

4. Alternatives

4.1 Introduction

An important aspect of the environmental review process is the identification and assessment of a “reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (State CEQA Guidelines §15126.6(a)). As such, the selection of alternatives focuses on those alternatives capable of eliminating or reducing any significant environmental effects of the proposed Project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly (State CEQA Guidelines §15126.6(b)).

The range of alternatives required within an EIR is governed by the “rule of reason”; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed Project (State CEQA Guidelines §15126.6(f)). An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative (State CEQA Guidelines §15126.6(f)(3)). Additionally, the “no project” alternative must be evaluated along with its impacts. The “no project” analysis discusses the existing conditions at the time the Notice of Preparation (NOP) is published, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (State CEQA Guidelines §15126.6(e)(2)).

Based on the alternatives analysis, an environmentally superior alternative is designated from among the alternatives. If the environmentally superior alternative is the “no project” alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (State CEQA Guidelines §15126.6(e)(2)).

4.2 Criteria for Selection of Alternatives

To determine a reasonable range of feasible alternatives, the following screening criteria were applied, which are based on the State CEQA Guidelines (§15126.6 et seq.):

- Does the alternative meet most of the basic Project objectives?
- Is the alternative feasible (e.g., site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; ability to reasonably acquire, control, or otherwise have access to the alternative site)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed Project)?

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As discussed in Section 2.4 (Statement of Project Objectives), the purpose of the SCR-3 Project is to provide flood protection to the residences and properties in the City of Oxnard from the one percent annual flood event. The objectives of the Project are:

- Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the NFIP and do so in a cost-effective manner prior to FEMA revision of adjacent FIRMs.
- Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event.
- Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

Of these objectives, the first two represent the primary or “basic” Project objectives, by which the alternatives are to be evaluated. The following analysis also focuses on identifying alternatives that would reduce or avoid the identified significant impacts. Significant impacts have been identified related to air quality, biological resources, scenic resources, hazards, noise and vibration, and transportation and circulation. Most of these impacts can be reduced to a less-than-significant level with feasible mitigation.

4.3 Alternatives Eliminated from Further Consideration

Per State CEQA Guidelines Section 15126.6(c), it is required that the EIR identify any alternatives that were considered by the Lead Agency, but were rejected as infeasible, and to provide a brief explanation as to the reasons underlying the Lead Agency’s determination. As discussed above, alternatives were assessed for their ability to reasonably achieve the primary or basic Project objectives and reduce the significant environmental impacts of the proposed Project. Also, their technical, legal, and regulatory feasibility was evaluated. Based on these screening criteria, alternatives that were considered and then eliminated from detailed analysis in the EIR are described below, along with an explanation of the rationale for their elimination.

A number of potential alternatives were identified during the evaluation and design phase for the Project, as detailed in a report titled “Santa Clara River Levee System (SCR-3) Reaches 1-4 Evaluation and Design Report” (2013 Evaluation and Design Report) completed by Wood Rodgers in March 2013. As summarized in the Wood Rodgers 2013 Evaluation and Design Report, initially two designs for Reaches 1-3 were considered (Wood Rodgers Alternatives 1A and 1B), as well as a hybrid design (Alternative 1C). Of these designs, Alternative 1A was eliminated from further consideration, as discussed below. Alternative 1B is representative of proposed Project, Reaches 1-3 Option 1A. The hybrid design (Alternative 1C) has been carried forward as an alternative in this EIR, with some refinements, and is presented in Section 4.4 as EIR Alternative 1.

The Wood Rodgers 2013 Evaluation and Design Report notes that nine preliminary designs were considered for Reach 4 beginning in 2010, which over the course of five rounds of screening and design development were reduced to three design alternatives. Of the potential alternatives, one has been eliminated from further consideration, as described below. One is representative of the proposed Project. The other two alternatives have been carried forward for analysis in this EIR and are described in Section 4.4 as EIR Alternatives 2 and 3.

Potential alternatives were also suggested at or subsequent to the Pre-Scoping Meeting held June 4, 2014, and during the EIR Scoping Meeting held March 4, 2015, and throughout the scoping comment period (February 26 to March 27, 2015).

The alternatives considered but eliminated from detailed analysis in this EIR are discussed below.

Reaches 1-3: Raised Earthen Levee with Landfill Tie-ins

This proposed alternative would provide for a raised earthen levee on top of the existing levee that ties into the landfill areas as high ground (Wood Rodgers Alternative 1A). This alternative would minimize the construction required by taking advantage of the high ground along the existing landfills. However, this disadvantages of this alternative include the greater number of landfill tie-ins and the fact that the levee maintenance road would not be above the design water surface along its entire length. This alternative represents a minor variation of another alternative carried forward for analysis, Reaches 1-3: Levee System with Landfill Tie-ins and Protection to Golf Course (Alternative 1); therefore, this alternative has been removed from further consideration.

Reach 4: Floodwall along South Side of Ventura Road and Pump Station

This proposed alternative (Wood Rodgers Alternative 5C) would include a floodwall that ties into the Reach 3 levee immediately upstream of the redirective weirs, a floodgate extending across Ventura Road (near the east end of the Reach 3 levee), and then a floodwall extending almost entirely on the south side of Ventura Road up to the UPRR bridge. This alternative is a variation of the proposed Project in Reach 4, with the floodgate placed farther west along N. Ventura Road as opposed to placing the floodgate at the high point in Ventura Road. From an engineering standpoint, this proposed alternative was found to be less attractive because it would result in a taller floodwall (7-13 feet) located closer to residences (25-40 feet), especially along the western portion where there is less space between the roadway and the existing homes, resulting in potentially greater visual intrusion and creating a constrained pathway through the area which may not be pleasing to recreationists that use the path/sidewalk through this area. Therefore, this alternative has been removed from further consideration.

Reach 4: Raise N. Ventura Road to Eliminate Floodgates

Based on comments from the Pre-Scoping Meeting which requested eliminating the need for floodgate(s) in N. Ventura Road, a preliminary alternative was considered which raised the height of N. Ventura Road along Reach 4. The VCWPD prepared a grading plan for this alternative, including cross-sections which show that the raised road on the west end of Reach 4 would be above the existing residential garden walls prompting the need for an additional sound wall to minimize traffic noise for residences along this western portion of Reach 4 (see Figures 4-1 and 4-2). Continuing east along N. Ventura Road, the roadway would continue to be raised, as well as raising the existing levee on the south side of the road to an elevation slightly below the existing garden walls (Figure 4-2). Based on this preliminary design, it was determined that this alternative would result in greater long-term visual and traffic noise impacts to the residences along Reach 4 than the proposed Project. From an engineering standpoint, this alternative was deemed infeasible due to the constraints associated with the UPRR bridge. To pass under the UPRR bridge, the raised road would need to dip back down at a reasonable/drivable slope, such that Reach 4 would receive little benefit from the raised roadway. Conversely, if the road were to go over the UPRR bridge, the cost would be extraordinary, and it would be difficult in just over 0.1 mile (approximately 775 feet) to reduce the road elevation sufficiently and

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at an acceptable slope for vehicles to pass safely under the Highway 101 bridge. The other option would be to cross the UPRR bridge at the level of the train tracks, which would create an “at-grade” crossing or new intersection between the railroad and Ventura Road, increasing the risk for collisions. It is unlikely UPRR would approve a change to its facility that would reduce public and rail safety. As such, this alternative has been removed from further consideration.

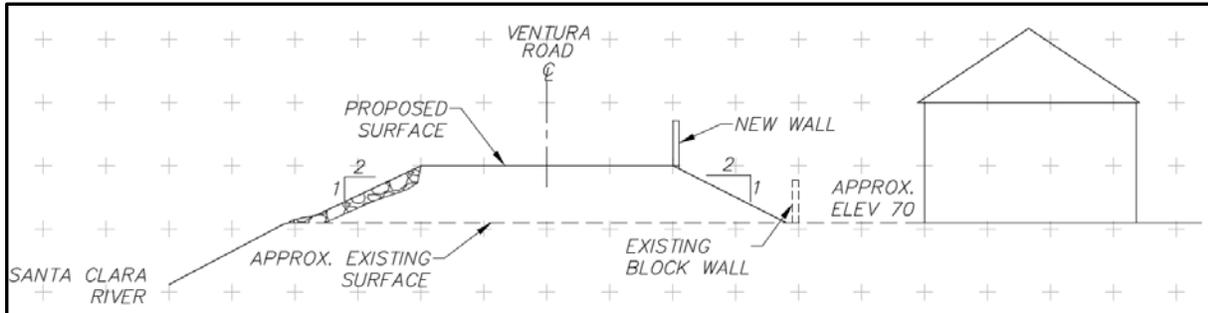


Figure 4-1. Cross-section at east end of N. Ventura Road with Raised Roadway (VCWPD, 2014)

