildlife species with potential to occur within the study area is shown in Table 7 - *Sensitive Species List*. The determination regarding the potential occurrence of the species was based on the following criteria:

**Present:** The species is commonly observed or observed within the study area within the last year.

**High:** The study area supports suitable habitat and the species has been observed within last 2 years and within 2 miles of the Project Site.

**Moderate:** The study area supports suitable habitat.

**Low:** The study area lacks suitable habitat for (a) species.

No Federal or State listed plant species was identified as having moderate or higher potential to occur within the study area (Table 7).



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**Table 7 - Sensitive Species List**

	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
<b>Plants</b>						
Santa Ana River Woollystar ( <i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i> )	E	E	1B.1	Sandy gravelly Soils on River Floodplain. Flowering period May to September.	Project site lacks suitable habitat for the species.	<b>Low Potential.</b> Species believed to be extirpated in Orange County.
Gambel's Watercress ( <i>nasturtium Gambelii</i> )	E	E	1B.1	Brackish Marsh, Freshwater Marsh and Swamp Wetland.	Project site lacks suitable habitat for the species.	<b>Low Potential.</b>
<b>Reptiles</b>						
Orange-throated whiptail ( <i>Aspidoscelis hyperythra</i> )	NL	SSC	S2, S3	Low level Coastal Sage Scrub, Chaparral, Grass, Oak Woodland. Prefers washes, sandy areas with patches, brush.	Project site supports suitable habitat for the species. Species has not been observed within last 2 years.	<b>Moderate Potential.</b>
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	NL	SSC	S3, S4	Most common in lowlands along sandy washes with scattered low brushes, requires open areas for sunning, bushes for cover and abundant supply of ants and other food sources.	Project site lacks suitable habitat for the species.	<b>Low Potential.</b>
<b>Birds</b>						
Cooper's hawk ( <i>Accipiter cooperii</i> )	NL	NL	S4	Woodlands, nest sites mainly in riparian growths of deciduous trees.	Project site supports suitable habitat for the species. Species is commonly observed on the project site within last year.	<b>Present.</b>
Tricolored blackbird ( <i>Agelaius tricolor</i> )	NL	E	S1, S2	Wetlands, Agricultural Fields.	Project site lacks suitable habitat for the species.	<b>Low Potential.</b>
Southern California rufous	NL	NL	S3	Chaparral Cismontane Coastal	Project site supports suitable	<b>Moderate Potential.</b>



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	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
crowned sparrow ( <i>Aimophila ruficeps canescens</i> )				Scrub	habitat for the species. Species has not been observed here within last two years.	
Coastal Cactus Wren ( <i>Campylorhynchus brunneicapillus sandiegenis</i> )	NL	NL	S3	Coastal Scrub.	Site does not contain tall opuntia or cholla cactus habitat	<b>Low Potential.</b>
Western yellow billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	T	E		Species typically require a minimum of 25 acres of area and forage predominantly in cottonwood tree stands.	Suitable riparian habitat is sparse. Species has not been seen within last 10 years and is believed to be extirpated in Orange County.	<b>Low Potential.</b>
White-tailed kite ( <i>Elanus leucurus</i> )	NL	NL	S3, S4	Woodland, Marsh, Swamp Riparian Woodland, valley and Foothill,	Project site supports suitable habitat for the species. Species has not been observed within last two years.	<b>Moderate Potential.</b>
Yellow breasted chat ( <i>Icteria virens</i> )	NL	NL	S3	Summer resident, inhibits riparian thicket of willow and other brushy thickets near water courses, nests in low dense riparian vegetation.	Project site supports suitable habitat for the species. Species has not been observed within last 2 years.	<b>High Potential.</b>
Laterallus jamaicensis coturniculus ( <i>California black rail</i> )	NL	Threatened	S1	Brackish Marsh, Freshwater Marsh & Swamp, Slt marsh Wetland	Project site lacks suitable habitat for the species.	<b>Low Potential.</b>
Coastal California gnatcatcher ( <i>Poliophtila californica</i> )	T	SSC		Permanent resident of coastal sage scrub, low scrub, in arid washes, on mesas and slopes.	Project site supports suitable habitat for the species. Species is commonly observed on the project site within	<b>Present</b>



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	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
					the last year.	
Setophaga petechia (Yellow Warbler)	NL	NL	S3, S4,	Summer resident, inhibits riparian thicket of willow and other brushy thickets near water courses, nests in low dense riparian vegetation.	Project site supports suitable habitat for the species. Species has not been observed within last 2 years.	<b>High Potential.</b>
Least Bell's vireo (Vireo bellii pusillus)	E	E		Summer resident of southern California in low riparian habitats in vicinity of water or dry river bottoms, nests placed along margins of bushes or on twigs landing on pathways, usually willow, mesquite or mulefat.	Project site supports suitable habitat for the species. Species is commonly observed on the project site within the last year.	<b>Present.</b>
<b>Aquatics</b>						
Santa Ana Sucker (Catostomus santaanae)	T	SSC		Cool, Clear Streams, Rivers, rocky Bottom	Project site lacks suitable habitat for the species	<b>Low Potential.</b>
Source: Table 2 and 3 – Sensitive Status Plant Species and Sensitive Status Wildlife Species, Appendix C – Appendix C – Smith Basin Improvement Project Biological Assessment, Orange County Water District, October 2019, Page 14-17						
<b>Legend</b> <b>Federal Listing</b> E-Endangered T-Threatened SSC-Species of Special Concern NL-Not Listed			<b>State Listing</b> E-Endangered T-Threatened NL-Not Listed <b>State Ranking</b> S1-Critically Imperiled S2-Imperiled S3-Vulnerable S4 Apparently Secure S5-Secure		<b>California Native Plant Society CNPS</b> 1A-Plants presumed extinct in California 1B- Plants rare, threatened, or endangered in California and elsewhere 2-Plants rare, threatened, or endangered in California but more common elsewhere 3-Plants about which we need more review 4-Plants of limited distribution Source: California Department Fish and Game Natural Diversity Database <b>CNPS Threat Rank</b> .1 Seriously Endangered .2 Fairly Endangered .3 Not Very Endangered	



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### *Migratory Birds*

The Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Game Code are the governing regulation for potential disturbances to migratory birds. The Proposed Project would be subject to these regulations. As noted above, Appendix C was conducted to determine the potential for special status plant and wildlife species to occur, including that of migratory birds on the Project Site. A complete listing of migratory birds identified within the quadrangle area and the potential for the species to occur on the Project Site is shown in Table 8. The determination regarding the potential occurrence of the species was based on the criteria detailed under the *Sensitive Species* section of this document above.

**Table 8 – Migratory Birds**

	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
Allen's Hummingbird (Selasphorus sasin)	NL	NL	NL	Riparian woodlands	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Bald Eagle (Haliaeetus leucocephalus)	NL	E	S3	Lower montane coniferous forest, Old growth	Project site lacks suitable habitat for the species.	<b>Low.</b>
Black Skimmer (Rynchops niger)	NL	NL	S3	Sandy shoreline	Project site lacks suitable habitat for the species	<b>Low.</b>
Black-chinned Sparrow (Spizella atrogularis)	NL	NL	NL	Arid chaparral, arid rocky hillsides with scattered scrub oak or juniper	Project site lacks suitable habitat for the species	<b>Low.</b>
California Thrasher (Toxostoma redivivum)	NL	NL	NL	Chaparral in coastal and foothills areas and wooded thickets near water	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Clarkes Grebe (Aechmophorus clarkia)	NL	NL	NL	Winters on lakes and along southern Pacific coast	Project site lacks suitable habitat for the species	<b>Low.</b>
Common Yellowthroat (Geothlypis trichas sinuosa)	NL	NL	S3, Species of Special Concern	Marsh & Swamp	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Costa's Humming Bird (Calypste costae)	NL	NL	S4		Project site supports suitable habitat for the species. Species has not	<b>Moderate.</b>



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	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
					been observed within last two years.	
Golden Eagle (Aquila chrysaetos)	NL	NL	S4	Upland forest, Cismontane Woodland, Coastal Prairie	Project site lacks suitable habitat for the species	<b>Low.</b>
Lawrence's Goldfinch (Carduelis lawrencei)	NL	NL	NL	Arid woodlands, chaparral and brushy areas.	Project site supports suitable habitat for the species. Species has not been observed within last two years.	<b>Moderate.</b>
Long Billed Curlew (Numenius americanus)	NL	NL	S2	Grassland, Meadow & seep	Project site lacks suitable habitat for the species	<b>Low.</b>
Marbled Godwit (Limosa fedoa)	NL	NL	NL	Coastal bays, marshes, tidal mudflats	Project site lacks suitable habitat for the species	<b>Low.</b>
Nuttall's Woodpecker (Picoides nuttallii)	NL	NL	NL	Chaparral with scattered trees and riparian areas	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Oak Titmouse (Baeolophus inornatus)	NL	NL	S4	Riparian areas and wooded habitats	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Rufous Hummingbird (Selasphorus rufus)	NL	NL	S1, S2	Woodland areas near streams	Project site supports suitable habitat for the species. Species has not been observed	<b>Moderate.</b>
Short-billed Dowitcher (Limnodromus griseus)	NL	NL	NL	Salt marshes and mud flats	Project site lacks suitable habitat for the species	<b>Low.</b>
Song Sparrow (Melospiza melodia)	NL	NL	S3, Species of Special Concern	Brushy areas	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>





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	USFWS	CDFG	CNPS	General Habitat Requirements	Project Site Habitat Suitability	Potential Occurrence on Project Site
Spotted Towhee ( <i>Pipilo maculatus clementae</i> )	NL	NL	S1, S2	Chaparral, Riparian Scrub	Project site supports suitable habitat. Species commonly reported.	<b>Present.</b>
Whimbrel ( <i>Numenius phaeopus</i> )	NL	NL	NL	Coastal marshes and flats	Project site lacks suitable habitat for the species	<b>Low.</b>
Willet ( <i>Tringa semipalmata</i> )	NL	NL	NL	Ocean coasts	Project site lacks suitable habitat for the species	<b>Low.</b>
Source: Table 4 – Migratory Birds, Appendix C – Appendix C – <i>Smith Basin Improvement Project Biological Assessment</i> , Orange County Water District, October 2019, Page 18-20						
<b>Legend</b> <b>Federal Listing</b> E-Endangered T-Threatened SSC-Species of Special Concern NL-Not Listed			<b>State Listing</b> E-Endangered T-Threatened NL-Not Listed <b>State Ranking</b> S1-Critically Imperiled S2-Imperiled S3-Vulnerable S4 Apparently Secure S5-Secure			



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### ***Critical Habitat***

The Project Site is not located on lands that are designated as Critical Habitat.

### **Federal and State Jurisdictional Aquatic Resources**

#### **Waters of the United States**

A water body is considered Waters of the U.S. if it is: (1) traditional navigable water (TNW); (2) wetlands adjacent to a TNW; (3) non-navigable tributaries of TNW that have perennial or seasonal flow of water; and (4) wetlands that are adjacent to non-navigable tributaries of TNW that have perennial or seasonal flow of water.

Santiago Creek drains into Santiago Basin. Santiago Creek is a seasonal water body that drains into the Santa Ana River, which ultimately drains into the Pacific Ocean. The Pacific Ocean is navigable water and therefore the Santiago Creek is a tributary to navigable water and classified as Waters of the U.S. The Federal jurisdiction extends to the ordinary high-water mark and to adjacent wetland vegetation. Table 9 - *Existing Waters of U.S./State (Acres)* identifies the amount of Waters of the U.S. on the Project Site.

#### **Waters of the State**

According to the State Water Code, Waters of the State are defined as any surface water body, groundwater or wetlands within the boundary of the State. The State jurisdiction extends to the top of the slope of the water body and adjacent wetland vegetation. Table 8 identifies the amount of Waters of the State on the Project Site.

#### **Wetland Waters of the U.S./State**

Wetland Waters are a subset of jurisdictional Waters of the U.S. and the State. Generally, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Presently, there is no single definition of wetlands recognized by the state and the federal government. However, the state and federal definitions do share common terms and concepts. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically the land supports hydrophytes, (2) the substrate is predominantly undrained soil, and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year. Table 9 identifies the amount of wetlands Waters of the U.S./State on the Project Site.



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**Table 9 - Existing Waters of U.S./State (Acres)**

<b>Waters of the State</b>	<b>Wetland Waters of the State</b>	<b>Waters of US</b>	<b>Wetland Waters of US</b>
0.57	7.56	0.57	7.56

### **Wildlife Movement Corridors**

Corridors and linkages facilitate regional wildlife movement and are generally centered near water ways, ridgelines, riparian corridors, flood control channels, contiguous habitat and upland habitat. Different types of wildlife movement corridors provide specific types of functions depending on the landscape of the area and habitat conditions. Santiago Creek provides wildlife movement from the Santa Ana Mountains to Santiago Basins including Smith Basin. From these basins the Santiago Creek continues downstream to where it joins the Santa Ana River at the Riverview Golf Course. Between Santiago Basin and the Riverview Golf Course, Santiago Creek meanders through patches of open space that provides habitat for some wildlife. However, downstream of the golf course there are limited amounts of open space and Santa Ana River transitions into a lined flood control channel with limited habitat and access and its ability to function as wildlife corridor is severely diminished.

- a) *Would the project have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?*

### **Less Than Significant with Mitigation Incorporated:**

#### ***Sensitive Plant Species***

A search of CDFW California Natural Diversity Database and California Native Plant Society Database in conjunction with site reconnaissance of the project area has determined that there would be low potential for sensitive plant species to occur on the Project Site, as shown in **Figure 7 – Existing Vegetation Communities**. Therefore, no impacts to sensitive plant species would occur.