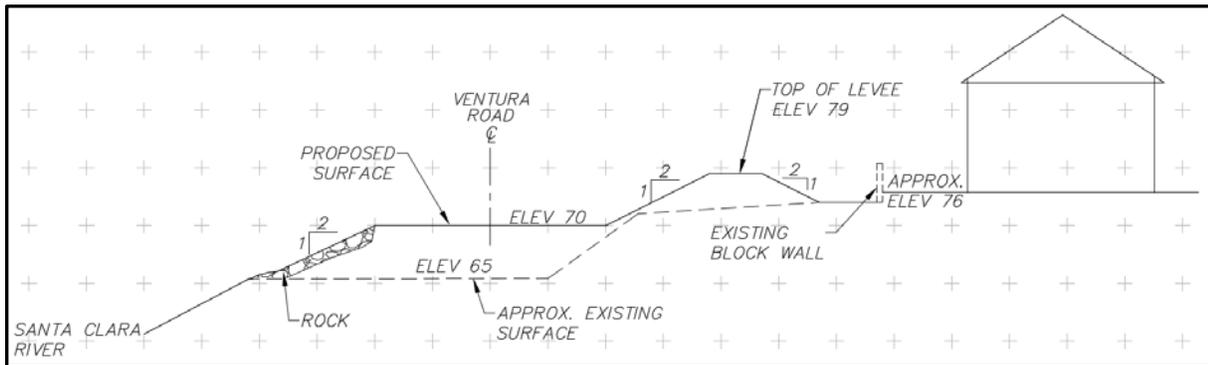
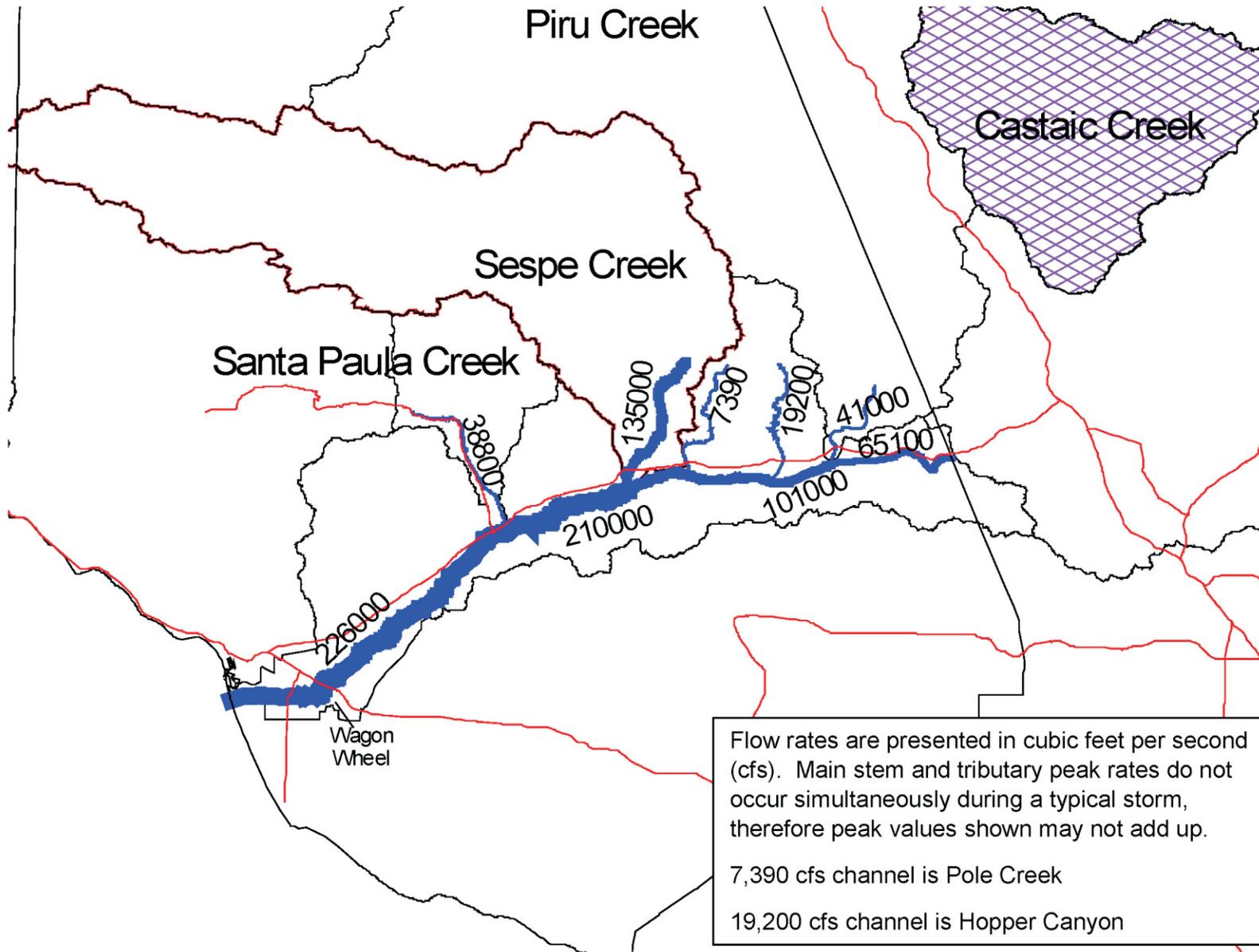


Figure 4-2. Cross-section at west end of N. Ventura Road with Raised Roadway (VCWPD, 2014)

Reaches 1-4: Watershed Management Techniques

Public input from the Pre-Scoping and Scoping Meetings suggested various watershed management techniques as alternatives to the proposed Project. The general goal of these techniques is to reduce runoff flow rates and volume from the watershed so that additional flood protection along SCR-3 (Reaches 1-4) would not be required. The desired benefits of watershed management techniques are storm water retention to promote recharge of the underlying groundwater basins, preservation of existing undeveloped 100-year floodplain, preservation of existing riparian habitat, minimization of flood control structures such as levees and floodwalls along the south bank of the Santa Clara River, and recreational access. The proposed alternatives implementing watershed management techniques are discussed below; however, a brief overview of the Santa Clara River watershed is provided to help understand the existing conditions in the Project area, as detailed in the “SCR-3 Alternatives Analysis Supplementary Evaluation” memo prepared by Michael Baker International for the VCWPD in July 2015 (see Appendix F).

The Santa Clara River is one of the largest river systems in Southern California that remains in a relatively natural state, receiving flows from Castaic Creek (Los Angeles County), Piru Creek, Sespe Creek, Santa Paula Creek, as well as the Pole Creek and Hopper Canyon channels (see Figure 4-3). Based on previous studies, the watershed is predominately natural undeveloped open space, with developed areas representing less than eight percent of the total watershed area.



Source: MBI, 2015.

Figure 4-3

Santa Clara River Watershed One Percent Annual Chance Flood Flow Rates in Ventura County

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The river has an estimated 100-year (1 percent annual chance) flood peak flow rate for the current (existing) watershed condition of 226,000 cubic feet per second (cfs), as shown in Figure 4-3, with a 24-hour storm runoff volume of 331,000 acre-feet. The design flow rate for the improvements along the SCR-3 Project was established to be 250,000 cfs to account for the potential effects of climate change and with consideration of the area’s hydrological trend toward increased peak runoff over the last 50 years.

Hydraulic modeling of the river indicates that the existing system can convey a peak flow rate of approximately 175,000 cfs along the SCR-3 Project (Reaches 1-4) before flooding occurs in the developed overbank areas downstream of the UPRR crossing. Based on this information, an evaluation was prepared for each of the three general watershed management categories suggested during the Pre-Scoping and Scoping Meetings: upstream detention, low impact development (LID), and natural floodplain attenuation.

Upstream Detention

This potential alternative was identified as an approach to reduce the peak flow rates in the Santa Clara River to a level that would not require additional flood protection along SCR-3. The concept was to place storm water detention basins on existing agricultural lands adjacent to the river, upstream of SCR-3.

As noted above, the maximum flow rate in the Santa Clara River that would not overtop the existing SCR-3 levee was determined to be 175,000 cfs. The 100-year peak flow rate for the river at this location is 226,000 cfs. Therefore, the upstream storm water detention basins would need to reduce the peak flow rate by about 51,000 cfs. The required volume of the detention basins was estimated by assuming that the storm runoff above 175,000 cfs could be diverted from the river to a series of adjacent basins. The volume was then estimated from the 100-year storm hydrograph as the area above the flow rate of 175,000 cfs, as shown in Figure 4-4. The required storage volume was calculated to be approximately 30,000 acre-feet (less than 10 percent of the total storm runoff volume).

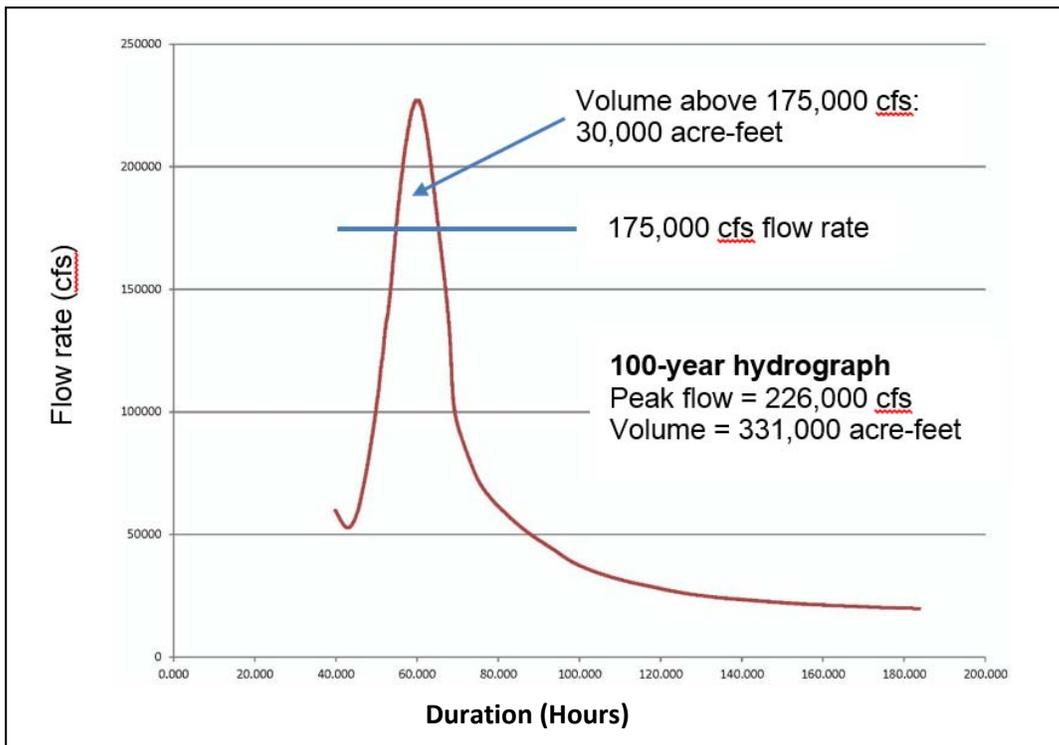


Figure 4-4. Santa Clara River 100-year Flood Hydrograph at Highway 101 (MBI, 2015)

Assuming a maximum depth of 10 feet, the required surface area for the basins would be in excess of 3,000 acres. Additional acreage would be needed if vegetation were allowed to grow in the basins for habitat purposes, as its presence would reduce total water storage capacity. Using a market value of \$150,000 per acre for agricultural land, the estimated land cost alone would be \$450 million (design, permitting, mitigation, and construction costs would need to be added to this value). This cost is more than 20 times the estimated cost of the proposed Project, which makes this alternative economically infeasible.

This alternative would also have the potential for substantial environmental impacts due to the loss of agricultural land, as well as air quality, noise, and traffic impacts associated with the excavation, grading, and export of over five million cubic yards (CY) of earthen material to create the detention basins. To ensure excess flows reach the detention basins from the Santa Clara River, a diversion and conveyance system would be required. Regulatory feasibility would be uncertain due to potential entrapment of federally-endangered steelhead trout in this diversion and detention basin system. It may be necessary to construct flood protection for this system of detention basins as they would likely be located within the Santa Clara River 100-year floodplain. Because sediment transport in this steep, predominantly natural watershed can be substantial during large flood events, the detention basins would require periodic maintenance to remove accumulated sediments and preserve their flood capacity. If riparian vegetation were to grow on these sediments, recurring mitigation would likely be required to offset habitat loss during sediment removal maintenance episodes. To avoid recurring mitigation costs, annual operations would include removal of all vegetation on the 3,000-acre basin.