#### ***Sensitive Wildlife Species***

As identified in Table 7 – *Sensitive Species List*, the Coast horned lizard, Tricolored blackbird, Coastal Cactus Wren, Western yellow billed cuckoo, California blackrail, and Santa Ana Sucker have a low probability of occurring on the Project Site due to lack of suitable habitat. Table 8 – *Migratory Birds* also identified the Willet, Whimbrel, Short-billed Dowitcher, Marbled Godwit, Long Billed Curlew, Golden Eagle, Clarkes Grebe, Black-chinned Sparrow, Black Skimmer, and Bald Eagle as low probability of occurring on the Project Site due to lack of suitable habitat as well. Therefore, potential impacts associated with these sensitive wildlife species and migratory birds would be less than significant and no mitigation would be required.



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### Least Bell's vireo

The vireo is a listed Federal and State Endangered Species. The vireo is a small migratory songbird that historically was common in lowland riparian habitat, ranging from coastal southern California through Sacramento and San Joaquin Valleys with scattered populations in Coast Ranges of the Sierra Nevada, Mojave Desert and Death Valley. Presently, the species only occurs in riparian woodlands in southern California. Surveys conducted in 2019 identified four (4) vireo territories in the project vicinity including one territory within the project site. These areas are depicted in **Figure 8 - 2019 Gnatcatcher and Vireo Territories**.

The project would impact 7.56 acres of mixed riparian vegetation that provides marginal habitat value, which could result in a potentially significant impact to vireo. **MM BIO-1** would avoid potential impacts to vireos by requiring vegetation removal activities to occur outside of the nesting season. In the event avoidance of the nesting season is not feasible, the project site would be required to be surveyed by a qualified biologist prior to vegetation removal activities to ensure no vireos are present. In the event the species is present, the qualified biologist shall establish suitable buffers around the nests to be avoided by construction personnel until the qualified biologist determines that no nests are occupied and that any juvenile birds can survive independently from the nest. Therefore, with the implementation of **MM BIO-1** potentially significant impacts to the Least Bell's vireo would be less than significant.

### Coastal California Gnatcatcher (Gnatcatcher), Southern California Rufous Crowned Sparrow

The California Gnatcatcher is a listed Federally Threatened species and State Species of Concern. The Southern California Rufous Crowned Sparrow is State Species of Concern. Both species inhabit and nest in areas that contain coastal sage scrub habitat. There are no known Rufous Crowned Sparrow territories on the project site.

The California Gnatcatcher is a year-round resident of scrub dominated plant communities from southern Ventura County southward through Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. There are historical gnatcatcher territories in Smith Basin, but as of 2019 territories were documented outside of the limits of grading. Figure 8 shows the California Gnatcatcher territories documented in Smith Basin in 2019. Therefore, no direct construction impacts would occur. However, there is potential for direct and indirect impacts to gnatcatchers that may nest on the Project Site due to construction noise. **MM BIO-1** would avoid or reduce the potential for direct or indirect construction noise impacts by requiring that all vegetation removal and clearing activities shall be conducted outside of the bird nesting season. The qualified biologist shall determine whether active nests are present, and if observed, establish suitable buffers around the nests to be avoided. Therefore, with implementation of **MM BIO-1** potentially significant impacts associated with the Gnatcatcher and Rufous Crowned Sparrow would be less than significant.

### Cooper Hawk, White-Tailed Kite

The Cooper Hawk and the White-Tailed Kite have been observed flying above Santiago Basin. Both species are known to occupy and nest in trees. However, no nesting sites have been reported in Smith Basin. Potential impacts to Cooper's Hawk and White-tailed Kite would be



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avoided through the implementation of **MM BIO-1** and **MM BIO-2**. **MM BIO-1** would avoid potential impacts to vireos by requiring vegetation removal activities to occur outside of the nesting season. In the event avoidance of the nesting season is not feasible, the project site would be required to be surveyed by a qualified biologist prior to vegetation removal activities to ensure no vireos are present. In the event the species is present, the qualified biologist shall establish suitable buffers around the nests to be avoided by construction personnel until the qualified biologist determines that no nests are occupied and that any juvenile birds can survive independently from the nest. **MM BIO-2** shall require inspection prior to removal of any tree from the project site to confirm if unoccupied nests are present. If unoccupied nests are encountered, they would be relocated outside of the construction activity impact area. With the implementation of **MM BIO-1** and **MM BIO-2**, potentially significant impacts to Cooper Hawks and White-Tailed Kites would be less than significant.

### **Yellow-Breasted Chat, Yellow Warbler**

Yellow-Breasted Chat and Yellow Warbler are both State Species' of Concern. Both species have been documented in Smith Basin but have not been reported in the last two (2) years. Both species prefer moist habitats with high insect abundance. Their habitats include the edges of marshes and swamps, willow-lined streams, dense riparian thickets, and leafy bogs. Their breeding habitat is restricted to hardwood thickets near water, especially those with willow, alder, and cottonwood. Suitable breeding habitat for these two species are present on the project site and would temporally be impacted by direct removal. As the species has not been documented in recent years it can be assumed that there will be no historical territories impacted. To avoid potential impacts, vegetation removal activities would occur outside of the nesting season, as directed in **MM BIO-1**. Additionally, should the construction activities occur during the nesting season, the project site shall be surveyed no greater than three (3) days by a qualified biologist prior to vegetation removal activities to ensure sensitive species are present. Therefore, with the implementation of **MM BIO-1** potentially significant impacts to the Yellow-Breasted Chat and Yellow Warbler would be less than significant.

### **Orange Throated Whiptail**

The Orange Throated Whiptail is a State Species of Concern. Orange Throated Whiptail primarily occurs in coastal sage scrub and chaparral communities. Higher densities of the species are typically associated with floodplains and streamside terraces. They also have been reported in a variety of other vegetation types, including non-native grasslands, juniper woodland and oak woodland. The orange throated whiptail diet consists of small invertebrates, especially spiders, scorpions, centipedes, termites and small lizards. The species reproduction period is from June to July. The project site supports suitable habitat and the species is known to occur. However, like the presence of Yellow-Breasted Chat and Yellow Warbler, the species has not been observed on the project site within the last two (2) years. To avoid potential impacts, vegetation removal activities would occur outside of the nesting season, as directed in **MM BIO-1**. Additionally, should the construction activities occur during the nesting season, the project site shall be surveyed no greater than three (3) days by a qualified biologist prior to vegetation removal activities to ensure sensitive species are present. Therefore, with the



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implementation of **MM BIO-1** potentially significant impacts to the Orange Throated Whiptail would be less than significant.





Figure 7: Existing Vegetation Communities

Source: Orange County Water District





- Least Bell's Vireo
- California Gnatcatcher

Figure 8: 2019 Gnatcatcher and Vireo Territories

Source: Orange County Water District



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- b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local regional plans, policies and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

**Less Than Significant with Mitigation Incorporated:** As shown in Table 10 – *Project Impact Vegetation Communities (Acres)*, implementation of the Proposed Project would temporarily impact 2.65 acres of upland native vegetation, 2.43 acres of non-native upland vegetation, and 7.56 acres of mixed riparian vegetation. The native riparian and native upland vegetation at the Project Site would be considered a sensitive vegetation community and the permanent loss of it would be considered a significant impact.

With the implementation of **MM BIO-3** and **MM BIO-4**, following the completion of grading and slope repair/construction activities, the disturbed areas on the Project Site would be restored with native upland coastal sage scrub and native riparian vegetation. The Project Site would be managed by OCWD to prevent the re-establishment of non-native vegetation. As shown in **Figure 9 – Smith Basin Improvement Project Mitigation Plan**, once the proposed restoration activities are implemented, there would be a net increase of 1.55 acres of native upland coastal sage scrub vegetation. The native riparian vegetation would be addressed through the direct replanting of 4.8 acres of riparian habitat and an additional 9.0 acres of bottom acres managed for recruitment through utilization of flood irrigation and from annual inundation events and additional planning if needed per the determination of the project biologist. Therefore, with implementation of **MM BIO-3** and **MM BIO-4** potential impacts associated with sensitive vegetation communities would be less than significant.

**Table 10 - Project Impact Vegetation Communities (Acres)**

Upland Native	Upland Non-Native	Mix Riparian	Open Water	Bare Ground
2.65	2.43	7.56	0.57	7.18





Figure 9: Smith Basin Improvement Project Mitigation Plan

Source: Orange County Water District



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- c) *Would the project have a substantially adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling hydrological interruption, or other means?*

**Less Than Significant with Mitigation Incorporated:** A wetland assessment was conducted at the Project Site in accordance with the Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual Arid Region West. A three-parameter approach was used to identify Waters of the U.S. and State and Wetland Waters of the U.S. and State. These three parameters include; (1) the presence of wetland vegetation, (2) the presence of wetland hydrology and (3) the presence of hydric soils.

- **Vegetation:** The project area contains 7.56 acres of mixed native and non-native riparian vegetation; Black Willow, Mulefat, Tamarisk, and Cocklebur. These riparian species are recognized as wetland plant indicators.
- **Hydrology:** The hydrology is largely from inundation from the lowering and rising of the water level in Santiago Basin complex. Perennial flow from Santiago Creek also feeds Smith Basin. The periodic inundation of vegetation, plus the presence of creek water, indicates the presence of wetland hydrology.
- **Hydric Soils:** Santiago Basin largely consists of Metz Sandy Loam soil which is classified as hydric soil.

**Table 11 - Project Impacts Jurisdictional Areas of U.S. /State**

Temporary Impacts Waters of State	Permanent Impacts Waters of State	Temporary Impacts Wetland Waters of State	Permanent Impacts Wetland Waters of State	Temporary Impacts Waters of U.S.	Permanent Impacts Waters of U.S.	Temporary Impacts Wetland Waters of U.S.	Permanent Impacts Wetland Waters of U.S.
0.57	0.0	7.56	0.0	0.57	0.0	7.56	0.0

### ***Waters of U.S./State***

As shown in Table 11, implementation of the Proposed Project would not result in the permanent loss of Waters of U.S./State. The Proposed Project would temporarily impact 0.57 acres of Waters of U.S./State, which would occur from grading activities to reconfigure the existing slopes of the areas denoted in Figure 5, and realign the Santiago Creek at the floor of the basin. No permanent fill would be discharged, or permanent above ground structures would be built. Per **MM BIO-3** and **MM BIO-4**, once the grading activity is completed, the temporarily disturbed areas would be re-contoured to their pre-project condition to the extent possible and restoration of existing native coastal sage scrub habitat (gross acres – 4.2, net acres – 1.55) and mixed riparian vegetation (4.8 acres plants, 9.0 acres managed for recruitment). Therefore, with implementation of **MM BIO-3** and **MM BIO-4** no permanent net loss of Waters of the U.S./State would occur, and impacts would be less than significant.

### ***Wetland Waters of U.S./State***



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As shown in Table 11, implementation of the Proposed Project would not result in the permanent loss of Wetland Waters of the U.S./State. The Proposed Project would temporarily impact 7.56 acres of mixed riparian Wetland Waters of the U.S./State which would occur from the grading activities at the bottom of the basin (Figure 5). Impacts to wetland Waters of the U.S./State from the Proposed Project would be temporary because no permanent fill or structure would be built that would prevent re-growth of the impacted wetland vegetation. Mitigation measure **MM BIO-4** would require OCWD to plant riparian habitat at the edge of the ordinary high-water mark within the disturbance area once grading activities are completed. OCWD's project biologist would be required to manage the establishment of native mixed riparian vegetation to ensure non-native species do not reestablish. OCWD would plant and permanently maintain the restoration of 4.8 acres of mixed riparian vegetation and 9.0 acres of bottom acres managed for recruitment within the portions of the Project Site disturbed by the Proposed Project. With the implementation of **MM BIO-4** there would be no net loss of wetland habitat. Therefore, with implementation of **MM BIO-4** potential impacts to Wetland Waters of U.S./State would be less than significant.

*d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

**Less Than Significant with Mitigation Incorporated:** Santiago Creek is the only wildlife movement corridor within the vicinity of the Project Site. Although the grading measures will include sections of the creek itself, no physical barrier will be constructed that could restrict the movement of native wildlife. Wildlife will be allowed to move freely through the project site. Additionally, project-related activities would occur during the day and would not interfere with any wildlife movement activity that occurs at night. All vegetation removal activities would occur outside of the nesting season to avoid impacts to nesting migratory birds. Therefore, with implementation of **MM BIO-1** and **MM BIO-2** potential impacts to wildlife movement and nesting migratory birds would be less than significant.

*e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**No Impact:** The Project Site is not subject to any local policies providing for the protection of biological resources. The Proposed Project would comply with all federal and state policies providing for the protection of biological resources. Therefore, no impacts associated with local policies or ordinances protecting biological resources would occur and no mitigation would be required.

*f) Would the project be in conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

**No Impact:** The Project Site is not located on lands that are included in a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, no impacts associated with an adopted habitat conservation plan would occur and no mitigation would be required.





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### **4.4.2 Mitigation Measures**

**MM BIO-1:** Prior to the start of vegetation clearing activities, the OCWD Project Manager shall ensure that vegetation clearing, and ground disturbing activities occur outside of the migratory bird nesting season (March 1 to August 31). If avoidance of the nesting season is not feasible, then the OCWD Project Biologist shall conduct a nesting bird survey no greater than three (3) days prior to any vegetation clearance activities at the Project Site. If active nests are identified during the nesting bird survey, the biologist shall establish suitable buffers around the nests (depending on the level of activity within the buffer and species detected), and the buffer areas shall be avoided by construction personnel until the biologist makes a determination that the nests are no longer occupied and that the juvenile birds can survive independently from the nests.

**MM BIO-2:** Prior to tree removal activities, specimen native trees that are planned for removal from the Project Site shall be inspected by the OCWD Project Biologist to determine if raptor nests are present. If nests are encountered, the nests shall either be relocated outside of the area of disturbance. If relocation is not feasible, the Project Biologist shall create a new substitute nesting site located outside of the construction activity impact area.

**MM BIO-3:** Immediately after reconfiguring the slope areas, OCWD shall hydro-seed and plant native vegetation on areas disturbed by the project and the Project Biologist and/or their designee shall manage the area to ensure that non-native vegetation does not re-establish. In total, 4.2 acres of upland California Coastal Sage habitat shall be planted. See Figure 9 for location of upland mitigation planting.

**MM BIO-4:** Following the completion of grading activities, OCWD's Project Biologist shall plant riparian habitat at the edge of the ordinary high-water mark within the disturbance area. The Project Biologist shall manage the area to ensure that non-native vegetation does not re-establish. In total, 4.8 acres of riparian habitat shall be planted within the Project Site, and an additional 9.0 acres of bottom acres shall be managed to recruit using flood irrigation from annual inundation events and additional planting if needed per the determination of the Project Biologist. See Figure 9 for location of riparian mitigation planting.

### **4.4.3 Conclusion**

Potential impacts of the Proposed Project associated with Biological Resources would be less than significant with implementation of **MM BIO-1** through **MM BIO-4**.



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### 4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the CEQA Guidelines?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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"/>

A Phase I Cultural Resources Assessment was completed to determine potential impacts to cultural resources associated with the development of the Proposed Project (Appendix D – *Phase I Cultural Resources Assessment for the Smith Basin Rehabilitation Project, City of Orange, California*, VCS Environmental, January 2019).

Tribal consultation per AB52, as discussed in Section 4.17, Tribal Cultural Resources, is ongoing at the time of release of this MND for public review (Appendix G – *AB52 Tribal Consultation*, Sagecrest Planning+Environmental, February 2020).

#### 4.5.1 Environmental Analysis

##### **Introduction**

Cultural resources include prehistoric archaeological sites, historic archaeological sites, historic structures, and artifacts made by people in the past.

Prehistoric archaeological sites are places that contain the material remains of activities carried out by the native population of the area (Native Americans) prior to the arrival of Europeans in Southern California. Artifacts found in prehistoric sites include flaked stone tools such as projectile points, knives, scrapers, and drills; ground stone tools such as manos, metates, mortars, and pestles for grinding seeds and nuts; and bone tools

Historic archaeological sites are places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans. Historic archaeological material usually consists of refuse, such as bottles, cans, and food waste, deposited near structure foundations.

Historic structures include houses, commercial structures, industrial facilities, and other structures and facilities more than 50 years old.

*Portola Expedition (Appendix D)*



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In the late 1700s, the first explorers traveled north from Baja California to what is now present-day California. Led by Captain Gaspa de Portola, a group of 63 men began the trek from the San Diego area to Monterey. The group of travelers was comprised of Spanish and Mexican soldiers, muleteers, servants, and a group of Indian neophytes from the missions of Baja California. On the trail north from San Diego the expedition advanced slowly, sometimes less than four miles a day, and stopping every four or five days for a rest while the scouts continued to explore the country ahead. Just where Portolá and his men walked and rode across what is now Orange County in 1769 can never be precisely defined. In some places, their route seems clear. In others, we can only guess. Their campsites are fairly well established.

On July 27, 1769, the group reached the area of Santiago Creek. They made camp on the southern bank of the creek, not far from the Sports Center in today's Grijalva Park, outside of the project area of the Proposed Project. There were trees and greenery all along the creek, though the water was drying up fast in the summer sun. From the travelers the spot was named Santiago, and it has been in use ever since.

### **Records Search**

A records search for the Project Site and surrounding a half-mile buffer was conducted on June 27, 2018, at the SCCIC. A literature review for the Project Site was conducted on July 3, 2018, at the Natural History Museum of Los Angeles County (NHMLAC).

Resources consulted include the USGS' 7.5-minute Orange topographic map containing locational data for cultural resources studies and recorded site locations. There have been 11 cultural resources studies conducted within a half mile of the project area; of those, two included some portion of the project area. Report number OR-00778 included approximately 75-percent of the current project area, and report number OR-00801 included the northern edge of the project area. The remaining portions do not appear to have been surveyed. There are three cultural resource sites located within one-half mile of the project area, and none identified within the project area. The nearest cultural resources site to the Project Site is site number P-30-060083, a historic ranch house located less than 500 feet north of the northern boundary of Smith Basin. P-30-060083 appears to have been demolished and redeveloped with a large residential development in its place. There are no archaeological sites recorded on or within a half mile of the Project Site. The nearest prehistoric site is located over two miles to the northwest of the Project Site, located between State Route 55 (SR-55) and the Santa Ana River, near the intersection of Glassell Street and Fletcher Avenue.

### **Pedestrian Survey**

A pedestrian survey of the Project Site was conducted on August 1, 2018. The pedestrian survey included the examination of six distinct areas within the basin that have suffered erosion and require rehabilitation. The survey for all the areas was inconclusive because of vegetation, disturbance, and inaccessibility to certain areas that hindered the surveyor's ability to identify artifacts. However, no archaeological sites were discovered during the field survey.

- a) *Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines?*



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**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to damage from erosion. The Project Site has been heavily disturbed in its previous use as a sand and aggregate surface mine, prior to OCWD purchasing the property in 1990. The Phase I Cultural Resources Report (Appendix D) included a records search for the Project Site and surrounding a half-mile buffer, which was conducted on June 27, 2018, at the South-Central Coastal Information Center (SCCIC). Resources consulted include the USGS' 7.5-minute Orange topographic map containing locational data for cultural resources studies and recorded site locations. There have been 11 cultural resources studies conducted within a half mile of the Project Site; of those, two included approximately 75-percent of the Project Site. The remaining portion does not appear to have been surveyed.

Appendix D indicates there are no cultural or archaeological sites recorded on or within a half mile of the project. The nearest cultural resources site to the Project Site is site number P-30-060083, a historic ranch house located less than 500 feet north of the northern boundary of Smith Basin. P-30-060083 appears to have been demolished and redeveloped with a large residential development in its place. The nearest prehistoric site is located over two miles to the northwest of the Project Site, located between State Route 55 (SR-55) and the Santa Ana River, near the intersection of Glassell Street and Fletcher Avenue.

The Proposed Project would be limited to the boundaries of the Project Site and would not result in any alterations to the previously recorded historical resources. Therefore, no impacts associated with a historical resource would occur and no mitigation would be required.

*b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines?*

**Less Than Significant Impact:** Details pertaining to tribal cultural resources, Native American tribal consultation, and the Proposed Project's compliance with Assembly Bill 52 (AB 52) are in Section 4.17(b).

The pedestrian survey included the examination of six distinct areas within the basin that have suffered erosion and require rehabilitation. The survey for all the areas was inconclusive because of vegetation, disturbance, and inaccessibility to certain areas that hindered the surveyor's ability to identify artifacts. Documentation Although no archaeological sites were discovered during the field survey, because of the known presence of archaeological sites in the area, there is a slight potential for cultural resources to be buried on site. The limited nature of project excavations and the ground disturbance of alluvial sediments, though, makes it unlikely that buried archaeological resources, even if present, will be exposed during project activities. However, the Project Site was historically used as a sand and gravel aggregate surface mine prior to OCWD purchasing the property in 1990, requiring ground disturbance with no discovery of artifacts. In consideration of the negative results of the SCCIC records search and NAHC Sacred Lands File search, there is a low potential for buried, unrecorded cultural resources to be encountered during construction activities. Therefore, potential impacts associated with archaeological resources would be less than significant.



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- c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

**Less Than Significant Impact:** Due to the level of past disturbance in the project area, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or disturbance activities.

However, in the unexpected event human remains are found, those remains would require proper treatment, in accordance with applicable laws. Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code (CHSC) §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The Construction Contractor shall notify the County Coroner of the find immediately and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98(State of California 2006). If human remains are found during grading, all work in the immediate area (a radius of at least 100 feet) shall stop, and all parties shall follow all applicable state laws regarding human remains. If the remains are Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, shall immediately notify those persons it believes to be the Most Likely Descendant (MLD). The MLD shall complete the inspection of the Project Site within 48 hours of being allowed access to the Project Site and shall recommend preservation in place, reburial, or the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Therefore, potential impacts associated with human remains would be less than significant with compliance with existing regulations and procedures outlined in the CHSC and the CCR and no mitigation would be required.

### **4.5.2 Mitigation Measures**

No mitigation measures associated with impacts to Cultural Resources apply to the Proposed Project.

### **4.5.3 Conclusion**

Potential impacts of the Proposed Project associated with Cultural Resources would be less than significant and no mitigation would be required.



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### 4.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.6.1 Environmental Analysis

*a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**Less Than Significant Impact.** Construction of the Proposed Project would require the use of multiple pieces of equipment over three phases of construction. The overall construction period for the Proposed project would be approximately two months. Grading activities to repair portions of the Basin's slopes from erosion damage, realigning of Santiago Creek, and vegetation restoration would require equipment outlined in Section 2.13 (Proposed Project) of this document. The Proposed Project would utilize energy resources from construction activity, specifically for the use of the required grading equipment. However, the short duration of grading activities would result in minimal energy use from the grading equipment. Therefore, significant impacts due to wasteful, inefficient or unnecessary consumption of energy resources during project construction would be less than significant, and no mitigation would be required.

No permanent habitable building or structure is proposed as a part of the project. Operational activity would be similar to existing annual maintenance activities that occur in the Basin, as project biologists would manage the area for vegetation restoration. Therefore, no significant impact due to wasteful, inefficient or unnecessary consumption of energy resources during project operation would occur, and no mitigation would be required.

*b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**No Impact.** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would result in conflict with or obstruction of a local renewable energy plan. The proposed construction phase of the project would span two months, and be limited to the equipment outlined in Section 2.13 (Proposed Project) of this document. Therefore, no impacts from obstruction of conflict with a state or local plan for renewable energy or energy efficiency would occur, and no mitigation would be required.





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### **4.6.2 Mitigation Measures**

No mitigation measures associated with impacts to Energy Resources apply to the Proposed Project.

### **4.6.3 Conclusion**

Potential impacts of the Proposed Project associated with Energy Resources would be less than significant and no mitigation would be required.



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### 4.7 Geology/Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of an unknown earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A Preliminary Geotechnical Evaluation was conducted to determine geological impacts for the Proposed Project (Appendix E – *Preliminary Geotechnical Evaluation Smith Basin Scour Assessment, Orange County Water District, Villa Park, California*, Ninyo & Moore Geotechnical and Environmental Sciences Consultants, November 2015).

A Phase I Cultural Resources Assessment was completed to determine potential impacts to paleontological resources associated with the development of the Proposed Project (Appendix



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D – Phase I Cultural Resources Assessment for the Smith Basin Rehabilitation Project, City of Orange, California, VCS Environmental, January 2019).

### 4.7.1 Environmental Analysis

- a) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:*
- i. *Rupture of an unknown earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map?*

**No Impact:** According to the City of Orange General Plan Public Safety Element<sup>10</sup> *Figure PS-1: Environmental and Natural Hazard Policy Map*, the El Modena Fault runs from the north-west to the south-east, located directly to the southwest of the Project Site. However, according to the California Department of Conservation Alquist-Priolo Earthquake Fault Zones GIS<sup>11</sup> there are no Alquist-Priolo Earthquake Fault Zones located within the Project Site. The City of Villa Park General Plan Seismic and Safety Element states “little impact is anticipated from these [El Modena] faults”.<sup>12</sup> Additionally, the Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would be impacted as a result of rupture of an unknown earthquake fault and would not affect any existing habitable structures. Therefore, no impacts associated with the rupture of an unknown earthquake fault would occur and no mitigation would be required.

- ii. *Strong seismic shaking?*

**Less Than Significant Impact:** The Project Site is in a seismically active area that could be subject to seismic shaking impacts from several surrounding active earthquake faults situated within the region, most notably from the Peralta Hills Fault and the El Modena Fault. The Peralta Hills Fault runs from the crossing of Lincoln Avenue over the Santa Ana River on the northwest, easterly along the base of the Peralta Hills and into the City of Villa Park, then southerly into the hills west of Peters Canyon Reservoir. The El Modena Fault runs from its intersection with the Peralta Hills Fault at the base of the Peralta Hills, southeasterly to Chapman Avenue and extends through Santiago Basin. Both the Peralta Hills Fault and the El Modena Fault are classified as possibly active by the Southern California Earthquake Data Center.

Additionally, the cities of Orange and Villa Park are vulnerable to ground shaking caused by seismic events along large regional faults in the area. These faults include the Newport-Inglewood Fault (located approximately 15 miles southwest of Orange and 14 miles southeast of Villa Park--along the coast near Newport Beach), the Elsinore Fault (which crosses the Santa

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<sup>10</sup> Page PS-9

<http://ca-orange.civicplus.com/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>

<sup>11</sup> <https://maps.conservation.ca.gov/cgs/EQZApp/app/>

<sup>12</sup> Page V-2

<http://villapark.org/Portals/0/Documents/Departments/Planning/General-Plan/Seismic%20and%20Safety/VI.1-11.pdf?ver=2017-06-23-221429-670&timestamp=1579896873264>



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Ana River Canyon about five miles northeast of Orange), and the San Andreas Fault (which is parallel to the Elsinore, located approximately 40 miles northeast of Orange and 38 miles northwest of Villa Park). Each of these faults have numerous branches and associated faults and, therefore, any movement along any of these fault zones has the potential to cause widespread upset in Orange. The potential for ground shaking within each City depends on the distance to the fault and the intensity of a specific seismic event along the fault. According to the City of Orange General Plan Public Safety Element<sup>13</sup>, Smith Basin area could experience a 6.0 to 6.9 on the Richter Magnitude Scale. In the event of an earthquake of this size, the Project Site would have the potential for periodic shaking, possibly of considerable intensity. The risk for seismic shaking impacts at Smith Basin would be like other areas in the southern California region. According to the City of Villa Park Seismic and Safety Element<sup>14</sup>, most of the loss of life, injuries, and damages that occur during an earthquake are related to the collapse of hazardous buildings or structures.