In the event of successive large flow events, the flood protection intended to be provided by the detention basins could be reduced. For example, in 1969, a significant storm was documented January 18-22 and was immediately followed by another storm January 23-27. The watershed was soaked by the January 18-22 storm, such that water from the January 23-27 storm resulted in record breaking runoff and severe flood damages over much of Ventura County. If full detention basins cannot be emptied in time to receive runoff from a subsequent storm event generating flow greater than 175,000 cfs, residential, commercial, and public structures along SCR-3 would remain vulnerable to flooding.

Due to the substantial cost, environmental impacts, and the speculative nature of being able to acquire the lands to build the detention basins, this alternative has been removed from further consideration.

Low Impact Development (LID)

This approach was considered as a method to modify existing watershed development to reduce impervious areas and lower storm water runoff to mimic pre-development conditions. As identified above under "Upstream Storm Water Detention", the peak runoff in the Santa Clara River needs to be lowered by 51,000 cfs to avoid flooding impacts to the properties along SCR-3. LID can be used as an effective method to reduce the impacts of a development project and attempt to mimic the natural hydrology of a watershed area. However, LID techniques are most beneficial for reducing peak runoff from developed areas associated with more frequent storms, such as the 2-, 5-, and 10-year events. For larger storm events, such as the 100-year event being used for the SCR-3 levee design, it is assumed that the ground conditions are mostly saturated as a result of preceding storm events. Therefore, LID methods to reduce impervious areas and promote infiltration are less effective in reducing runoff from developed areas as the ground conditions are assumed to already be saturated, cancelling their ability to provide flood storage during a 100-year event.

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As discussed above, the majority of the watershed remains in a natural condition with developed areas representing less than eight percent of the watershed; therefore, only a small portion of the watershed could potentially be retrofitted to reduce runoff by increasing pervious areas.

The Santa Clara River has historically exceeded its meandering channel banks and flooded the Oxnard Plain in the Project area during larger storm events. Aerial photography from 1945 shows an active flood terrace in the areas proposed to be protected by the SCR-3 levee system (Figure 4-5). The limits of the southern flood terrace are shown with a yellow line on the figure. The location of the SCR-3 Project is shown as a blue line. Note that watershed development at the time of the 1945 photograph was substantially less than the current condition, which is eight percent of the total watershed area.

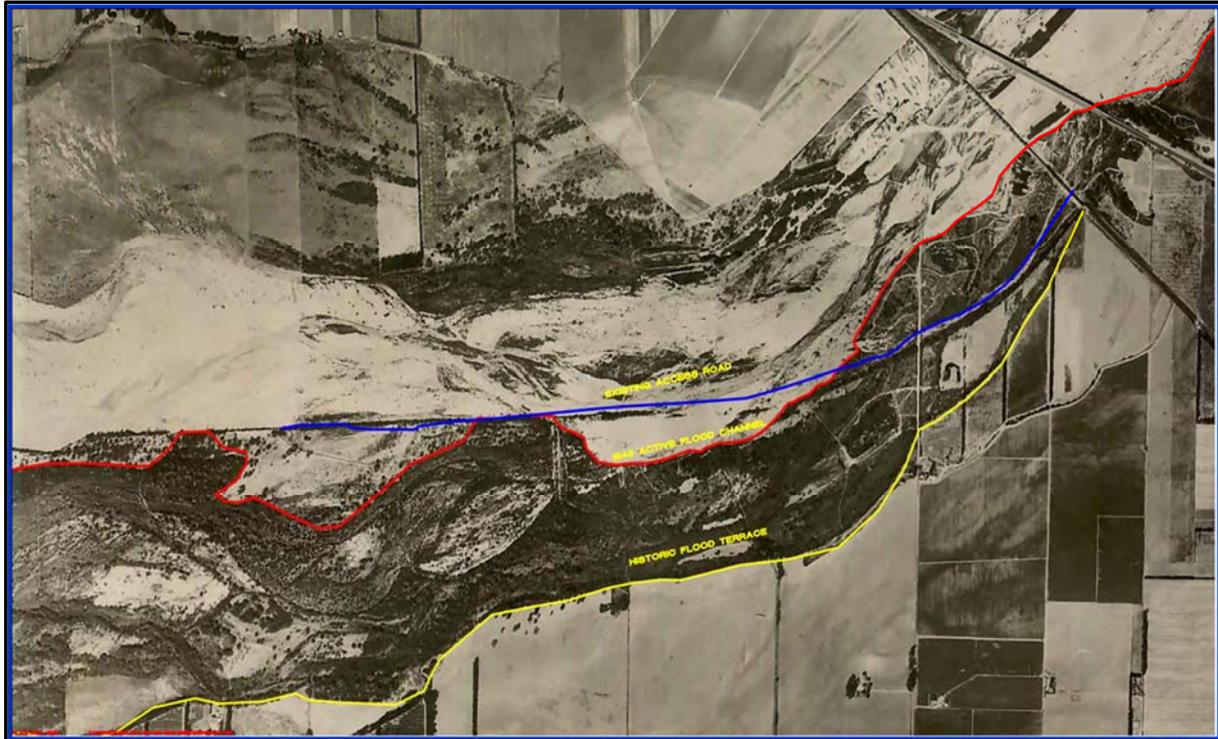


Figure 4-5. Santa Clara River 1945 Profiles (VCWPD, 1945)

This information suggests that the Santa Clara River in the SCR-3 Project area has historically flooded its overbanks during large storm events under pre-watershed development conditions, and that while LID approaches to reduce or eliminate impervious areas within the watershed may have some limited effect on a reduction to the peak flow rate, they would not be sufficient to reduce the peak flow rates along the SCR-3 Project area to a degree that would mitigate the existing flood hazard. Additionally, it is not reasonable to assume that all of the existing impervious surfaces within the watershed could be mitigated using LID techniques, particularly for the rare storm events during saturated soil conditions associated with watershed-scale flooding. Since the majority of the runoff in the river originates in the natural undeveloped watershed areas, the use of LID techniques focused on developed areas would not be sufficient to mitigate the existing flooding problems. As such, this proposed alternative has been removed from further consideration.

Natural Floodplain Attenuation

For this proposed alternative, the concept is to allow the Santa Clara River's overbank areas (floodplains) to provide a natural benefit for peak flow attenuation and flood risk reduction through storage of runoff volume. The Santa Clara River currently benefits from this natural function by allowing the

river to overflow its banks for much of the river's length from the Ventura County line downstream to the Freeman Diversion structure. Many of the existing overbank areas along this segment are maintained as agricultural areas and allowed to flood during extreme events. A depiction of the estimated 100-year floodplain along the river downstream of the City of Fillmore and the Sespe Creek confluence is shown in Figure 4-6. The light blue areas show the approximate limits of flooding during a 100-year event, which highlights the flood flows spreading out on the river overbank areas outside the river channel.

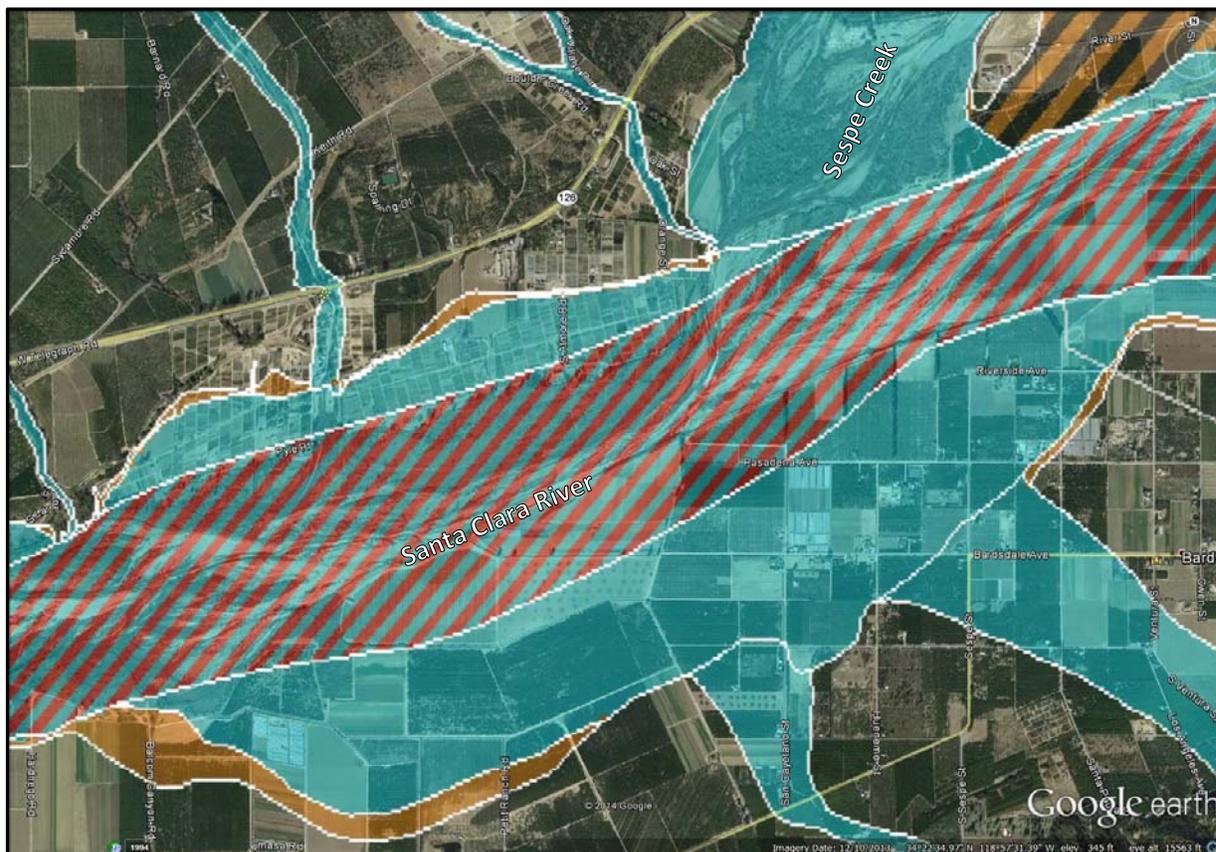


Figure 4-6. Map of Santa Clara River Floodplain (Light Blue Shaded Area) and Floodway (Red Striped Area) below the Sespe Creek Confluence (FEMA, 2010)

Preservation of these natural benefits will not address the current flood hazards along the downstream areas of the river; therefore, this potential alternative has been removed from further consideration.