The Proposed Project would not involve the construction of any habitable structures that expose people to earthquake safety hazard risks. Therefore, potential impacts associated with strong seismic shaking would be less than significant and no mitigation would be required.

### *iii. Liquefaction?*

**Less Than Significant Impact:** Liquefaction is the phenomenon in which loosely deposited soils located within the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake induced ground shaking. Liquefaction is known generally to occur in saturated or near-saturated cohesion- less soil at depths shallower than 50-feet below the ground surface.

According to the City of Orange General Plan Public Safety Element<sup>15</sup>, *Figure PS-1: Environmental and Natural Hazard Policy Map*, the Project Site is within a liquefaction hazard area. According to the California Department of Conservation Alquist-Priolo Earthquake Fault Zones GIS<sup>16</sup> the Project Site is located within a liquefaction zone. However, the Proposed Project would not involve the construction of any habitable structures that expose people to liquefaction hazard risks. Therefore, potential impacts associated with liquefaction would be less than significant and no mitigation would be required.

### *iv. Landslides?*

**Less Than Significant Impact:** According to the California Department of Conservation Alquist-Priolo Earthquake Fault Zones GIS portions of the Project Site are located within a landslide zone. Smith Basin is experiencing localized slope erosion due primarily to the steepness of the

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<sup>13</sup> Page PS-11

<https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>

<sup>14</sup> Page V-3

<http://villapark.org/Portals/0/Documents/Departments/Planning/General-Plan/Seismic%20and%20Safety/VI.1-11.pdf?ver=2017-06-23-221429-670&timestamp=1579896873264>

<sup>15</sup> Page PS-9

<https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>

<sup>16</sup> <https://maps.conservation.ca.gov/cgs/EQZApp/app/>



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slopes and Santiago Creek migrated flow path. As part of the proposed improvements to the Basin, surrounding slopes areas 1, 2, and 3 as depicted on Figure 5, would be repaired to ensure slope stability. To ensure future stability of the damaged slopes, the Proposed Project would include the realignment of the Santiago Creek. Groins would be installed at the base of the affected slope areas to provide additional reinforcement. With the remedial grading, the potential for further slope erosion would be minimized. Therefore, potential impacts associated with landslides would be less than significant and no mitigation would be required.

*b) Would the project result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant Impact:** The Proposed Project would involve excavation and grading activities that would expose soils. The exposed soils could be subject to erosion impacts caused by water and wind. Additionally, construction equipment and vehicles could indirectly transport sediment to offsite locations. Construction projects which disturb one or more acres of soil are required to obtain coverage under a General Construction Permit by the State Water Resources Control Board. The Proposed Project would disturb more than one acre and would be required to obtain a General Construction Permit. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would provide a list of Best Management Practices to minimize potential soil erosion impacts. Additionally, after the Proposed Project is completed, areas disturbed by the Proposed Project would be established native vegetation to minimize long term erosion impacts. Therefore, potential impacts associated with erosion would be less than significant with mandatory compliance with existing regulations and procedures outlined in the General Construction Permit and implementation of a SWPPP and no mitigation would be required.

*c) Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

**Less Than Significant Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Project activities would result in greater stability of the Project Site than in the existing condition. The Proposed Project does not include the construction of any habitable structures that would be impacted as a result of on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, potential impacts associated with unstable soil would be less than significant and no mitigation would be required.

*d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?*

**No Impact:** The Proposed Project does not include the construction of any habitable structures that would be impacted as a result of expansive soil. Therefore, potential impacts associated with expansive soil would be less than significant and no mitigation would be required.



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- e) *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater?*

**No Impact:** The Proposed Project does not include the construction of any habitable structures that would include the construction of septic tanks or other alternative wastewater disposal systems. Therefore, no impacts associated with septic tanks or alternative waste disposal systems would occur and no mitigation would be required.

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

**Less Than Significant Impact With Mitigation Incorporated:** Appendix D includes a paleontological resources report for the Project Site. The pedestrian survey included the examination of six distinct areas within the basin that have suffered erosion and require rehabilitation. The survey for all the areas was inconclusive because of vegetation, disturbance, and inaccessibility to certain areas that hindered the surveyor's ability to identify artifacts. No archaeological sites were discovered during the field survey. There are not any vertebrate fossil localities that lie directly within the Project Site; however, there are nearby sites from the same sedimentary deposits that occur within the Project Site.

In the Santiago Creek drainage sites (which run through most of the Project Site) the surface deposits consist of active younger Quaternary sands and gravels which are unlikely to contain significant vertebrate fossils in the uppermost layers. The northwestern portion of the Project Site and the surrounding terrain have older Quaternary terrace deposits at the surface and these deposits probably underlie the younger Quaternary Alluvium in the Santiago Creek drainage. The closest vertebrate fossil locality in older Quaternary deposits is LACM 4943, located northwest of the Project Site in the City of Orange between the SR-55 and the Santa Ana River, near the intersection of Glassell Street and Fletcher Avenue.

Shallow excavations in the younger Quaternary Alluvium exposed within Santiago Creek (most of the Project Site) are unlikely to uncover significant fossil vertebrate remains. However, deeper excavations in younger Quaternary Alluvium that extend down into older sedimentary deposits, or any excavations in the older Quaternary Alluvium exposed in the northwestern and southeastern portions of the Project Site, may result in encountering significant vertebrate fossil remains. **MM GEO-1** would require OCWD to retain an Orange County certified paleontologist to observe grading activities, prior to commencement of ground disturbing activities. The certified paleontologist would provide performance measures for resource surveillance and procedures for temporarily halting or directing work to permit sampling, identification, and evaluation of any fossils. **MM GEO-2** would require the certified paleontologist provide a follow up report for approval by the County or its designee. OCWD would be responsible for paying any related curatorial fees, if applicable.

The limited nature of project excavations and ground disturbance of alluvial sediments makes it unlikely that buried paleontological resources, even if present, would be exposed during project activities. Nonetheless, given the presence of paleontologically sensitive sediments, possibility





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exists that paleontological resources could be unearthed during project ground disturbing activities into older Alluvium. Therefore, with implementation of **MM GEO-1** and **MM GEO-2**, potential impacts associated with paleontological resources would be less than significant.

### **4.7.2 Mitigation Measures**

**MM GEO-1:** Prior to the commencement of ground disturbing activities, the OCWD Project Manager shall provide written evidence to the County of Orange Manager, Building and Safety, that OCWD has retained a County certified paleontologist to observe grading activities and salvage and catalogue fossils, if discovered during the course of grading activities and as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the OCWD Project Manager, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If the paleontological resources are found to be significant, the paleontologist shall determine appropriate actions, in cooperation with the OCWD Project Manager, to ensure proper exploration and/or salvage.

**MM GEO-2:** Following the completion of grading activities, the OCWD Project Manager shall submit the paleontologist's follow up report for approval by the County of Orange Manager, Building and Safety. The report shall include the period of inspection, a catalogue and analysis of any fossils found, and the present repository of the fossils. The OCWD Project Manager shall prepare excavated material to the point of identification and offer excavated finds for curatorial purposes to the County of Orange, or its designee, on a first refusal basis. These actions, as well as final mitigation and disposition of the resources, shall be subject to approval by the County of Orange Manager, Building and Safety. OCWD shall pay curatorial fees if an applicable fee program has been adopted by the Board of Supervisors, and such fee program is in effect at the time of presentation of the materials to the County of Orange or its designee, all in a manner meeting the approval of the County of Orange Manager, Building and Safety.

### **4.7.3 Conclusion**

Potential impacts of the Proposed Project associated with Geology and Soils would be less than significant with incorporation of **MM GEO-1** and **MM GEO-2**.



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### 4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

An Air Quality and Greenhouse Gas Emissions Technical Memorandum was completed to determine potential impacts to greenhouse gas emissions associated with the development of the Proposed Project (Appendix B - *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Air Quality and Greenhouse Gas Emissions Technical Memorandum*, Vista Environmental, February 2019). The results of the analysis are based on CalEEMod version 2016.3.2.

#### 4.8.1 Environmental Analysis

a) *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less Than Significant Impact:** The Proposed Project would require the use of multiple pieces of equipment over four phases of construction. Use of construction equipment would result in GHG emissions as shown in Table 12 - *Construction Related Greenhouse Gas Emissions*, which shows that the Proposed Project would create a total of 195.06 MTCO<sub>2</sub>e or 6.50 MTCO<sub>2</sub>e per year, when amortized over a 30-year period. According to the SCAQMD draft threshold of significance detailed in Appendix B, a cumulative global climate change impact would occur if the GHG emissions created from the Proposed Project would exceed 3,000 MTCO<sub>2</sub>e per year. Therefore, potential impacts associated with greenhouse gas emissions due to construction would be less than significant and no mitigation would be required.



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**Table 12 - Construction Related Greenhouse Gas Emissions**

Construction Phase	Greenhouse Gas Emissions (Metric Tons)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Phase 1A – Site Preparation Clearing and Grubbing	33.57	0.01	0.00	33.77
Phase 1B – Santiago Creek Realignment Rip Rap	34.09	0.01	0.00	34.35
Phase 2A – Area 1 Slope Embankment Repair	39.13	0.01	0.00	39.43
Phase 2B – Area 2 Slope Embankment Repair	78.25	0.02	0.00	78.86
Phase 3 – Area 3 Slope Embankment Repair	8.57	0.00	0.00	8.64
<b>Total Construction Emissions</b>	<b>193.61</b>	<b>0.05</b>	<b>0.00</b>	<b>195.06</b>
Amortized Total Construction Emissions (30 years) <sup>1</sup>	<b>6.45</b>	<b>0.00</b>	<b>0.00</b>	<b>6.50</b>
<b>SCAQMD Draft Threshold of Significance</b>				<b>3,000</b>

Notes:

<sup>1</sup> Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.

Source: CalEEMod Version 2016.3.2.

Annually, OCWD would remove overgrown vegetation and debris and inspect the slopes within Smith Basin. No changes are proposed to the annual maintenance activities that currently occur within the Smith Basin. The Proposed Project would be required to obtain a Section 1600 Streambed Alteration Agreement, and all maintenance activities would be subject to restrictions and regulations of the agreement. Accordingly, the Proposed Project would not result in any new operational greenhouse gas emissions beyond those that occur in the existing condition at the Project Site. Therefore, no impacts associated with operational emissions would occur and no mitigation would be required.

*b) Would the project be in conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**No Impact:** The Proposed Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions. The Proposed Project would involve geotechnical improvements to areas in Smith Basin that have experienced substantial erosion on Basin embankment slopes, and the removal of overgrown vegetation and debris from portions of the Basin. The Proposed Project would be required to obtain a Section 1600 Streambed Alteration Agreement, and all maintenance activities would be subject to restrictions and regulations of the agreement. Ongoing maintenance of the operation of Smith Basin would not require the use of any off-road equipment.



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As detailed in Section 4.8.1(a), the Proposed Project would create an average of 6.5 MTCO<sub>2</sub>e per year, which is well below the SCAQMD draft threshold of significance of 3,000 MTCO<sub>2</sub>e per year. The SCAQMD developed this threshold through a Working Group, which also developed detailed methodology for evaluating significance under CEQA. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 3,000 MTCO<sub>2</sub>e for all land use type projects, which was based on substantial evidence supporting the use of the recommended thresholds. Therefore, no impacts associated with conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases would occur and no mitigation would be required.

### ***4.8.2 Mitigation Measures***

No mitigation measures associated with impacts to Greenhouse Gas Emissions apply to the Proposed Project.

### ***4.8.3 Conclusion***

Potential impacts of the Proposed Project associated with Greenhouse Gas Emissions would be less than significant and no mitigation would be required.



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### 4.9 Hazards/Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
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 the result in a safety hazard for people residing or working within the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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### 4.9.1 Environmental Analysis

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

**Less Than Significant Impact:** The Proposed Project would not involve the routine transport, use, or disposal of hazardous materials during construction or operation of the Proposed Project. The Proposed Project would adhere to regulatory requirements which govern water quality, including adherence to all requirements outlined in a required Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities Streambed Alteration Agreement. Appendix C outlines adherence to regulatory requirements as a part of the proposed improvements, including, but not limited to Best Management Practices to prevent erosion and discharge into receiving water bodies; equipment delivery and storage procedures to eliminate pollutant discharge; stockpile and solid waste management. Therefore, potential impacts to hazards to the public or the environment from hazardous materials would be less than significant and no mitigation would be required.

- b) *Would the project 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:** The Proposed Project would not involve the routine transport, use, or disposal of hazardous materials during construction or operation of the Proposed Project where accidents may occur. The Proposed Project would adhere to regulatory requirements which govern water quality, including adherence to all requirements outlined in a required Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities Streambed Alteration Agreement. Appendix C outlines adherence to regulatory requirements as a part of the proposed improvements, including, but not limited to Best Management Practices to prevent erosion and discharge into receiving water bodies; equipment delivery and storage procedures to eliminate pollutant discharge; stockpile and solid waste management. Therefore, potential impacts to hazards to the public or the environment from accidental release of hazardous materials would be less than significant and no mitigation would be required.

- c) *Would the project 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:** The Proposed Project would not involve the emission or handling of hazardous or acutely hazardous materials, substance or waste. The nearest school site is the Oakridge Private School, which borders the Project Site to the east. The Project Site would not emit hazardous emissions or handle hazardous materials, substance, or waste. Therefore, no impacts of hazardous materials to a school would occur and no mitigation would be required.

- d) *Would the project 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?*





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**No Impact:** According to the California Environmental Protection Agency Cortese List Data Resources<sup>17</sup>, the Project Site is not listed on the Department of Toxic Substances Control EnviroStor list<sup>18</sup>, the State Water Resources Control Board GeoTracker database<sup>19</sup>, or a solid waste disposal site<sup>20</sup>. Therefore, no impacts associated with sites listed pursuant to Government Code Section 65962.5 would occur and no mitigation would be 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 the result in a safety hazard for people residing or working within the project area?*

**No Impact:** The Project Site is not located within the Airport Land Use Commission for Orange County's Heliports and Airport Environs Land Use Plan Airport Planning Area<sup>21</sup>. Therefore, no impacts associated with safety hazards for people residing or working in the project area would occur and no mitigation would be required.

f) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

**No Impact:** The Project Site is located immediately to the north of Villa Park Road in the City of Villa Park. The Villa Park General Plan Seismic and Safety Element<sup>22</sup> states the street circulation system is adequate to handle the evacuation of residents. The City of Orange General Plan Public Safety Element<sup>23</sup> *Figure PS-4: Generalized Evacuation Corridors* depicts an evacuation corridor directly connected to Villa Park Road, immediately southeast of the Project Site. The limits of disturbance on the Project Site are within the Smith Basin and would not interfere with access on Hewes Street or Villa Park Road. Construction equipment would access the Project Site via the maintenance road located at the north west edge of the Project Site. Therefore, no impacts to an adopted emergency response or evacuation plan would occur and no mitigation would be required.

g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wild land fires?*

**Less Than Significant Impact:** Portions of the Project Site are designated as a Wildland High Fire or Very High Fire Hazard Area in the City of Orange General Plan<sup>24</sup> as shown on *Figure PS-1: Environmental and Natural Hazard Policy Map*. However, the Proposed Project would not involve the construction of any habitable structures that expose people to wildfire hazard risks. The Proposed Project would restore portions of the Project Site to its conditions prior to

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<sup>17</sup> <https://calepa.ca.gov/SiteCleanup/CorteseList/>

<sup>18</sup> <https://www.envirostor.dtsc.ca.gov>

<sup>19</sup> <https://geotracker.waterboards.ca.gov/>

<sup>20</sup> <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>

<sup>21</sup> <https://www.ocair.com/commissions/aluc/docs/airportlu.pdf>

<sup>22</sup> <http://villapark.org/Portals/0/Documents/Departments/Planning/General-Plan/Seismic%20and%20Safety/VI.1-11.pdf?ver=2017-06-23-221429-670&timestamp=1580502772015>

<sup>23</sup> Page PS-29

<https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>

<sup>24</sup> Page PS-9

<http://ca-orange.civicplus.com/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>



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erosion. Therefore, potential impacts associated with wildland fires would be less than significant and no mitigation would be required.

### ***4.9.2 Mitigation Measures***

No mitigation measures associated with impacts to Hazards and Hazardous Materials apply to the Proposed Project.

### ***4.9.3 Conclusion***

Potential impacts of the Proposed Project associated with Hazards and Hazardous Materials would be less than significant and no mitigation would be required.



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### 4.10 Hydrology/Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.10.1 Environmental Analysis

The primary surface water bodies within the study area is Santiago Basin and Santiago Creek. The Orange County Groundwater Basin underlies the Project Site.

*a) Would the project violate Regional Water Quality Control Board Water Quality standards or waste discharge standards or otherwise substantially degrade surface or groundwater quality?*

**Less Than Significant Impact:** The Project Site is a component of the Santiago Recharge Basin complex, an active groundwater recharge facility that is part of the OCWD groundwater



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recharge network. The Santa Ana Regional Water Quality Control Board (SARWQCB) sets water quality standards for all ground and surface waters within the Project's region. Water quality standards are defined under the Clean Water Act to include both the beneficial uses of specific water bodies and the levels of water quality that must be met and maintained to protect those uses (water quality objectives).

Construction of the Proposed Project would include grading, excavation, and other earthmoving activities that have the potential to cause erosion that could subsequently degrade water quality and/or violate water quality standards. As required by the Clean Water Act, the Proposed Project would comply with the Santa Ana Municipal Separate Storm Sewer (MS4) National Pollution Discharge Elimination System (NPDES) Permit. The NPDES MS4 Permit Program, which is administered in the project area by Orange County and is issued by the Santa Ana Regional Water Quality Control Board (RWQCB), regulates storm water and urban runoff discharges from developments to natural and constructed storm drain systems in the City of Orange. Since the Proposed Project would disturb one or more acres of soil, construction activities would be subject to the Construction General Permit (NPDES) General Permit Order 2009-009-DWQ issued by the State Water Resources Control Board (SWRCB). The Construction General Permit requires implementation of a Storm Water Pollution Prevention Plan (SWPPP) for site clearing, grading, and disturbances such as stockpiling or excavation. The SWPPP would generally contain a site map showing the construction perimeter, proposed buildings, storm water collection and discharge points, general pre- and post-construction topography, drainage patterns across the site, and adjacent roadways. The Applicant would also be required to secure a Section 1600 Streambed Alteration Agreement from the California Department Fish and Wildlife, which would incorporate site design, source controls and treatment control BMPs to address storm water runoff. These regulatory requirements would be related to wind control, equipment delivery and storage procedures and practices, vehicle fueling procedures, stockpile management, and solid waste management. Therefore, potential impacts associated with violations of water quality or water discharge requirements would be less than significant and no mitigation would be required.

*b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

**Less Than Significant Impact:** The Project Site is a component of the Santiago Recharge Basin complex, an active groundwater recharge facility that is part of the OCWD groundwater recharge network. As part of the Proposed Project, Smith Basin would be re-grading to restore Santiago Creek in its former alignment nearer the middle of the basin, the slopes in the basin would be repaired and reconstructed, six (6) groins to slow water flow along the southern slope would be constructed; and removed vegetation would be restored.

Groundwater recharge activities primarily take place in the Santiago Basin to the south of the Project Site. The bottom elevation of Bond Basin is 148 feet msl, and the bottom elevation of Blue Diamond Basin is 168 feet msl. The bottoms of both basins are generally flat with sloping sidewalls, and the average water depths during construction would range from 30 - 50 feet.



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This depth of water is within the typical operating parameters for summer and fall months in Santiago Basin.

Flows in Santiago Creek are highly variable throughout the year, with the highest flows typically occurring during the rainy season (November – April) with low flows during the remainder of the year. In addition, during the rainy season when the downstream Santiago Basins are full, water is impounded in Smith Basin, covering approximately two-thirds of the bottom of the basin. The creek currently flows in a shallow incision near the base of the failed slopes at the southern and eastern edges of the basin.

Construction of the Proposed Project is expected to last two months during the low-flow period of the year when significant volumes of water would not be present in Smith Basin. OCWD operates an interconnected system of basins to manage groundwater and will be able to effectively utilize these resources to manage groundwater recharge during the construction period without a substantial permanent impact to the groundwater basin. Therefore, potential impacts associated with groundwater supplies would be less than significant and no mitigation would be required.

*c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in:*

*i. Substantial erosion or siltation on- or off-site?*

**Less Than Significant Impact:** The Project Site is a component of the Santiago Recharge Basin complex, an active groundwater recharge facility that is part of the OCWD groundwater recharge network. As part of the Proposed Project, Smith Basin would be re-graded to restore Santiago Creek in its former alignment nearer the middle of the basin, the slopes in the basin would be repaired and reconstructed, six (6) groins to slow water flow along the southern slope would be constructed; and removed vegetation would be restored.

As part of the improvements, half of the bottom of Smith Basin will be re-graded to repair the existing slope damage and re-establish Santiago Creek to its former alignment. The Santiago Creek former alignment is situated along the middle of the basin, in a southwesterly direction from the northeast corner of the basin to the outlet at the culvert under Villa Park Road in the southwest corner of the basin. The realigned creek low-flow channel would be constructed with a width of approximately fifteen feet and depth of two feet. The creek regrading would be completed concurrent with the excavation of the slope repairs. Approximately 200,000 cubic yards of soil would be excavated within Smith Basin to re-grade the creek alignment and repair the slopes. The high flow creek channel would include the whole width of Smith Basin. The realigned Creek would vary from 100 feet at the inlet, to 550 feet wide at the middle, and back down to 100 feet wide at the outlet. The depth of the Creek would vary through the basin from a depth of 10 – 20 feet deep. Rip rap would be placed along the base of the repaired slopes at the mouth of the Basin. The Creek regrading would be completed concurrent with the excavation of the south and east slope repairs.





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The Proposed Project would result in a shelf that extends from the inlet to approximately 700 feet downstream of the inlet. The basin grade would drop approximately fifteen feet downstream of this shelf into the remainder of the basin. This shelf would be constructed across the basin with six (6) groins and ponds on either side of the drop to slow the creek velocity in the basin and prevent erosion. The proposed groins would be constructed perpendicular to the slope along the south side of the basin.

The Proposed Project would improve the drainage pattern of the Project Site within the Smith Basin by realigning Santiago Creek to its former location to the north of its current position in the Basin, and would repair previous damage to the side slopes as a result of erosion. Relocating the creek would help to prevent future damage to the slopes from erosion caused by flow against the base of the south slope. Without remediation, the slopes around the basin would continue to fail, potentially posing safety risks when maintenance activities in the basin are occurring and risking slope failure, which would harm or destroy riparian vegetation and environmental resources.

The Project Site is within the Santiago Recharge Basin, an active groundwater recharge basin that is part of the OCWD groundwater recharge network. Storm water on the Project Site would flow directly into the Santiago Recharge Basin and would be infiltrated into the groundwater recharge network. No runoff from the Project Site would flow directly into a storm water drainage system. Therefore, potential impacts associated with alteration of the existing drainage pattern resulting in erosion or flooding on or off-site would be less than significant and no mitigation would be required.

- ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

**Less Than Significant Impact.** As stated above in Section 7.19.1(c)(i), the Project Site is a component of the Santiago Recharge Basin complex, an active groundwater recharge facility that is part of the OCWD groundwater recharge network. Storm water on the Project Site would flow directly into the Santiago Recharge Basin and would be infiltrated into the groundwater recharge network. No runoff from the Project Site would flow directly into a storm water drainage system. Therefore, potential impacts associated with alteration of the existing drainage pattern resulting in erosion or flooding on or off-site would be less than significant and no mitigation would be required.

- iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

**Less Than Significant Impact:** The Project Site is a component of the Santiago Recharge Basin complex, an active groundwater recharge facility that is part of the OCWD groundwater recharge network. Storm water on the Project Site would flow directly into the Santiago Recharge Basin and would be infiltrated into the groundwater recharge network. No runoff from the Project Site would flow directly into a storm water drainage system. Therefore,



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potential impacts associated with runoff would be less than significant and no mitigation would be required.

*d) Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

**No Impact:** The Proposed Project involves repair activities to the slopes within the Smith Recharge Basin, and realignment of the Santiago Creek. The Proposed Project does not include constructional or operational activities which would create flood, tsunami or seiche hazards that would risk the release of pollutants. The Proposed Project does not include the construction of any habitable structures which would store potential pollutants as a part of operation. Therefore, no impacts associated with the risk of release of pollutants due to project inundation would occur and no mitigation would be required.

*e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Less Than Significant Impact:** As discussed in Section 4.10.1(a), the Project Site is within the Santiago Recharge Basin, an active groundwater recharge basin that is part of the OCWD groundwater recharge network. The Proposed Project would comply with the Santa Ana Municipal Separate Storm Sewer (MS4) National Pollution Discharge Elimination System (NPDES) Permit and implement a Storm Water Pollution Prevention Plan (SWPPP). The Applicant would also be required to secure a Section 1600 Streambed Alteration Agreement from the California Department Fish and Wildlife, which would incorporate site design, source controls and treatment control BMPs to address storm water runoff. Therefore, with implementation of regulatory requirements pursuant to the MS4 NPDES Permit, SWPPP, and BMPs in the Section 1600 Agreement, potential impacts to water quality would be less than significant and no mitigation would be required.

### **4.10.2 Mitigation Measures**

No mitigation measures associated with impacts to Hydrology/Water Quality apply to the Proposed Project.

### **4.10.3 Conclusion**

Potential impacts of the Proposed Project associated with Hydrology and Water Quality would be less than significant and not mitigation would be required.



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### 4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.11.1 Environmental Analysis

##### a) *Physically divide an established community?*

**No Impact:** The Project Site is located within an existing groundwater management basin. The Proposed Project involves the repair and restoration of the existing slopes, realignment of the Santiago Creek, and vegetation restoration. Upon completion, the existing slopes would be restored to their previous condition before they were damaged by erosion. During construction, heavy equipment would be operating within the basin, which would be like ongoing routine maintenance activities that occur in the basin. Once construction is complete, the Project Site would be returned to its pre-project condition but engineered slopes, and restoration of 4.2 acres of native coastal sage scrub habitat, 4.8 acre of mixed riparian vegetation and 9.0 acres to be managed for recruitment of mixed riparian vegetation. The Project Site would not be accessible to the public. Therefore, there would be no impacts associated with a physically dividing an established community and no mitigation would be required.

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

**Less Than Significant Impact:** The Project Site is designated as Open Space and water uses and zoned for Sand and Gravel uses in the City of Orange General Plan and Zoning Code. In the City of Villa Park General Plan and Zoning Code, the Project Site is designated as passive Open Space and a part of the Orange County Flood Control District. The Proposed Project involves the repair and restoration of the existing slopes, realignment of the Santiago Creek, and vegetation restoration. Upon completion, the existing slopes would be restored to their previous condition before they were damaged by erosion. Additionally, vegetation within the disturbed area would be restored. The Proposed Project is consistent with the existing General Plan and Zoning Code designations and the OCWD would not request any change to these designations and uses. Therefore, potential impacts associated with conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Proposed Project would be less than significant and no mitigation would be required.



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### ***4.11.2 Mitigation Measures***

No mitigation measures associated with impacts to Land Use and Planning apply to the Proposed Project.

### ***4.11.3 Conclusion***

Potential impacts of the Proposed Project associated with Land Use and Planning would be less than significant and no mitigation would be required.