It is important to note that the natural and beneficial functions of the floodplain must be protected to avoid having to construct additional structural improvements along the river in the future. The *Santa Clara River Parkway, Floodplain Restoration Feasibility Study* (Floodplain Feasibility Study) and the *Levee Setback Assessment of the Lower Santa Clara River, Ventura County, California – Implications for Flood Risk Management and Ecologic Benefit* (Levee Setback Assessment) prepared for the State of California Coastal Conservancy (Stillwater Sciences, 2007 and 2011) identify floodplain overbank areas along the river proposed to be maintained for flood management and ecological benefit. Figure 4-7 from the Floodplain Feasibility Study illustrates the parcels in the vicinity of the SCR-3 Project that have been purchased or are proposed to be purchased for flood hazard management and habitat preservation by the Coastal Conservancy. The proposed levee and floodwall are consistent with the recommendations in the Floodplain Feasibility Study for preservation of floodplain overbank areas.

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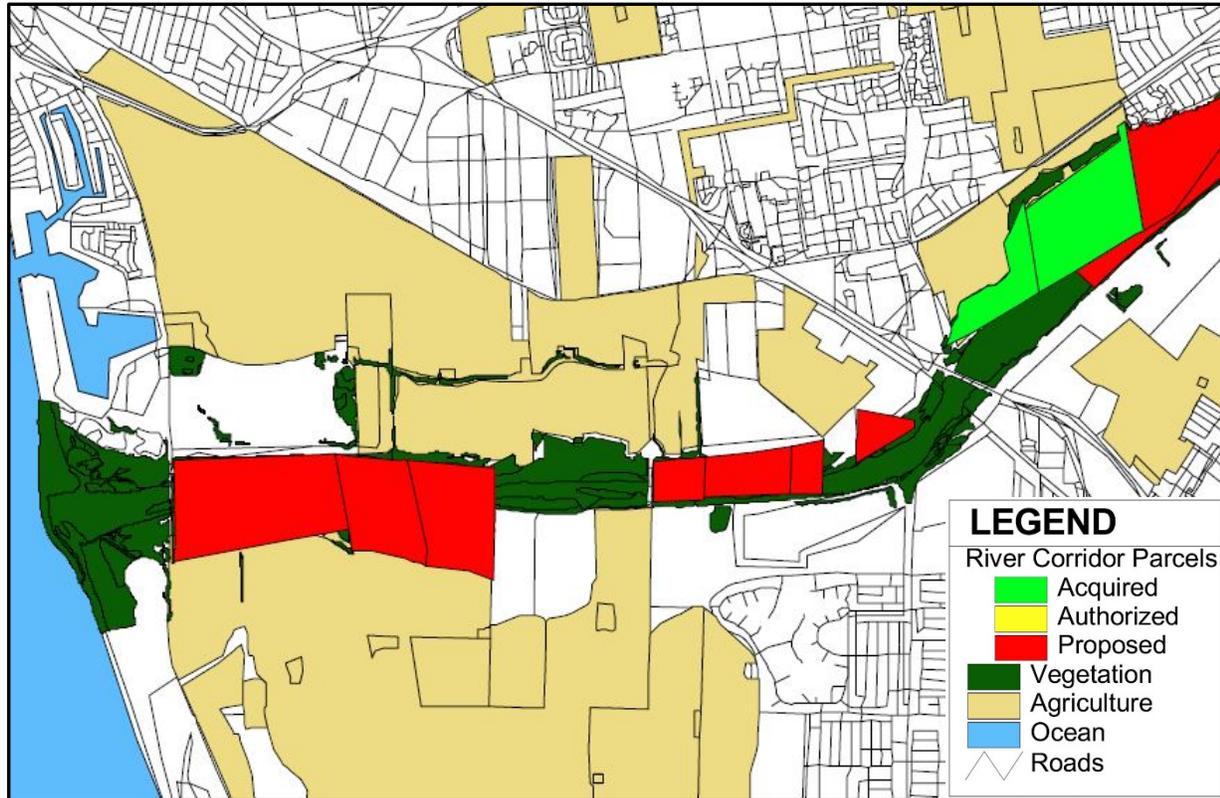


Figure 4-7. River Corridor Parcels Proposed for Flood Hazard Management or Habitat Preservation (Stillwater Sciences, 2007)

The Levee Setback Assessment (Stillwater Sciences, 2011) also evaluated locations along the lower Santa Clara River where levee setbacks are possible. The study investigated the potential benefits associated with levee setbacks during an extreme event (100-year flood) and a more frequent event (25-year storm). The results of the analysis identified potential setback areas in the vicinity of the SCR-3 Project, shown in yellow on Figure 4-8.

These exhibits indicate that the proposed Project, which includes improving the conditions of the existing levees along the SCR-3 levee, is consistent with the Santa Clara River Parkway watershed planning efforts currently being implemented along the Santa Clara River.

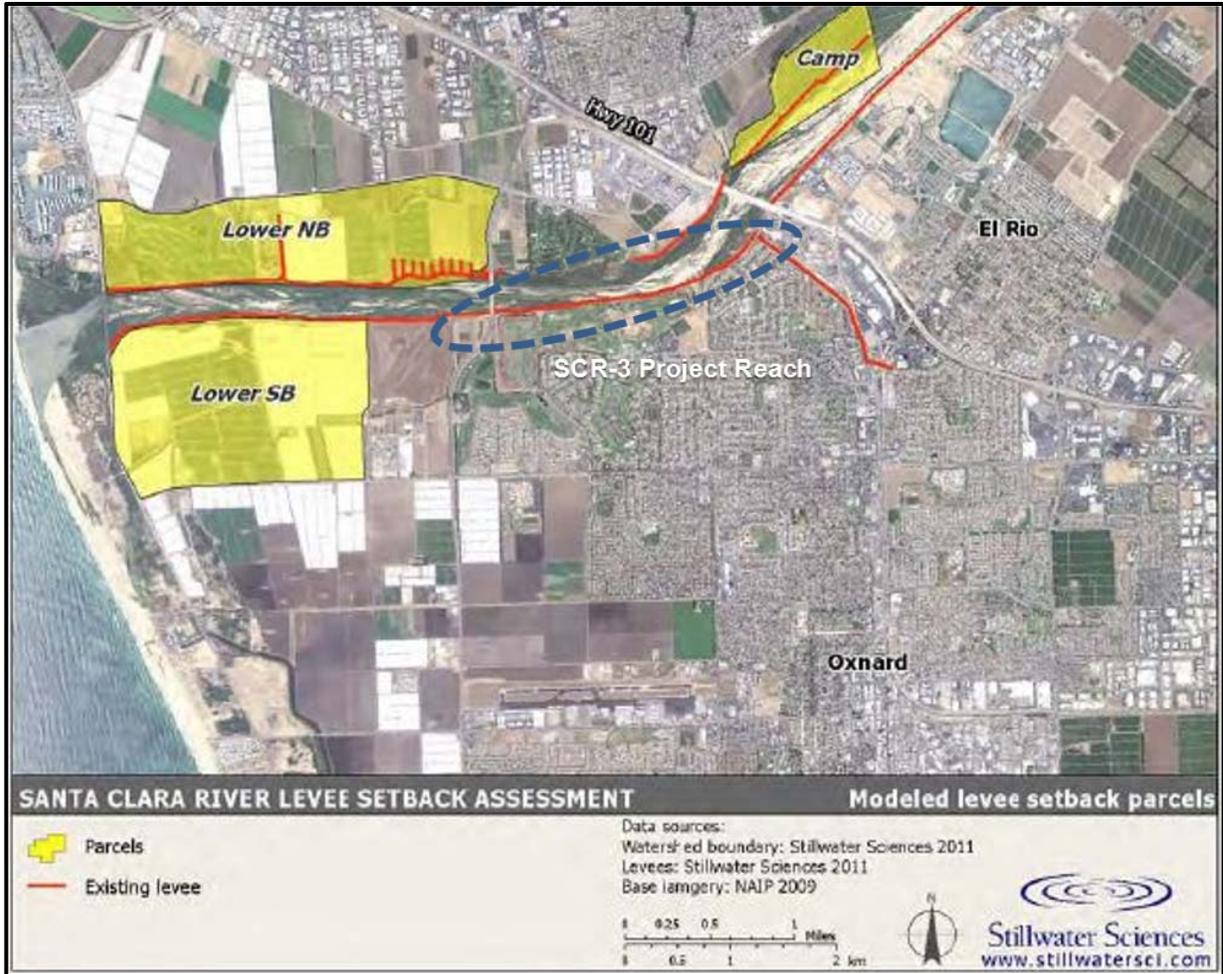


Figure 4-8. Lower Santa Clara River Levee Setback Locations (Stillwater Sciences, 2011)

Note: El Rio Drain as shown in Figure 4-8 is not considered a levee system.

4.4 Summary of Alternatives Considered

As discussed in Section 4.2 (Criteria for Alternatives Analysis), alternatives were assessed for their feasibility, their ability to reasonably attain the basic Project objectives, and their potential to reduce the significant environmental impacts of the proposed Project. Based on these screening criteria, as well as performing additional technical studies, including detailed hydraulics, scour calculations, geotechnical investigations, and a review of FEMA certification requirements, the following alternatives were selected for detailed analysis within this EIR.

4.4.1 Alternative 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection

Alternative 1 provides for a design within Reaches 1-3 that falls somewhere between Option 1A (Full Levee System) and Option 1B (Minimum Levee System), as shown in Figure 4-9. Under Alternative 1, the design for the levee in Reaches 1 and 3 would be identical to Option 1A and Option 1B, providing a raised earthen levee that ties into existing landfills as high ground. In Reach 2, raising of the earthen levee would be extended beyond the closest landfill tie-in (Coastal Landfill) to provide flood protection

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for the VRSD flare and River Ridge Golf Course maintenance yard (Station 150+00 to 165+00). A retaining wall would also be constructed to protect the maintenance yard. Between approximately Station 165+00 and 178+00, the existing access road would be raised above the design water surface elevation. Additionally, near the center of the Santa Clara Landfill (from approximately Station 178+00 to 183+00), along the golf course swale, the existing levee would be raised.

This alternative provides for full flood protection within Reaches 1-3. The design in Reach 4 would be identical to the proposed Project.