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### 4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.12.1 Environmental Analysis

- a) *Would the project 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?*

**No Impact:** The Project Site is a groundwater management basin that previously operated as aggregate mines (for sand and gravel aggregate) prior to their purchase by OCWD in 1990. The Project site has not functioned as an aggregate mine for almost thirty years. The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Therefore, no impacts associated with loss of availability of a known mineral resource that would be of value to the region and residents of the state would occur and no mitigation would be required.

- b) *Would the project 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?*

**No Impact:** The Project Site is a groundwater management basin that previously operated as aggregate mines (for sand and gravel aggregate) prior to their purchase by OCWD in 1990. The Project site has not functioned as an aggregate mine for almost thirty years. The City of Orange General Plan Natural Resources Element<sup>25</sup> identifies that many state-designated Mineral Resource Zones (MRZs) have been declassified, including the Project Site. The City of Orange Land Use Element<sup>26</sup> includes a Resource Area designation that provides for the continued use of areas for mining and agriculture. The General Plan Land Use designation for the Project Site is Open Space (Cities of Orange and Villa Park), and it is not designated for mineral resource recovery. The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Therefore, no impacts associated with loss of availability of a local mineral resource that would be of value to the region and residents of the state would occur and no mitigation would be required.

<sup>25</sup> Page NR-35

<https://www.cityoforange.org/DocumentCenter/View/571/General-Plan---Natural-Resources-PDF>

<sup>26</sup> Page LU-25

<https://www.cityoforange.org/DocumentCenter/View/570/General-Plan---Land-Use-PDF>





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### ***4.12.2 Mitigation Measures***

No mitigation measures associated with impacts to Mineral Resources apply to the Proposed Project.

### ***4.12.3 Conclusion***

There would be no impacts of the Proposed Project associated with Mineral Resources and no mitigation would be required.



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### 4.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A Noise and Vibration Technical Memorandum was completed to determine potential impacts due to noise and vibration associated with the development of the Proposed Project (Appendix F - *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Noise and Vibration Technical Memorandum*, Vista Environmental, February 2019).

#### 4.13.1 Environmental Analysis

- a) *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**Less Than Significant Impact:**

#### ***Construction-Related Noise Impacts***

The Proposed Project would require the use of multiple pieces of equipment over three phases of construction. The overall construction of the Proposed Project would take approximately two months. All construction activities would occur between 7:00 a.m. and 8:00 p.m. Monday through Friday, 8:00 a.m. and 8:00 p.m. on Saturday, and between 9:00 a.m. and 8:00 p.m. on Sundays and holidays, when construction activities are exempt from the City's noise standards as detailed in Section 8.24.050(E) of the Orange Municipal Code and Section 6-6.7(e) of the Villa Park Municipal Code. However, the Cities construction noise standards do not provide any limits to the noise levels that may be created from construction activities and even with adherence to the Cities standards, the resultant construction noise levels may result in a significant substantial temporary noise increase to the nearby students and employees at Oak



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Ridge Private School that are located adjacent to the southeastern corner of the Basin and residents at single-family homes located on the north and west sides of the Basin.

The *Transit Noise and Vibration Impact Assessment*, prepared by Federal Transit Administration (FTA), 2006, which is the only agency that has defined what constitutes a significant construction noise impact, has been utilized to determine if the proposed construction activities would create a significant substantial temporary noise increase. The FTA determined that an 80 dBA Leq daytime construction noise level at nearby homes would constitute a significant construction noise impact. The nearest sensitive receptors are Oak Ridge Private School located adjacent to the southeastern corner of the Basin and residents at single-family homes located on the north and west sides of the Project Site.

The Federal Highway Administration (FHWA) has compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston that is provided in the *FHWA Roadway Construction Noise Model User's Guide*, January 2006. The FHWA's measured noise levels for each piece of equipment that is anticipated to be utilized during each phase of construction of the Proposed Project are shown in Table 13 – *Construction Noise Levels at Nearby Sensitive Receptors*, which shows the anticipated worst-case noise level at the nearest sensitive receptors. Table 13 shows that worst-case construction noise levels would occur during Phase 2B with a noise level as high as 79.8 dBA Leq at the school on the east side of Smith Basin. Table 13 shows that none of the construction phases would exceed the FTA daytime construction noise standard of 80 dBA Leq. Through adherence to the limitation of allowable construction times provided in Section 8.24.050(E) of the City of Orange Municipal Code and Section 6-6.7(e) of the City of Villa Park Municipal Code, the construction related noise levels would not exceed any standards. Therefore, potential impacts associated with construction-related noise would be less than significant and no mitigation would be required.

**Table 13 – Construction Noise Levels at Nearby Sensitive Receptors**

Construction Phase	Homes on the North Side of Smith Basin		Homes on the West Side of Smith Basin		School on the East Side of Smith Basin	
	Distance (feet)	Noise Level (dBA Leq)	Distance (feet)	Noise Level (dBA Leq)	Distance (feet)	Noise Level (dBA Leq)
Phase 1A – Site Preparation Clearing & Grubbing	170	71.9	180	71.5	120	74.0
Phase 1B – Santiago Creel Realignment Rip Rap	170	69.1	180	68.7	120	71.4
Phase 2A – Area 1 Slope Repair	530	65.2	850	61.7	400	67.2
Phase 2B – Area 2 Slope Repair	50	78.3	2,100	54.5	40	79.8
Phase 3 – Area 3 Slope Repair	90	74.7	70	76.5	1,800	52.2
<b>FTA Noise Threshold</b>		<b>80</b>		<b>80</b>		<b>80</b>

Source: RCNM, Federal Highway Administration, 2006



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### **Operational Noise Impacts**

Annually, OCWD would remove overgrown vegetation and debris and inspect the slopes within Smith Basin. No changes are proposed to the annual maintenance activities that currently occur within the Smith Basin and all maintenance activities would be conducted in accordance with Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities Streambed Alteration Agreement 1600-201-0013-R5. Ongoing operation of Smith Basin would primarily be passive and would not typically require the use of any off-road equipment. Therefore, no impacts associated with operational noise would occur.

*b) Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?*

**Less Than Significant Impact:**

### **Construction-Related Vibration Impacts**

The Proposed Project would require the use of multiple pieces of equipment over three phases of construction. The nearest sensitive receptors to the proposed construction activities are students and employees at Oakridge Private School which is located as near as 40 feet east of Area 2 construction activities.

Section 5.10.3 of the *City of Orange General Plan Program EIR* (General Plan EIR), March 2010, determined that a significant vibration impact would occur if vibration levels would exceed 0.2 inch per second PPV at any nearby building. The FTA has compiled vibration level data regarding vibrating generating characteristics of several types of construction equipment that are shown in Table 14.

**Table 14 – Vibration Source Levels for Construction Equipment**

Equipment	Peak Particle Velocity at 25 feet (in/sec)	Approximate Vibration Level (L <sub>v</sub> ) at 25 feet
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drill	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Federal Transit Administration, May 2006.

As shown in Table 14, a vibratory roller would be the type of equipment that is anticipated to be utilized during construction activities associated with the Proposed Project that would create the highest vibration level of 0.210 inch-per-second peak particle velocity (PPV) at 25 feet. Based on typical vibration propagation rates, the vibration level at the nearest offsite receptor (Oakridge Private School, located as near as 40 feet from construction activities) would be 0.125 inch-per-second PPV, which is within the 0.2 inch-per-second PPV threshold detailed



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above. Therefore, potential impacts associated with construction related vibration would be less than significant and no mitigation would be required.

### ***Operation-Related Vibration Impacts***

As discussed in Section 4.12.1(a), no changes are proposed to the annual maintenance activities that currently occur within the Smith Basin and all maintenance activities would be conducted in accordance with Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities. In addition, ongoing operation of Smith Basin would primarily be passive and would not typically require the use of any off-road equipment. Therefore, impacts associated with operation related vibration would be less than significant and no mitigation would be 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?*

**No Impact:** The Project Site is not located within the Airport Land Use Commission for Orange County's Heliports and Airport Environs Land Use Plan Airport Planning Area<sup>27</sup>. Therefore, no impacts associated with noise levels for people residing or working in the project area would occur and no mitigation would be required.

### ***4.13.2 Mitigation Measures***

No mitigation measures associated with impacts to Noise apply to the Proposed Project.

### ***4.13.3 Conclusion***

Potential impacts of the Proposed Project associated with Noise would be less than significant and no mitigation would be required.

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<sup>27</sup> <https://www.ocair.com/commissions/aluc/docs/airportlu.pdf>





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### 4.14 Population/Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers 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"/>

#### 4.14.1 Environmental Analysis

a) *Would the project induce substantial population growth in an area, either directly or indirectly?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project would not result in any residential development, and the number of required employees to conduct the improvements would be minimal. Therefore, no impacts associated direct or indirect induced population growth would occur and no mitigation would be required.

b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. No housing exists on the Project Site, and no housing in the vicinity of the Project Site would be displaced. Therefore, no impacts associated with the displacement of existing housing would occur and no mitigation would be required.

#### 4.14.2 Mitigation Measures

No mitigation measures associated with impacts to Population and Housing apply to the Proposed Project.

#### 4.14.3 Conclusion

There would be no impacts of the Proposed Project associated with Population and Housing and no mitigation would be required.



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### 4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) 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:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.15.1 Environmental Analysis

a) *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 fire protection police protection, schools, parks or other public facilities.*

i. *Fire protection?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The City of Orange General Plan Public Safety Element<sup>28</sup> *Figure PS-1: Environmental and Natural Hazard Policy Map*, shows the Project Site is located in a Wildland High or Very High Fire Hazard Area; however, the Proposed Project does not include the construction of any habitable structures. Therefore, no impacts associated with the need for new fire protection facilities would occur and no mitigation would be required.

<sup>28</sup> Page PS-9

<https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>



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### ii. *Police protection?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would induce any population growth in the City of Orange Police Department service area. Therefore, no impacts associated with the need for new police protection facilities would occur and no mitigation would be required.

### iii. *Schools?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would induce any population growth that would result in new students entering the local school districts. Therefore, no impacts associated with the need for school facilities would occur and no mitigation would be required.

### iv. *Parks?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would induce any population growth that would result in demands for parks by new residents. The Project Site is designated as Open Space in the General Plan for the Cities of Orange and Villa Park, but it is not accessible to the public for recreational uses. The Santiago Creek Bike Trail is located immediately east of the Project Site along Hewes Street, however, public access to the Santiago Creek Bike Trail would be maintained throughout the duration of the Proposed Project. Therefore, no impacts associated with the need for park facilities would occur and no mitigation would be required.

### v. *Other public facilities?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would induce any population growth that would result in demands for other public facilities by new residents or businesses. Therefore, no impacts associated with the need for other public facilities would occur and no mitigation would be required.

#### ***4.15.2 Mitigation Measures***

No mitigation measures associated with impacts to Public Services apply to the Proposed Project.

#### ***4.15.3 Conclusion***

There would be no impacts of the Proposed Project associated with Public Services and no mitigation would be required.



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### 4.16 Recreation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.16.1 Environmental Analysis

- a) *Would the project 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?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Proposed Project does not include the construction of any habitable structures that would induce any population growth that would result in demands for existing neighborhood and regional parks or other recreational facilities by new residents. The Project Site is designated as Open Space in the General Plan for the Cities of Orange and Villa Park, but it is not accessible to the public for recreational uses. The Santiago Creek Bike Trail is located immediately east of the Project Site along Hewes Street, however, public access to the Santiago Creek Bike Trail would be maintained throughout the duration of the Proposed Project. Therefore, no impacts associated with an increase in the use of parks or recreational facilities would occur and no mitigation would be required.

- b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

**No Impact:** The Proposed Project does not include recreational facilities and would not require the construction or expansion of recreational facilities. Therefore, no impacts associated with recreational facilities would occur and no mitigation would be required.

#### 4.16.2 Mitigation Measures

No mitigation measures associated with impacts to Recreation apply to the Proposed Project.

#### 4.16.3 Conclusion

There would be no impacts of the Proposed Project associated with Recreation and no mitigation would be required.



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### 4.17 Transportation/Traffic

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.17.1 Environmental Analysis

a) *Would the project be in conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The Project Site would be accessed by the maintenance road located to the northwest of the site as shown in Figure 5. Vehicular trips to the Project Site would be limited to delivery and removal of the construction equipment detailed in Table 1 – Table 3 in the Project Description (Section 2.13), which includes a total of 21 unique vehicles that would be used on the Project Site over a two-month period. Per the City of Orange Traffic Impact Analysis Guidelines<sup>29</sup>, construction and operation of the Proposed Project would not meet the criteria that would require a Traffic Impact Analysis, and none was prepared for the Proposed Project. Construction and operation of the Proposed Project would take place off-street, within the Smith Basin.

The Orange County Transportation Authority (OCTA) operates Community Route 167 from Orange to Irvine<sup>30</sup>. Route 167 serves the Project Site with bus stops located approximately 0.7 miles west of the Project Site. Construction and operation of the Proposed Project would not interfere with this bus service or any of the associated bus stops.

The City of Orange General Plan Circulation and Mobility Element *Figure CM-3: Plan for Recreational Trails and Bikeways*<sup>31</sup> shows the existing Santiago Creek Bike Trail located

<sup>29</sup> [http://ca-orange.civicplus.com/DocumentCenter/View/2552/TIA-Guidelines\\_Signed?bidId=](http://ca-orange.civicplus.com/DocumentCenter/View/2552/TIA-Guidelines_Signed?bidId=)

<sup>30</sup> <http://www.octa.net/ebusbook/RoutePDF/route167.pdf>

<sup>31</sup> Page CM-27

<https://www.cityoforange.org/DocumentCenter/View/562/General-Plan---Circulation-and-Mobility-PDF>



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immediately east of the Project Site along Hewes Street and the existing Class II bike lanes on Villa Park Road immediately south of the Project Site. Public access to the Santiago Creek Bike Trail and the Class II bike lanes would be maintained throughout the duration of the Proposed Project. The City of Villa Park General Plan Circulation Element<sup>32</sup>, *Figure III-6 – Bikeway Master Plan*, shows the Class II bike lanes on Villa Park Road as halting at the beginning of the Project Site, when traveling eastbound. However, the City of Orange General Plan Circulation and Mobility Element designates the portion in front of the Project Site as Class II lanes, as stated above.

Therefore, no impacts associated with performance of the circulation system would occur and no mitigation measures would be required.

*b) Would the project conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)?*

**No Impact:** On December 28, 2018, updates to the CEQA Guidelines were approved by the Office of Administrative Law (OAL). As part of the updates to the CEQA Guidelines, thresholds of significance for evaluation of impacts to transportation have changed. The CEQA Guidelines update eliminated the threshold of significance for evaluating impacts due to changes to air traffic patterns and consolidated the evaluation of impacts due to a conflict with adopted policies, plans, or programs into an analysis of impacts due to a conflict with programs, plans, ordinances, or policies addressing the circulation system (i.e., new Threshold a.). However, new Threshold b. of the CEQA Guidelines for Transportation and Traffic requires an evaluation of impacts due to Vehicle Miles Travelled (VMTs), instead of evaluating impacts based on Level of Service (LOS) criteria, as required by California Senate Bill (SB) 743.

Vehicular trips to the Project Site would be limited to delivery and removal of the construction equipment detailed in Table 1 – Table 3 in the Project Description (Section 2.13), which includes a total of 21 unique vehicles that would be used on the Project Site over a two-month period. Operation of the Project Site would occur in a similar manner as it currently does, as the groundwater recharge basin would not be operationally altered. Annual maintenance, along with management of native vegetation occurring throughout the year would not result in an increase in VMT or impact LOS criteria. The proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3(b). Therefore, no impacts associated with CEQA Guidelines section 15064.3(b) would occur and no mitigation would be 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)?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Construction and operation of the Proposed Project would utilize existing streets and include access to the Project Site via the historic accessway located in the northwest of the site. The accessway is linear, as shown in Figure 5. There would be no change in use of the Project Site from the existing use. Therefore, no impacts associated

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<sup>32</sup><http://villapark.org/Portals/0/Documents/Departments/Planning/General-Plan/Circulation/III.1-17.pdf?ver=2017-06-23-221429-920&timestamp=1580516874009>





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with hazards due to a geometric design feature or incompatible uses would occur and no mitigation would be required.

*d) Would the project result in inadequate emergency access?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Emergency access to the Project Site and surrounding areas would not be impeded by construction or operation of the Proposed Project. Therefore, no impacts associated with inadequate emergency access would occur and no mitigation would be required.

### **4.17.2 Mitigation Measures**

No mitigation measures associated with impacts to Transportation and Traffic apply to the Proposed Project.

### **4.17.3 Conclusion**

There would be no impacts of the Proposed Project associated with Transportation/Traffic and no mitigation would be required.



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### 4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Effective July 1, 2015, Assembly Bill 52 (AB52) requires meaningful consultation with California Native American Tribes on potential impacts associated with tribal cultural resources, as defined in §21074. A tribe must submit a written request to the relevant lead agency if it wishes to be notified of projects within its traditionally and culturally affiliated area. The lead agency must provide written, formal notification to the tribes that have requested it within 14 days of determining that a project application is complete or deciding to undertake a project. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation. Consultation concludes when either 1) the parties agree to mitigation measures to avoid a significant effect, if one exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that agreement cannot be reached. AB 52 also addresses confidentiality during tribal consultation per Public Resources Code §21082.3(c). The OCWD has received notification requests from three Native American tribes, who were each notified of the Proposed Project in accordance with AB52. Of these tribes, only the Gabrieleno Band of Mission Indians – Kizh Nation tribal representatives requested a formal consultation, which was held on November 21, 2019. The tribal representatives expressed concerns for undiscovered historical and/or archeological resources within the Project Site Following the consultation, the tribal representatives provided supplemental historical documentation regarding the background on the nature of the Tribe's



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concerns. Copies of the correspondence with the Native American tribes is included in Appendix E. At the time that this IS/MND was prepared, the formal consultation between the OCWD and the Gabrieleno Band of Mission Indians – Kizh Nation remains ongoing.

### **4.18.1 Environmental Analysis**

- a) *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 value to a California Native American Tribe and that is 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)?*

**No Impact:** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. As discussed in Section 4.4.1(a), there are no existing buildings or other cultural resources on the Project Site that are listed or eligible for listing in the California Register of Historical Resources. None of the historic documents reviewed as part of the cultural resource assessment (Appendix D) indicate that the Project Site is associated with any significant historical event. The records search from the SCCIC indicated that no cultural resources have been previously recorded on the Project Site. According to the City of Orange Historic Preservation Viewer<sup>33</sup>, there are no historic resources present on the Project Site. The Proposed Project would not alter the Project Site in that it is a repair and rehabilitation project of an existing facility. Therefore, no impacts associated with historical resources listed or eligible for listing in the California Register of Historical Resources or the Citywide Historic Preservation Plan would occur.

- b) *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 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?*

**Less Than Significant Impact With Mitigation Incorporated:** The Orange County Water District received requests from three California Native American Tribes to be notified of projects in which the OCWD is the Lead Agency under CEQA. The San Gabriel Band of Mission Indians was notified of the Proposed Project on September 9, 2019, and the 30-day notification period lapsed on October 8, 2019, with no response from the tribe. Therefore, consultation with the San Gabriel Band of Mission Indians has concluded.

The Juaneño Band of Mission Indians – Acjachemen Nation was notified of the Proposed Project on September 9, 2019 and the 30-day notification period lapsed on October 8, 2019, with no

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<sup>33</sup> <http://gis.cityoforange.org/flexviewers/HistoricPreservationViewer/>



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response from the tribe. Therefore, consultation with the Juaneno Band of Mission Indians – Acjachemen Nation has concluded.

The Gabrieleño Band of Mission Indians – Kizh Nation was notified of the Proposed Project on September 9, 2019 and requested consultation by letter on October 2, 2019. Consultation took place between the OCWD and Chairman Andrew Salas on November 21, 2019. No specific Tribal Cultural Resources have been identified at the Project Site and the site was previously used as a quarry site during the 20<sup>th</sup> century which included extensive earth-moving and aggregate extraction activities within the footprint of the proposed Project. The Tribe requested additional information regarding historical activities on the Project Site to further refine their understanding of historical ground disturbing activities at the site, which was provided to the Tribe by OCWD on November 21, 2019. Historic aerial imaged depicting the historical development of the site were also provided to Mr. Salas by OCWD on December 18, 2019. OCWD followed up by email for any additional input from Chairman Salas on two separate occasions during the month of January in 2020 and no further response was received.

Although there is little potential for the inadvertent discovery of intact subsurface historical or archeological resources on the Project Site, in an abundance of caution, the potential for undiscovered historical and/or archeological resources are considered to be a potentially significant impact to Tribal Cultural Resources. Mitigation Measures **MM TCR-1** and **MM TCR-2** have been identified, which will require Native American monitoring and a treatment protocol if resources are discovered.

### ***4.18.2 Mitigation Measures***

**MM TCR-1:** Prior to commencement of ground disturbing activities, the OCWD Project Manager shall retain and compensate for the services of a Tribal Monitor/Consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the NAHC's Tribal Contact list for the area of the Project Site. The Tribal Monitor/Consultant would only be present on-site during the construction phases that involves grading activities. The Tribal Monitor/Consultant would complete daily monitoring logs describing the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when grading activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor/Consultant have determined that the Project Site has a low potential for impacts to Tribal Cultural Resources.

**MM TCR-2:** Upon discovery of any archaeological resources, the OCWD Project Manager shall instruct the construction crew to cease construction activities in the immediate vicinity of the find until it can be assessed by a qualified archaeologist and Tribal Monitor/Consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a



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“historical resource” or “unique archaeological resource”, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes.

### ***4.18.3 Conclusion***

Potential impacts of the Proposed Project associated with Tribal Cultural Resources would be less than significant with the implementation of **MM TCR-1** and **MM TCR-2**.



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### 4.19 Utilities/Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in the 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 providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.19.1 Environmental Analysis

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**Less Than Significant Impact:** The Project Site is within the Santiago Recharge Basin, an active groundwater recharge basin that is part of the OCWD groundwater recharge network. As part of the Proposed Project, Smith Basin would be re-grading to restore Santiago Creek in its former alignment nearer the middle of the basin, the slopes in the basin would be repaired and reconstructed, six (6) groins to slow water flow along the southern slope would be constructed; and removed vegetation would be restored.

As part of the improvements, half of the bottom of Smith Basin will be re-graded to repair the existing slope damage and re-establish Santiago Creek to its former alignment. The Santiago Creek former alignment is situated along the middle of the basin, in a southwesterly direction





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from the northeast corner of the basin to the outlet at the culvert under Villa Park Road in the southwest corner of the basin. The realigned creek low-flow channel would be constructed with a width of approximately fifteen feet and depth of two feet. The creek regrading would be completed concurrent with the excavation of the slope repairs. Approximately 200,000 cubic yards of soil would be excavated within Smith Basin to re-grade the creek alignment and repair the slopes. The high flow creek channel would include the whole width of Smith Basin. The realigned Creek would vary from 100 feet at the inlet, to 550 feet wide at the middle, and back down to 100 feet wide at the outlet. The depth of the Creek would vary through the basin from a depth of 10 – 20 feet deep. Rip rap would be placed along the base of the repaired slopes at the mouth of the Basin. The Creek regrading would be completed concurrent with the excavation of the south and east slope repairs.

The Proposed Project would result in a shelf that extends from the inlet to approximately 700 feet downstream of the inlet. The basin grade would drop approximately fifteen feet downstream of this shelf into the remainder of the basin. This shelf would be constructed across the basin with six (6) groins and ponds on either side of the drop to slow the creek velocity in the basin and prevent erosion. The proposed groins would be constructed perpendicular to the slope along the south side of the basin.

The Proposed Project would improve the drainage pattern of the Project Site within the Smith Basin by realigning Santiago Creek to its former location to the north of its current position in the Basin, and would repair previous damage to the side slopes as a result of erosion. Relocating the creek would help to prevent future damage to the slopes from erosion caused by flow against the base of the south slope. Without remediation, the slopes around the basin would continue to fail, potentially posing safety risks when maintenance activities in the basin are occurring and risking slope failure, which would harm or destroy riparian vegetation and environmental resources.

The Project Site is within the Santiago Recharge Basin, an active groundwater recharge basin that is part of the OCWD groundwater recharge network. Storm water on the Project Site would flow directly into the Santiago Recharge Basin and would be infiltrated into the groundwater recharge network.

The proposed improvements to the realignment of Santiago Creek and Basin floor would not result in significant impacts. The Proposed Project does not involve the construction of any habitable structures and would not result in new housing or employment. No new or relocated wastewater, storm water drainage, electric power, natural gas, or telecommunications facilities are a part of the Proposed Project. Therefore, impacts associated with relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities would be less than significant, and no mitigation would be required.

*b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*



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**No Impact:** The Proposed Project does not involve the construction of any habitable structures, and would not result in new employment, as the Project Site would be maintained consistent with the existing use as a groundwater recharge basin. No uses which would require water consumption are a part of the Proposed Project. Therefore, no impacts associated with sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years would occur and no mitigation would be required.

*c) Would the project result in the 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 providers existing commitments?*

**No Impact:** The Proposed Project does not involve the construction of any habitable structures, and would not result in new employment, as the Project Site would be maintained consistent with the existing use as a groundwater recharge basin. No uses which would require water consumption are a part of the Proposed Project. Therefore, no impacts associated with the wastewater treatment provider's capacity would occur and no mitigation would be required.

*d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

**No Impact:** The Proposed Project does not involve the construction of any habitable structures, and would not result in new employment, as the Project Site would be maintained consistent with the existing condition. Therefore, no impacts associated with generation of solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure would occur and no mitigation would be required.

*e) Would the project comply with federal, state and local management and reduction statutes and regulations related to solid waste?*

**No Impact:** OC Waste & Recycling operates three active landfills in Orange County: Olinda Alpha Landfill near Brea; the Frank R. Bowerman Landfill near Irvine; and the Prima Deschecha Landfill in San Juan Capistrano. The Olinda Alpha Landfill is the closest facility to the Project Site and has a daily maximum of 8,000 tons per day. During construction of the Proposed Project, all materials would remain on site and no export of materials would be required. Operationally, OCWD biologist(s) would manage the restoration of the replanted native vegetation. Operational activities and annual maintenance of the Smith Basin would generally result in the recovery of trash/debris; however, the quantities recovered and disposed of per day would be nominal in relation to the capacity of the landfill. Moreover, the Proposed Project would not result in any alterations to the maintenance activities within the Basin that would affect the quantity of solid waste collected at the Project site. All maintenance activities would be conducted in accordance with the Orange County Water District Regional Maintenance Plan for Groundwater Recharge Facilities, which includes provisions for solid waste disposal on the Project Site that may be generated by workers. Therefore, no impacts associated with solid waste statutes and regulations would occur and no mitigation would be required.



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### ***4.19.2 Mitigation Measures***

No mitigation measures associated with impacts to Utilities and Service Systems apply to the Proposed Project.

### ***4.19.3 Conclusion***

No impacts of the Proposed Project associated with Utilities and Service Systems would occur and no mitigation would be required.



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### 4.20 Wildfire

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.20.1 Environmental Analysis

##### *a) Substantially impair an adopted emergency response plan or emergency evacuation plan?*

**No Impact.** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Project activities would result in greater stability of the Project Site than in the existing condition. The Proposed Project does not include the construction of any habitable structures that would have the potential to impair an adopted emergency response plan or emergency evacuation plan. Therefore, no impacts associated with the impairment of an adopted emergency plan would occur, and no mitigation would be required.