4.4.2 Alternative 2 – Reach 4: River Side Floodwall

Alternative 2 includes an approximately 2,600-foot-long floodwall along the river side of N. Ventura Road from the east end of Reach 3 (Station 217+50) to Highway 101 (Reach 4), as shown in Figure 4-10. The floodwall would vary in height from 6 feet to over 22 feet. The largest heights would be in the vicinity of the UPRR bridge, where the visible wall at this location would be approximately 22 feet high. The floodwall would be located approximately 17.5 feet from the existing roadway pavement of N. Ventura Road. This distance accommodates the future bikeway (16-foot wide), planned as part of the Santa Clara River Trail Master Plan (considered a secondary objective of the Project), and a curb and gutter along the roadway. Where curb and gutter already exist, the floodwall would be offset by 16 feet. As with the proposed Project, a 15-foot-wide soil cement maintenance access road would be installed along the toe of the slope adjacent to the floodwall on the river side of the floodwall to permit regular facility inspections. Rock riprap would be placed on the slope to protect the floodwall from scour.

To provide flood protection until the upstream SCR-1 levee improvements are completed (not part of this Project), a 13-foot-high flood gate would be installed across N. Ventura Road just downstream of the Highway 101 overpass. The flood gate is proposed to be a FloodBreak Automatic Floodgate system (or equal), similar to the flood gate under the proposed Project. Construction of the flood gate requires modifications to N. Ventura Road, construction of the concrete abutments on each side of the gate, and earthen fill to tie the abutment to the levee on the north side and to the Highway 101 embankment on the south side.

As with the proposed Project, the installation of the flood gate in N. Ventura Road would require the relocation of numerous utilities under the roadway impacted by the gate. These utilities include existing gas, water, and sewer lines, as well as storm drains. In general, the utilities would be lowered to provide adequate room for installation of the flood gate. If the gate is used in the automatic mode, interconnected signals would be installed to close the street prior to the gate starting to rise. Once the flood waters recede, the gate would be lowered and the street re-opened. Following a flood event, it is anticipated that approximately one week could be required to clean any sediment and debris deposited on the roadway as a result of the flood event. Upon completion of the SCR-1 improvements, the flood gate would be removed or deactivated. It is anticipated that this flood gate would be in service for a number of years, as the SCR-1 levee improvements are not anticipated to be completed for approximately ten years.

To prepare the site for installation of the river side floodwall, approximately 2.5 acres of existing vegetation would be cleared along the alignment. Four high-pressure gas valves would also need to be relocated, as there is a high-pressure gas pipeline which runs along the north side of N. Ventura Road. Additionally, approximately 1,000 CY of riprap would be removed and replaced. The existing riprap is located within the western limits of the floodwall area and currently provides flood protection along N.

Ventura Road. This riprap would be removed to allow for the construction of the floodwall, footings, and sheet pile scour protection. The riprap would then be replaced where necessary after construction of the wall. Upon completion of the floodwall, approximately 200 feet of five-foot chain link fencing and a swing gate would be added at the tie-in to Reach 3 to restrict access to SCR-3 until the City of Oxnard completes Santa Clara River Trail (SCRT) improvements.

This alternative provides for full flood protection for the areas downstream of Highway 101 along Reach 4 and would not impact the future SCR-1 levee improvements. The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.3 Alternative 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain

Alternative 3 includes a river side/land side floodwall with a floodgate at the high point in N. Ventura Road, same as the proposed Project; however, instead of the floodwall crossing the El Rio Drain and tying directing into the UPRR embankment, the floodwall would instead turn south along the west side of the El Rio Drain and extend approximately 3,500 feet to E. Pacific Coast Highway (PCH)/N. Oxnard Boulevard where it would terminate on higher ground (Figure 4-11).

This alternative provides for full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.4 Alternative 4 – Reach 4: East Slope Lining of the UPRR Embankment

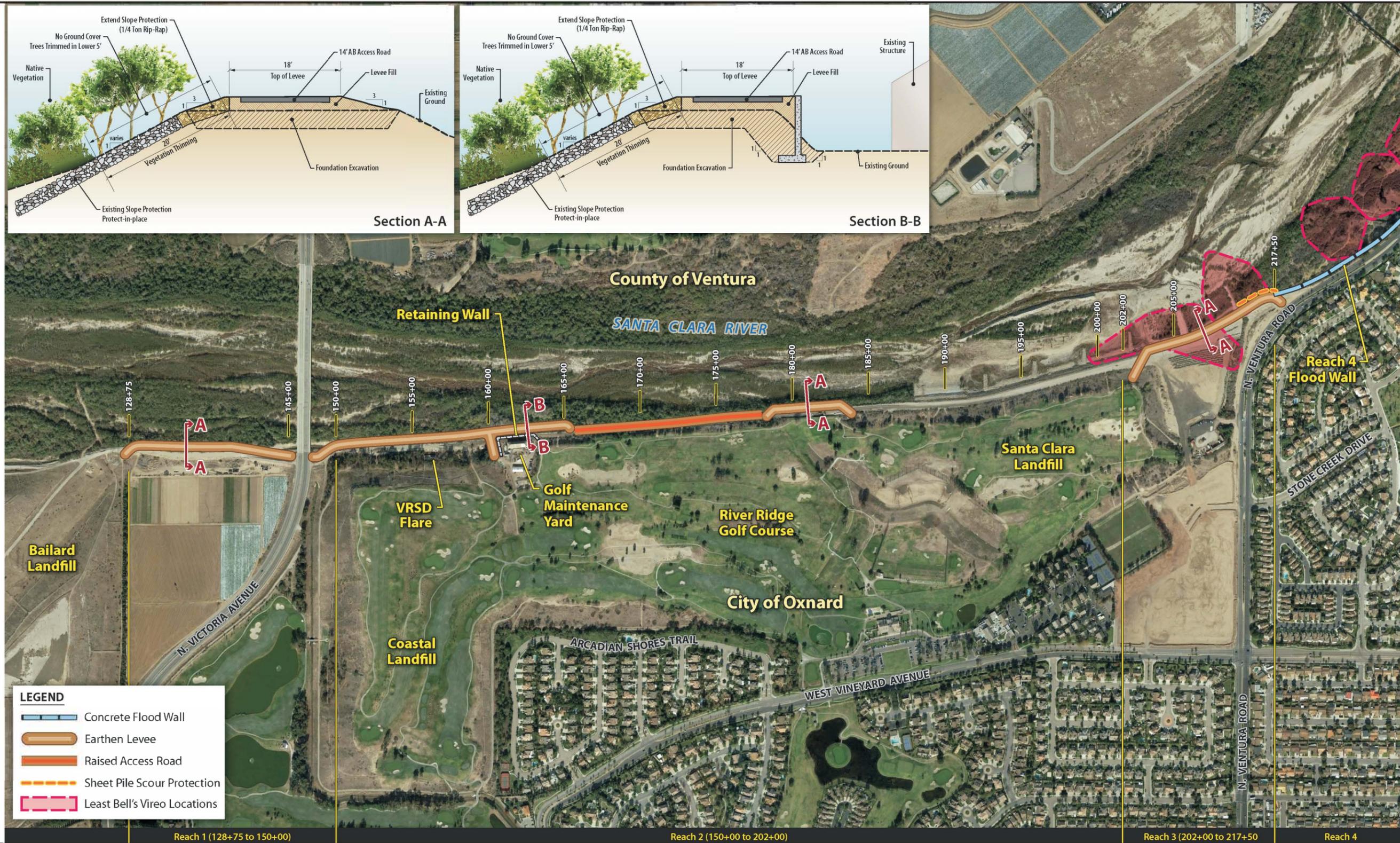
Alternative 4 includes a river side/land side floodwall with a floodgate at the high point in N. Ventura Road, same as the proposed Project. However, instead of stopping with the earthen fill on the west side of the UPRR bridge, which assumes additional improvements to the north would be completed by the Wagon Wheel developer, this alternative would add concrete lining on the east side of the railroad embankment parallel to the El Rio Drain from N. Ventura Road to E. PCH/Oxnard Boulevard (approximately 0.7 mile), as shown in Figure 4-12. This alternative provides for full flood protection downstream of the UPRR bridge in the event the Wagon Wheel improvements do not occur. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.5 Alternative 5 – No Project Alternative

Under the No Project Alternative, the proposed Project would not be constructed, and no development would occur along SCR-3. During the one percent annual chance flood event, flood waters would not be blocked and properties located within the inundation area on the landward side of SCR-3 would experience flooding. As a result, people who own property within the City of Oxnard located within the inundation area on the landward side of SCR-3, which includes over 3,800 structures, and who have federally-backed mortgages, would be required to purchase flood insurance. According to the land use inventory and economic analysis prepared for the Santa Clara River Levee, damages from the one percent annual flood event have been estimated at approximately \$345.5 million (Tetra Tech, 2014).

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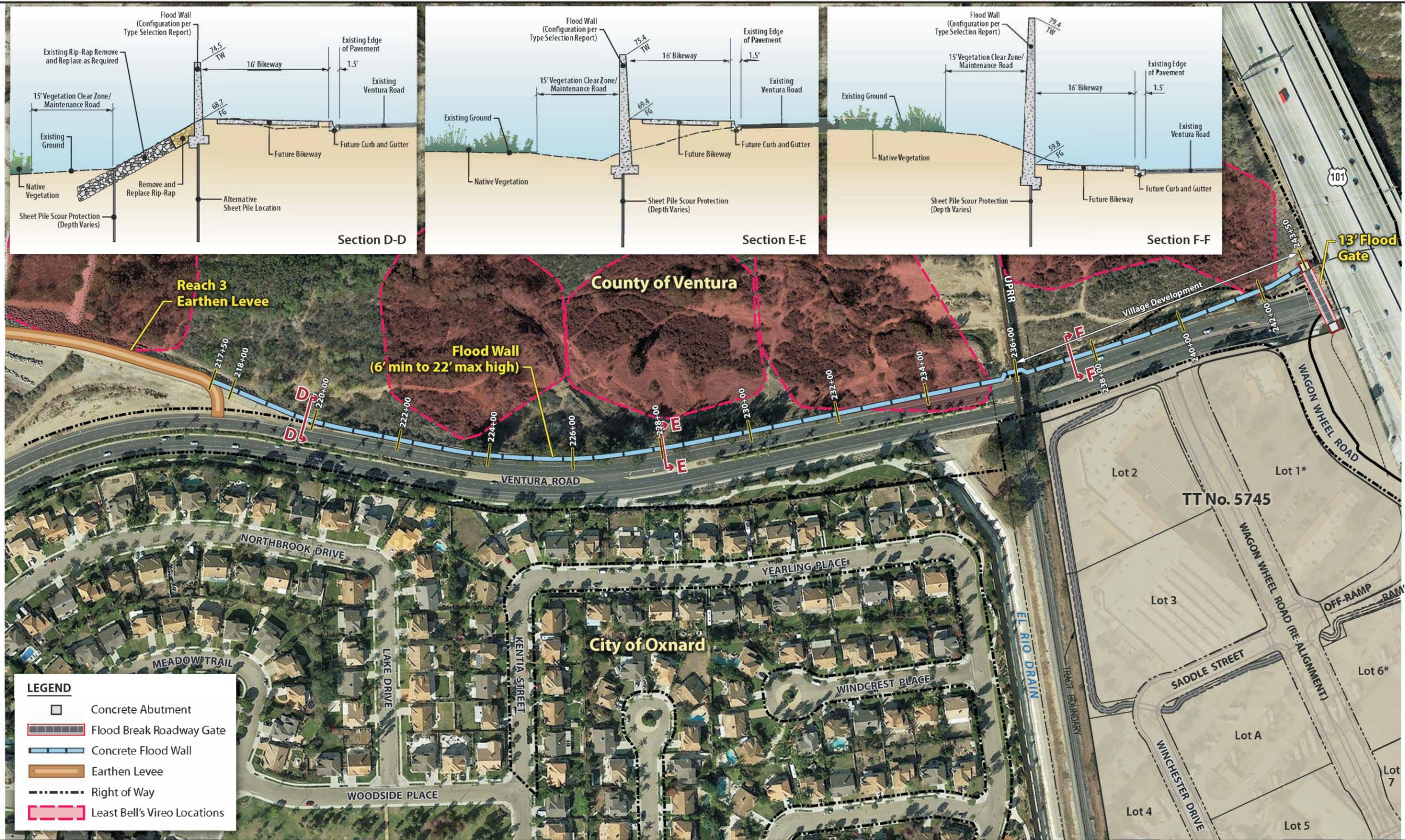
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Source: RBF, 2015