##### *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 wildfire?*

**Less Than Significant Impact.** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. The City of Orange General Plan Public Safety Element<sup>34</sup> *Figure PS-1: Environmental and Natural Hazard Policy Map*, shows the

<sup>34</sup> Page PS-9

<https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-PDF>



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Project Site is located in a Wildland High or Very High Fire Hazard Area; however, the Proposed Project does not include the construction of any habitable structures. The Project Site would continue to be used as a groundwater recharge basin. Slope reconstruction for the Proposed Project would include establishment of native vegetation to areas of the Project Site and would require management by the project's biologist to ensure non-native species do not reestablish. Therefore, impacts associated with the exacerbation of wildfire risks would be less than significant and no mitigation would be required.

- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

**Less Than Significant Impact.** The Proposed Project involves the rehabilitation and restoration of the Project Site to its condition prior to erosion damage. Construction equipment would access the Project Site via a maintenance road located along the top of the eastern embankment slope and along the eastern portion of the southern embankment slope. Additional infrastructure such as the creation of new roads, fuel breaks, emergency water sources, power lines and other utilities would not occur as a part of the Proposed Project. Therefore, impacts associated with installation or maintenance of infrastructure resulting in impacts to the environment would be less than significant, and no mitigation would be required.

- 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?*

**Less Than Significant Impact.** The Proposed Project would improve the drainage pattern of the Project Site within the Smith Basin by realigning Santiago Creek to its former location to the north of its current position in the Basin, and would repair previous damage to the side slopes as a result of erosion. Relocating the creek would help to prevent future damage to the slopes from erosion caused by flow against the base of the south slope. To ensure future stability of the damaged slopes, groins would be installed at the base of the affected slope areas to provide additional reinforcement. With the remedial grading, the potential for further slope erosion would be minimized. Without remediation, the slopes around the basin would continue to fail, potentially posing safety risks when maintenance activities in the basin are occurring and risking slope failure, which would harm or destroy riparian vegetation and environmental resources. No habitable structures are proposed as a part of this project.

The Project Site is within the Santiago Recharge Basin, an active groundwater recharge basin that is part of the OCWD groundwater recharge network. Storm water on the Project Site would flow directly into the Santiago Recharge Basin and would be infiltrated into the groundwater recharge network. No runoff from the Project Site would flow directly into a storm water drainage system or create runoff to areas developed with habitable structures or occupied areas. Therefore, potential impacts associated downslope or downstream flooding as landslides, due to runoff, post-fire slope instability or drainage changes would be less than significant and no mitigation would be required.



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### ***4.20.2 Mitigation Measures***

No mitigation measures associated with impacts to Wildfire apply to the Proposed Project.

### ***4.20.3 Conclusion***

There would be no impacts of the Proposed Project associated with Wildfire and no mitigation would be required.





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### 4.21 Mandatory Findings of Significance

Does the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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?*

**Less Than Significant Impact With Mitigation Incorporated:** Construction activities could impact habitat for the Gnatcatcher, Least Bell's Vireo (Vireo), Rufous Crowned Sparrow, Yellow Breasted Chat, Yellow Warbler, Orange Throat Whiptail, Cooper Hawk, and White-Tailed Kite. To avoid direct impacts and indirect construction noise impacts, construction activities would occur when birds are no longer nesting. If nesting season cannot be avoided, an OCWD biologist shall conduct nesting surveys to determine if any sensitive species are present. In the case they are found to be present, suitable buffers shall be established until the nests are no longer occupied, as determined by the OCWD biologist. If the habitat is occupied, no vegetation removal activities would occur until such time the habitat is no longer occupied. Therefore, potential impacts associated with the Gnatcatcher would be less than significant with implementation of **MM BIO-1** and **MM BIO-2**.

The native riparian and native upland vegetation at the Project Site would be considered a sensitive vegetation community and the permanent loss of it would be considered a potentially significant impact in the absence of mitigation. The Proposed Project would



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temporarily remove native vegetation from the Project Site as part of the grading activities to repair and stabilize the failed slopes and reestablish the Santiago Creek's original alignment. Once the Proposed Project is completed, the disturbed areas on the Project Site would be restored with native riparian and native upland vegetation. The Project Site would be managed by OCWD to prevent the re-establishment of non-native vegetation. Once the proposed restoration activities are implemented, there would be a net increase of 1.55 acres of native upland coastal sage scrub vegetation. The native riparian vegetation would be addressed through the direct replanting of 4.8 acres of riparian habitat and an additional 9.0 acres of bottom acres managed for recruitment through utilization of flood irrigation and from annual inundation events and additional planning if needed per the determination of the project biologist. Therefore, potential impacts associated with sensitive vegetation communities would be less than significant with implementation of **MM BIO-3** and **MM BIO-4**.

Construction activities for the Proposed Project could also result in indirect adverse effects to sensitive vegetation communities from anthropogenic disturbances, colonization of invasive weeds, disturbances and generation of fugitive dust from construction equipment. Therefore, potential impacts associated with indirect construction effects to sensitive vegetation communities would be less than significant with regulatory requirements of the required Section 1600 Streambed Alteration Agreement.

Due to the historic use of the Project Site as a sand and gravel aggregate surface mine and groundwater recharge basin with no structures having been built on the Project Site, there is little potential for the inadvertent discovery of intact subsurface paleontological deposits. In consideration of the negative results of the SCCIC records search, there is a low potential for buried, unrecorded cultural resources to be encountered during construction activities. However, there remains the possibility that undiscovered buried paleontological resources might be encountered during construction. Therefore, potential impacts associated with paleontological resources would be less than significant with implementation of **MM GEO-1**.

Surface grading or very shallow excavations in the uppermost few feet of the younger Quaternary Alluvium within the study area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations within the study area could encounter significant vertebrate fossils in older Quaternary deposits. To minimize impacts to unknown fossils, earth disturbing activities should be monitored and if potential fossil remains are encountered, construction activity should be halted and a paleontologist should be coordinated with to assess the significance of the finding. Therefore, potential impacts associated with paleontological resources would be less than significant with implementation of **MM GEO-1** and **MM GEO-2**.

Although there is little potential for the inadvertent discovery of intact subsurface historical or archeological resources on the Project Site, in an abundance of caution, to minimize impacts to unknown tribal cultural resources, a Native American monitor would be present at the Project Site during grading operations and treatment protocol will be followed in the unlikely discovery of a cultural resources. Therefore, potential impacts associated with tribal cultural resources would be less than significant with implementation of **MM TCR-1** and **MM TCR-2**.



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*b) Does the project have impacts that are individually limited but cumulatively considerable?*

**Less Than Significant Impact:** Potential impacts associated with the Proposed Project include impacts to biological and cultural resources. No cumulative impacts would occur.

*c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Less Than Significant Impact With Mitigation:** Short-term construction air emissions would result in significant impacts based on SCAQMD regional thresholds of significance or local thresholds of significance. NOx emissions would exceed the SCAQMD's regional emissions thresholds during the Santiago Creek realignment rip rap phase (Phase 1B). Potential air quality emission impacts could have the potential to adversely impact human health; however, with incorporation of **MM AIR-1** all diesel-powered off-road equipment utilized for the Proposed Project meet the Tier 3 or higher emissions standards. This would result in the NOx emissions being below required thresholds during all phases of construction. Other potential impacts associated with the Proposed Project include impacts to biological resources and cultural resources which would not result in direct or indirect impacts to human beings. Therefore, potential impacts associated with direct or indirect impacts to human beings would be less than significant with implementation of **MM AIR-1**.



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### 5. SUMMARY MITIGATION MEASURES

**MM AIR-1:** Prior to the start of construction and throughout the construction period, the OCWD Project Manager shall ensure that all off-road diesel-powered equipment utilized for the Proposed Project shall be registered with the California Air Resources Board (CARB) and be labelled detailing that the equipment meets or exceeds Tier 3 emissions standards.

**MM BIO-1:** Prior to the start of vegetation clearing activities, the OCWD Project Manager shall ensure that vegetation clearing, and ground disturbing activities occur outside of the migratory bird nesting season (March 1 to August 31). If avoidance of the nesting season is not feasible, then the OCWD Project Biologist shall conduct a nesting bird survey no greater than three (3) days prior to any vegetation clearance activities at the Project Site. If active nests are identified during the nesting bird survey, the biologist shall establish suitable buffers around the nests (depending on the level of activity within the buffer and species detected), and the buffer areas shall be avoided by construction personnel until the biologist makes a determination that the nests are no longer occupied and that the juvenile birds can survive independently from the nests.

**MM BIO-2:** Prior to tree removal activities, specimen native trees that are planned for removal from the Project Site shall be inspected by the OCWD Project Biologist to determine if raptor nests are present. If nests are encountered, the nests shall either be relocated outside of the area of disturbance. If relocation is not feasible, the Project Biologist shall create a new substitute nesting site located outside of the construction activity impact area.

**MM BIO-3:** Immediately after reconfiguring the slope areas, OCWD shall hydro-seed and plant native vegetation on areas disturbed by the project and the Project Biologist and/or their designee shall manage the area to ensure that non-native vegetation does not re-establish. In total, 4.2 acres of upland California Coastal Sage habitat shall be planted.

**MM BIO-4:** Following the completion of grading activities, OCWD's Project Biologist shall plant riparian habitat at the edge of the ordinary high-water mark within the disturbance area. The Project Biologist shall manage the area to ensure that non-native vegetation does not re-establish. In total, 4.8 acres of riparian habitat shall be planted within the Project site, and an additional 9.0 acres of bottom acres shall be managed to recruit using flood irrigation from annual inundation events and additional planting if needed per the determination of the Project Biologist. See Figure 9 for location of riparian mitigation planting.

**MM GEO-1:** Prior to the commencement of ground disturbing activities, the OCWD Project Manager shall provide written evidence to the County of Orange Manager, Building and Safety, that OCWD has retained a County certified paleontologist to observe grading activities and salvage and catalogue fossils, if discovered during the course of grading activities and as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the OCWD Project Manager, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If the paleontological resources are found



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to be significant, the paleontologist shall determine appropriate actions, in cooperation with the OCWD Project Manager, to ensure proper exploration and/or salvage.

**MM GEO-2:** Following the completion of grading activities, the OCWD Project Manager shall submit the paleontologist's follow up report for approval by the County of Orange Manager, Building and Safety. The report shall include the period of inspection, a catalogue and analysis of any fossils found, and the present repository of the fossils. The OCWD Project Manager shall prepare excavated material to the point of identification and offer excavated finds for curatorial purposes to the County of Orange, or its designee, on a first refusal basis. These actions, as well as final mitigation and disposition of the resources, shall be subject to approval by the County of Orange Manager, Building and Safety. OCWD shall pay curatorial fees if an applicable fee program has been adopted by the Board of Supervisors, and such fee program is in effect at the time of presentation of the materials to the County of Orange or its designee, all in a manner meeting the approval of the County of Orange Manager, Building and Safety.

**MM TCR-1:** Prior to commencement of ground disturbing activities, the OCWD Project Manager shall retain and compensate for the services of a Tribal Monitor/Consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the NAHC's Tribal Contact list for the area of the Project Site. The Tribal Monitor/Consultant would only be present on-site during the construction phases that involves grading activities. The Tribal Monitor/Consultant would complete daily monitoring logs describing the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when grading activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor/Consultant have determined that the Project Site has a low potential for impacts to Tribal Cultural Resources.

**MM TCR-2:** Upon discovery of any archaeological resources, the OCWD Project Manager shall instruct the construction crew to cease construction activities in the immediate vicinity of the find until it can be assessed by a qualified archaeologist and Tribal Monitor/Consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource", time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not



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Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes.





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### 7. REFERENCES

- Appendix A – *Prior Scoping*, Sagecrest Planning+Environmental, January 2020
- Appendix B – *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Air Quality and Greenhouse Gas Emissions Technical Memorandum*, Vista Environmental, February 2019
- Appendix C – *Smith Basin Improvement Project Biological Assessment*, Orange County Water District, October 2019
- Appendix D – *Phase I Cultural Resources Assessment for the Smith Basin Rehabilitation Project, City of Orange, California*, VCS Environmental, January 2019
- Appendix E – *Preliminary Geotechnical Evaluation Smith Basin Scour Assessment, Orange County Water District, Villa Park, California*, Ninyo & Moore Geotechnical and Environmental Sciences Consultants, November 2015
- Appendix F -- *Orange County Water (OCWD) – Smith Basin Geotechnical Improvements Project Noise and Vibration Technical Memorandum*, Vista Environmental, February 2019
- Appendix G -- *AB52 Tribal Consultation*, Sagecrest Planning+Environmental, February 2020
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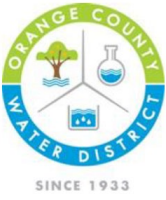
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## Smith Basin Improvement Project

### Appendix A

### Prior Scoping



## **Smith Basin Improvement Project**

### **Appendix B**

**OCWD Smith Basin Geotechnical Improvements Project Air Quality and  
Greenhouse Gas Emissions Technical Memorandum, Vista  
Environmental, February 2019**





## Smith Basin Improvement Project

### Appendix C

Smith Basin Improvement Project Biological Assessment, Orange  
County Water District, October 2019



## **Smith Basin Improvement Project**

### **Appendix D**

**Phase I Cultural Resources Assessment for the Smith Basin  
Rehabilitation Project, City of Orange, California, VCS Environmental,  
January 2019**



## **Smith Basin Improvement Project**

### **Appendix E**

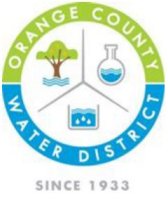
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## **Smith Basin Improvement Project**

### **Appendix F**

**OCWD Smith Basin Geotechnical Improvements Project Noise and  
Vibration Technical Memorandum, Vista Environmental, February 2019**



## Smith Basin Improvement Project

### Appendix G

#### AB52 Tribal Consultation

Sagecrest Planning+Environmental, February 2020



## **Smith Basin Improvement Project**

### **Appendix H**

**Detailed Grading Plans, Huitt-Zoliars, Inc., June 2019**