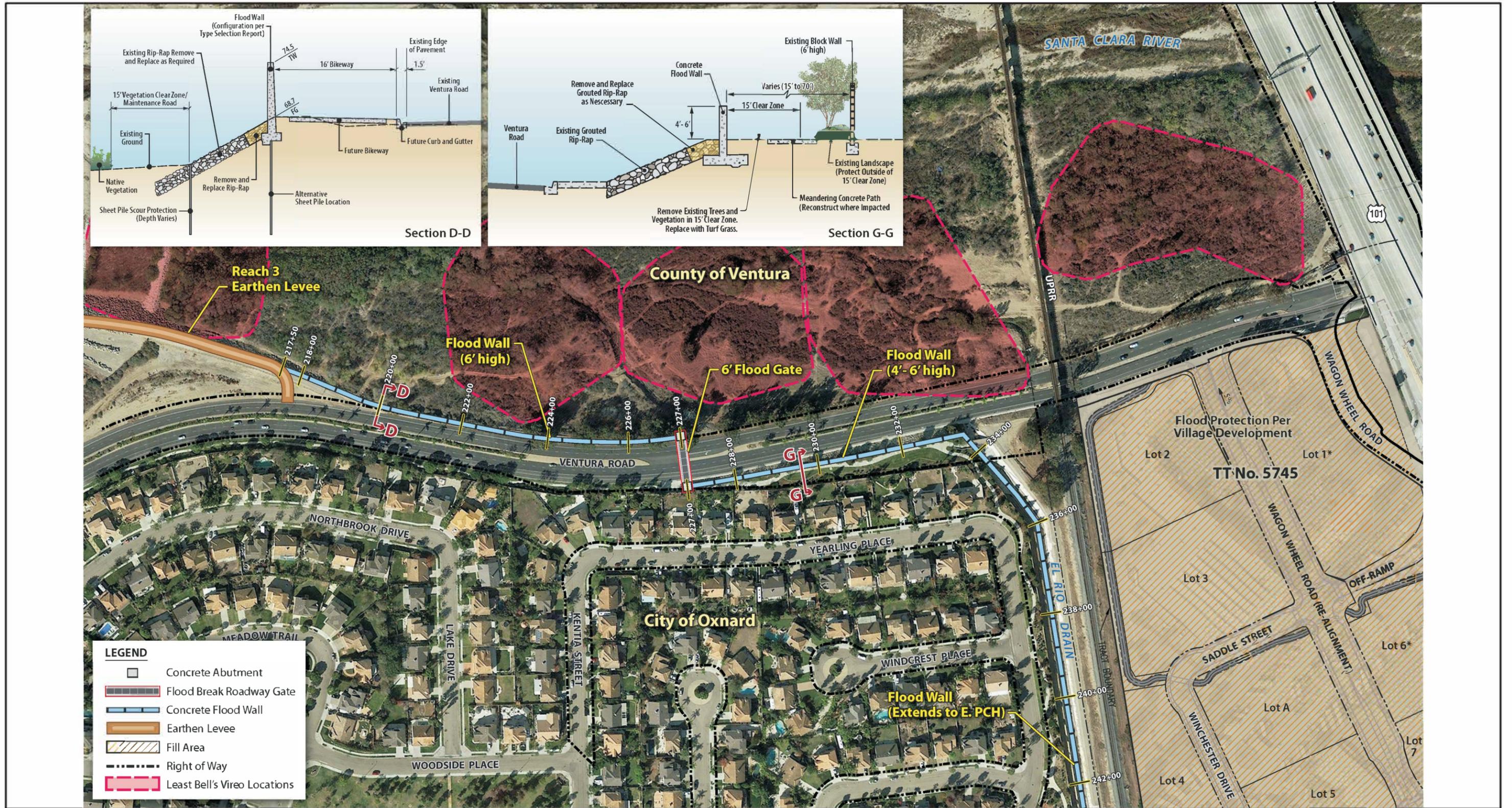
Figure 4-9
Alternative 1 – Reaches 1-3:
Levee System with Landfill Tie-ins and Golf Course Protection



Source: RBF, 2015

Figure 4-10

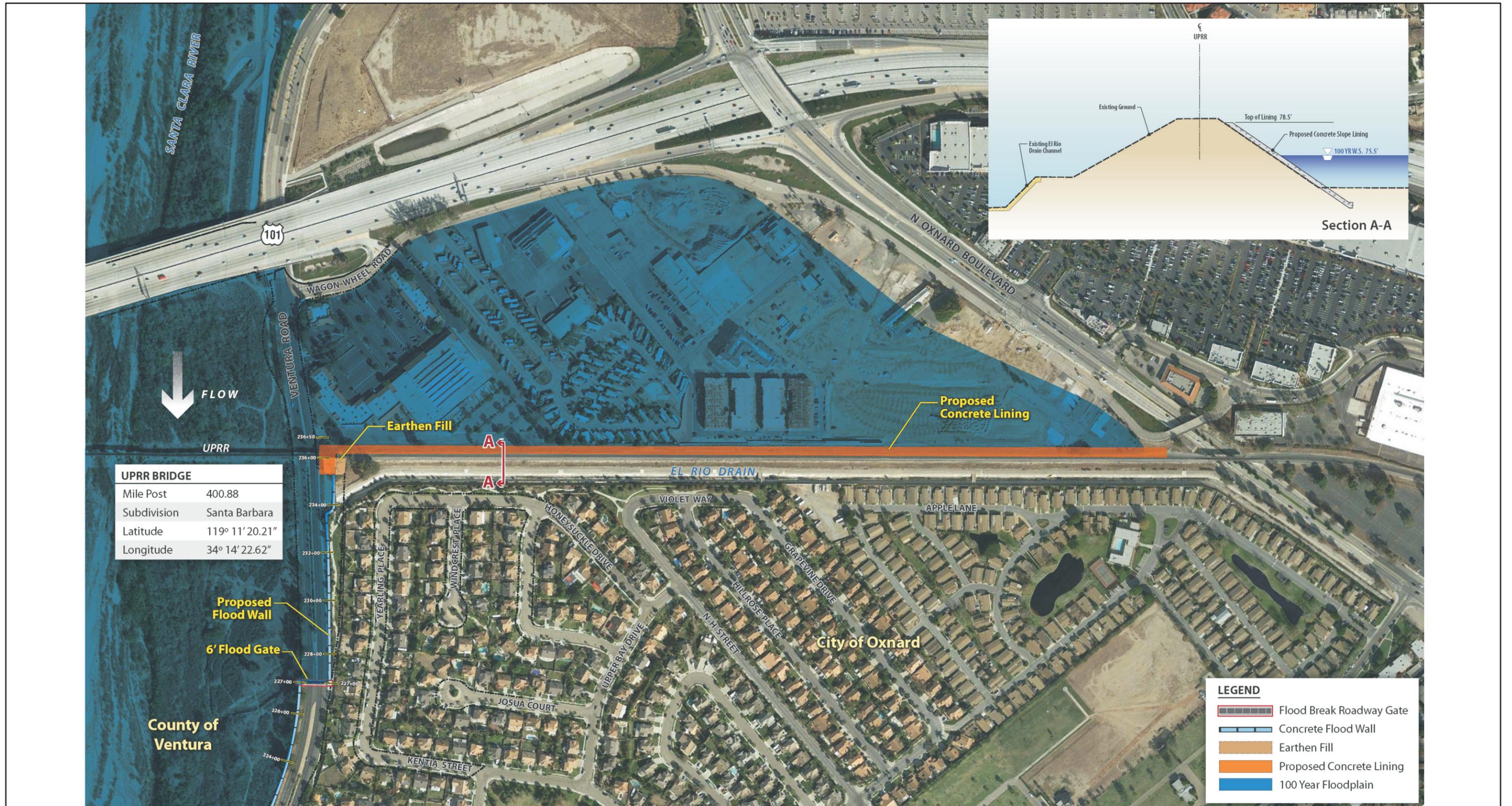
Alternative 2 – Reach 4: River Side Floodwall



Source: RBF, 2015



Figure 4-11
Alternative 3 – Reach 4:
River Side/Land Side Floodwall Extending Up El Rio Drain



Source: RBF, 2015



Figure 4-12

Alternative 4 - Reach 4:
East Slope Lining of the
UPRR Embankment

4.5 Alternatives Impact Analysis

This section presents an analysis of the alternatives to the proposed Project, and provides a comparative analysis focused on the differences in impacts among the various alternatives for the environmental issue areas addressed in this EIR, with particular emphasis given to differences in significant effects. In all cases, the comparison of impacts assumes that all feasible mitigation measures, as identified in this EIR, would be implemented. In accordance with State CEQA Guidelines Section 15126.6(d), the discussion of environmental effects of the alternatives shall include sufficient information to allow for meaningful evaluation, analysis, and comparison with the proposed Project, but may be less detailed than that provided for the proposed Project. This section is intended to provide decision makers with information about the merits and disadvantages of the alternatives that will assist them in their consideration of the proposed Project, and to assist the public in understanding the differences between the alternatives.

4.5.1 Alternative 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection

As described in Section 4.4.1, Alternative 1 would be identical to Options 1A and 1B in Reach 1 and Reach 3. In Reach 2, raising of the earthen levee would extend from Reach 1 east to provide flood protection for the VRSD flare and River Ridge Golf Course maintenance yard. A retaining wall would also be constructed at the golf course maintenance yard. The existing access road would be raised to be above the design water surface elevation, and along the center of the Santa Clara Landfill (along the swale portion of the golf course) the existing levee would also be raised. This alternative requires five landfill tie-ins. This alternative provides for full flood protection within Reaches 1-3. The design in Reach 4 would be identical to the proposed Project.

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for Option 1A (see Table 3.1-13, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the slight decrease in overall construction requirements, specifically the full levee is not being raised with this alternative, the construction emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly less adverse for this alternative than for Option 1A, but slightly more adverse than for Option 1B (preferred option). There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Construction of Alternative 1 would result in additional disturbance of native habitats, jurisdictional waters, developed areas, and maintained landscapes when compared to Option 1B of the proposed Project. When compared to Option 1A, Alternative 1 would reduce the overall impact to the same habitats and land cover types discussed above. The types of impacts to biological resources resulting from the construction and maintenance of Alternative 1 would be similar to those described for the proposed Project.

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Scenic Resources

The impacts under Alternative 1 would essentially be the same as Option 1A of the proposed Project; Reach 2 is not visible from public viewing locations. Therefore, due to the temporary nature of the construction and O&M activities, the impacts to scenic resources from public viewing locations (Impact SR-1) under the Reaches 1-3 portion of Alternative 1 would not be significant.

Under Alternative 1, the design in Reach 4 would be identical to the proposed Project. Therefore, Impacts SR-2, SR-3, and SR-4 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 1 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for earthquake-induced liquefaction related lateral spreading and compaction at the Project site. Project components for Alternative 1 are similar to components of both Options 1A and 1B and could therefore suffer the same type of potential damage due to liquefaction. The potential for adverse effects due to liquefaction for Alternative 1 are slightly greater than Option 1B with the added levees and retaining wall, and minimally less than Option 1A with the shorter levee length in Reach 2. Compliance with U.S. Army Corps of Engineers (USACE) requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 1 would include two additional landfill tie-ins at the Santa Clara Landfill where the levee would be raised near the existing golf course swale. Implementation of Mitigation Measure HAZ-2 (*Preconstruction testing for hazardous waste and landfill gas*) for all Alternative 1 components would result in no new hazardous waste impacts and would remain less than significant with mitigation.

Public Health. Alternative 1 has greater potential for conflicts with existing landfill gas recovery wells and pipelines compared to Option 1B of the proposed Project due to the additional levee construction in the vicinity of the existing landfill gas recovery lines and wells. Mitigation Measure Measures HAZ-2 (*Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater*) and HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*) would apply and impacts would remain less than significant.

Noise and Vibration

Under Alternative 2, construction noise and vibration impacts would be very similar to the proposed Project. Impacts would differ primarily in Reach 2 where construction activities would be more extensive than Option 1B, but less than Option 1A. However, Reach 2 has no nearby residences, which limits noise-sensitive receptors to players at the adjacent golf course. Construction activities in Reaches 3 and 4, which have nearby noise-sensitive residences, would be identical to the proposed Project and therefore would have identical noise impacts.

Transportation and Circulation

The traffic and circulation impacts of Alternative 1 would be very similar to those of the proposed Project. A similar amount of traffic would be generated to deliver equipment and materials during construction, and construction would employ approximately the same number of workers as the proposed Project. Equipment and material deliveries and worker commute trips would utilize the same

routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. Similarly, traffic associated with O&M activities would be very similar to the proposed Project.

Utilities

Construction of Reaches 1-3 under Alternative 1 would include a greater potential for conflicts with existing landfill gas pipelines due to more construction in the vicinity of the existing landfill gas recovery lines; however, impacts would be mitigated with implementation of Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*). The existing natural gas pipeline would be protected in place as part of the Project design. Construction within Reach 4, where utility disruptions are anticipated for flood gate installation, would be identical to the proposed Project. As such, impacts under this alternative would be slightly greater than the proposed Project. Coordination with utility service providers prior to construction would minimize any potential utility impacts, such that impacts would be less than significant.

Flood Control and Drainage

Alternative 1 would provide the same level of flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, a greater portion of the levee access road would be raised allowing for greater access during flood conditions compared to Option 1B, but less than Option 1A. Therefore, impacts related to flood control would be similar to the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 1 would have impacts that are very similar to the proposed Project. One of the primary differences between Alternative 1 and the proposed Project is that it would have five landfill tie-ins compared to either one tie-in (Option 1A) or three tie-ins (Option 1B) for the proposed Project. This slightly increases the chances of encountering hazardous waste during excavation work, which is a potential impact that can be effectively mitigated. Alternative 1 also does not involve the filling of the drainage swale across the River Ridge Golf Course, which reduces the amount of jurisdictional waters affected by the Project in comparison to Option 1B. In other regards, the impacts of Alternative 1 are similar to the proposed Project, but vary somewhat in area and magnitude. Generally, the impacts of Alternative 1 would be slightly greater than Option 1B in Reaches 1-3, and slightly less than Option 1A. This is because Option 1A involves construction of a full levee in Reaches 1-3, whereas Alternative 1 involves less levee construction in Reach 2, and Option 1B only includes levees in Reaches 1 and 3, which is less than Alternative 1. In comparison to Option 1A, Alternative 1's reduced footprint results in less construction and maintenance impacts, including less maintenance of adjacent habitat along the Santa Clara River. In comparison to Option 1B, Alternative 1 has a larger footprint and involves more construction, including more construction adjacent to the river channel.

Alternative 1 would provide the necessary level of protection against a one percent annual chance flood event. However, because of the five levee tie-ins to high ground rather than raising the entire existing levee, it is not certain whether Alternative 1 would meet FEMA levee certification requirements. Alternative 1 would accommodate a future bikeway along N. Ventura Road, same as the proposed Project (Option 1A or Option 1B).

4.5.2 Alternative 2 – Reach 4: River Side Floodwall

As described in Section 4.4.2, Alternative 2 includes an approximately 2,600-foot-long floodwall along the river side of N. Ventura Road from the east end of Reach 3 to Highway 101, which would vary in height from 6 feet to over 22 feet (at the UPRR bridge). This alternative would also include a floodgate across N. Ventura Road just west of the Highway 101 overpass. Substantial UPRR coordination is anticipated for implementation of this alternative. This alternative provides for full flood protection for the areas downstream of Highway 101 along Reach 4 and would not affect the future SCR-1 levee improvements. The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A, (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the slight increase in overall construction requirements, specifically the construction of a taller and longer floodwall, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in Project O&M requirements under this alternative.

Biological Resources

Within Reaches 1 – 3, implementation of Alternative 2 would result in similar impacts to those described for both Option 1B and 1A of the proposed Project. The construction of the river side floodwall, however, would have the potential to result in greater impacts to least Bell's vireo when compared to the proposed Project. The floodwall would be constructed within and adjacent to known least Bell's vireo territories. If construction were to occur during the breeding season, direct impacts as a result of vegetation clearing and indirect impacts related to noise and fugitive dust may result in nest failure for this species. The river side floodwall would also result in additional impacts to both native and non-native habitat types, CDFW jurisdictional waters, and federally jurisdictional wetlands and waters.

Scenic Resources

In comparison to the Reach 4 floodwall under the proposed Project, the floodwall under Alternative 2 would be nearly 800 feet longer and over 16 feet higher along some portions of the wall. This view of Reach 4 under Alternative 2 is depicted in Figure 4-13a, which shows the existing conditions from N. Ventura Road looking northeast towards the UPRR bridge and Highway 101. As seen in this photo, the existing viewshed consists of open natural space, including a row of tall eucalyptus trees between the road and the river. Figure 4-13b is a visual simulation of Reach 4 showing the proposed floodwall on the north side of N. Ventura Road, which would eliminate the eucalyptus trees and block the view of open natural space. As such, the impacts to scenic resources would be greater in comparison to the proposed Project since the floodwall under Alternative 2 would extend entirely along Reach 4 on the river side of N. Ventura Road. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be directly visible from public viewing locations over a longer distance under this alternative. Therefore, Impact SR-1 regarding



Figure 4-13a: Existing view of Reach 4 on N. Ventura Road looking northeast towards the UPRR bridge and Highway 101



Figure 4-13b Visual simulation of Reach 4 under Alternative 2 where the floodwall would be constructed along the north (river) side of N. Ventura Road

Figure 4-13
Alternative 2 Reach 4, N. Ventura Road Looking Northeast

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the visibility of scenic resources from public reviewing locations would be greater under Alternative 2 in comparison to the proposed Project.

In addition, the existing scenic resources and the viewshed of the Santa Clara River and the surrounding open natural space would be permanently altered by a continuous structure that would be longer and higher than the floodwall under the proposed Project. The impacts to recreationists along the proposed SCRT would also be greater under this alternative. Under Impact SR-3, Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 2 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 2 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 2. Therefore, the impacts associated with Reach 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 2 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 2 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B and similar but slightly increased potential for impacts along Reach 4 due to the increased length of floodwall along this Alternative. Compliance with USACE requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 2 has no additional hazardous waste impacts as construction of a flood wall on the river side north of Ventura Road avoids known hazardous waste sites and landfill. No additional impacts would occur and no mitigation is required.

Public Health. The new flood wall on the river side of Ventura Road along Reach 4 is not located near landfills or landfill gas recovery systems. Alternative 2 has no additional conflicts beyond those anticipated in Option 1A or 1B with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Similar to the proposed Project, construction activities for Reach 4 would require the temporary use of noise-generating construction equipment. Clearing and grubbing during weeks 5 and 6 would be the noisiest activity; however, much of this work would be on the river side of the levee away from noise sensitive receptors. Therefore, weeks 18 through 38, when activities include riverside floodwall construction, were selected for modeling.

During weeks 18 through 38 and when activity is centered near the center of Reach 4, the unmitigated Leq(hr) noise levels in the nearest backyards would increase to 67 dBA. The ambient noise levels in the backyards nearest N. Ventura Road are in the range of 61 dBA. The noise levels from construction are calculated to exceed the significance criterion (ambient of 61 dBA plus 3 dB) for the nearest residences. Mitigation Measure NV-1a (*Moveable Construction Noise Barriers*) would need to be implemented to reduce Leq(hr) noise levels. An estimated 10-foot high moveable barrier extending approximately 30

feet in both directions is recommended to reduce noise levels to below the significance criteria; however, placement of such a structure within the confined space between the construction area and the existing property walls may not be practical or possible. Monitoring would help to check if noise levels are below the significance threshold (Mitigation Measure NV-1b), but would not guarantee that the threshold (ambient plus 3 dBA) will be met. As such, noise impacts remain significant, same as the proposed Project.

Maximum noise levels can be estimated based upon the difference between L_{max} and Leq(h) for construction activities during week 18 through 38. The noisiest equipment are within 1 dB of the Leq(h). Therefore, the Leq(h) contours near the construction sites are within 1 dB of the L_{max} contours and impacts to all noise sensitive receptors would remain below the instantaneous maximum significance criterion of 75 dBA and would not be significant, same as the proposed Project.

Vibration impacts for Alternative 2 are similar to the proposed Project. Vibration levels at residences within approximately 260 feet from a vibratory roller and within approximately 120 feet of most other construction equipment are estimated to exceed the 72 VdB (0.0159 inches/sec) annoyance threshold for residences and buildings where people sleep. Residences within approximately 190 feet from the vibratory roller and 100 feet of most other construction equipment may experience vibration levels that exceed the daytime annoyance criterion of 75 VdB (0.0225 inches/sec).

Transportation and Circulation

The traffic and circulation impacts of Alternative 2 would be greater than the proposed Project due to the longer and taller floodwall in Reach 4, which would require a greater number of equipment and material deliveries during construction. These trips would likely extend over a longer period of time (assuming the same intensity as the proposed Project), or result in an increase in traffic as a result of increased work intensity. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and, therefore, would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be extended compared to the proposed Project in order to construct the additional floodwall. Traffic associated with O&M activities would be nearly identical to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 2 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 2 would provide similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, a river side only floodwall would provide greater flood protection to N. Ventura Road. Therefore, impacts related to flood control would be less than the proposed Project.

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Conclusion and Relationship to Project Objectives

Alternative 2 would have impacts that are largely similar to the proposed Project. The primary differences between Alternative 2 and the proposed Project are the alignment and length of the floodwall in Reach 4. Placing the entire floodwall on the river side of N. Ventura Road places more construction closer to the river channel and increases the average height of the wall. The riverside location of the floodwall would increase adverse impacts to habitat and sensitive species in the river channel, including loss of native vegetation and habitat, and disturbance of wildlife during construction. The increased height of the riverside floodwall, primarily in the vicinity of the UPRR bridge, and longer length would increase adverse visual impacts and further obstruct views of the river channel. Noise and vibration impacts would be slightly reduced as construction of the eastern portion of the floodwall would be further away from nearby residences. Overall, Alternative 2 has only minor advantages over the proposed Project, but offers several distinct disadvantages, primarily related to impacts on biological and scenic resources.

Alternative 2 would provide the necessary level of protection against a one percent annual chance flood event and it is also expected to meet FEMA levee certification requirements. Alternative 2 would accommodate a future bikeway along N. Ventura Road.

4.5.3 Alternative 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain

As described in Section 4.4.3, Alternative 3 is essentially the same as the proposed Project; however, instead of the floodwall crossing the El Rio Drain and tying directing into the UPRR embankment, the floodwall would instead turn south along the west side of the El Rio Drain and extend to E. PCH (a distance of approximately 0.7 mile feet). This alternative involves substantially greater floodwall construction than any of the other action alternatives. This alternative provides for full flood protection downstream of the UPRR bridge, and full flood protection downstream of Highway 101 once the Wagon Wheel improvements are constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the increase in overall construction requirements from the much longer floodwall, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Impacts to biological resources with the construction of Alternative 3 would result in similar impacts as described for the proposed Project. This alternative, however, would result in additional impacts to maintained landscape and developed areas and less impacts to State and federal jurisdictional waters.

Scenic Resources

The design of the Reach 4 floodwall under Alternative 3 would be approximately 3,500 feet longer than the floodwall under the proposed Project. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be visible from public viewing locations over a longer distance, including E. PCH, under this alternative. Therefore, Impact SR-1 regarding the visibility of scenic resources from public reviewing locations would be greater under Alternative 3 in comparison to the proposed Project.

In addition, the floodwall would permanently alter scenic resources and the viewshed to the north from the E. PCH corridor. Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 3 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 3 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 3. Therefore, the impacts associated with Reaches 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 3 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 3 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B. Along Reach 4 the potential for adverse effects due to liquefaction are slightly increased compared to the proposed Project due to the increased length of floodwall along this Alternative. Compliance with USACE requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the SCR-3 Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 3 has no additional hazardous waste impacts because construction of a flood wall on the west side of El Rio Drain avoids known hazardous waste sites and landfills. No additional impacts would occur and no mitigation is required.

Public Health. The new flood wall on the west side of El Rio Drain is not located near landfills or landfill gas recovery systems. Alternative 3 has no conflicts with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Under Alternative 3, construction activities along N. Ventura Road would be similar to the proposed Project. This alternative differs from the proposed Project in that the floodwall would extend up El Rio Drain, which would place more residences in proximity to floodwall construction activities and associated noise. The noise impacts would be similar to the proposed Project, including noise and vibration levels that could disturb sensitive receptors during construction in Reach 4. Because more sensitive receptors (residences along the El Rio Drain) would be exposed to construction noise and vibration, impacts for this alternative would be greater than the proposed Project.

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Transportation and Circulation

The traffic and circulation impacts of Alternative 3 would be greater than those of the proposed Project because this alternative includes an additional component, which is the floodwall along the El Rio Drain. Due to the construction of this additional floodwall, a greater amount of traffic would be generated to deliver equipment and materials during construction. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be extended compared to the proposed Project in order to construct the additional floodwall. Traffic associated with O&M activities would be similar to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 3 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 3 would provide similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, extending the floodwall up the El Rio Drain would provide full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed. Therefore, impacts related to flood control would be less than the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 3 would have impacts that are similar to the proposed Project, but several impacts would be increased either in magnitude or geographic extent. The primary difference between Alternative 3 and the proposed Project is the addition of a floodwall along the west side of the El Rio Drain extending about 0.7 mile to E. PCH. The floodwall along the El Rio Drain is an additional component that is not included in the proposed Project. As a result, construction is increased in comparison to the proposed Project resulting in increased air pollutant emissions, noise intrusion into new areas, and additional construction traffic. Slightly increased landscape removal and associated urban wildlife disturbance is also expected under Alternative 3. Visual impacts would also be increased in comparison to the proposed Project due to the addition of the floodwall along the El Rio Drain.

Alternative 3 would provide the necessary level of protection against a one percent annual chance flood event and it is also expected to meet FEMA levee certification requirements. Alternative 3 would accommodate a future bikeway along N. Ventura Road.

4.5.4 Alternative 4 – Reach 4: East Slope Lining of the UPRR Embankment

As described in Section 4.4.4, Alternative 4 is essentially the same as the proposed Project; however, concrete lining would be added on the northeast side of the UPRR embankment and parallel to the El Rio Drain from N. Ventura Road to E. PCH/Oxnard Boulevard (approximately 0.7 mile). This alternative

would ensure adequate protection downstream of the UPRR in the event the Village Specific Plan (Wagon Wheel) development and its required flood protection are not constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the increase in overall construction requirements from the additional concrete lining work in Reach 4, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Impacts to biological resources resulting from the construction of Alternative 4 would result in similar impacts as described for both Options 1B and 1A of the proposed Project. This alternative would result in additional impacts to maintained landscape and developed areas.

Scenic Resources

Alternative 4 includes installation of a concrete lining on the eastern side of the UPRR embankment, which is an additional component that is not part of the proposed Project. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be visible from additional public viewing locations over a longer distance, including E. PCH, under this alternative. Therefore, Impact SR-1 regarding the visibility of scenic resources from public reviewing locations would be greater under Alternative 4 than the proposed Project.

In addition, the concrete lining would result in a minor alteration of scenic resources and the viewshed to the north from the E. PCH corridor. Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 4 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 4 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 4. Therefore, the impacts associated with Reach 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 4 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 4 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B. Along Reach 4 the potential for adverse effects due to liquefaction are nearly identical as compared to the proposed Project; only very slightly increased due to the minimal potential for damage to the proposed concrete lining along the northern side of the El Rio Drain. Compliance with USACE requirements, the Flood

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Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 4 has no additional hazardous waste impacts because construction of the UPRR embankment concrete lining is not located near known hazardous waste sites or landfills. No additional impacts would occur and no mitigation is required.

Public Health. The new UPRR embankment is not located near landfills or landfill gas recovery systems. Alternative 4 has no conflicts with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Construction noise impacts for Alternative 4 would be the same as described for the proposed Project, but with the addition of noise associated with lining the east side of the UPRR embankment. Similar to Alternative 3, residences located near the El Rio Drain and railroad would be exposed to construction activities (i.e. embankment lining) and associated noise. This is additional construction activity that would not occur with the proposed Project. However, the additional construction activity would occur on the east side of the railroad embankment and nearby residences are located west of the railroad. The railroad embankment would also help shield construction noise. Regardless, because more sensitive receptors (residences along the El Rio Drain) would be exposed to construction noise and vibration, impacts for this alternative would be greater than the proposed Project.

Transportation and Circulation

The traffic and circulation impacts of Alternative 3 would be greater than those of the proposed Project because this alternative includes concrete lining of the UPRR embankment, which is not included in the proposed Project. The installation of this concrete lining would result in the generation of additional trips to deliver equipment and materials during construction. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be longer than the proposed Project in order to install the concrete lining. Traffic associated with O&M activities would be similar to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 3 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 4 would provide the similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, with the addition of concrete lining of the UPRR embankment full flood protection downstream of the UPRR bridge would be provided in the event the

Wagon Wheel improvements do not occur. Impacts related to flood control would be less than the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 4 would have impacts that are similar to the proposed Project, but several impacts would be increased either in magnitude or geographic extent. The primary difference between Alternative 4 and the proposed Project is the addition of concrete lining to the east side of the UPRR embankment. This concrete lining is an additional component that is not included in the proposed Project. Construction would be increased in comparison to the proposed Project, resulting in increased air pollutant emissions, noise intrusion into new areas, and additional construction traffic. Minor increases in landscape removal and associated urban wildlife disturbance may also occur under Alternative 4. Concrete lining along the UPRR embankment is also likely to attract graffiti, thereby creating an adverse visual effect.

Alternative 4 would provide the necessary level of protection against a one percent annual flood chance event and it is also expected to meet FEMA levee certification requirements. Alternative 4 would accommodate a future bikeway along N. Ventura Road.

4.5.5 Alternative 5 – No Project Alternative

As described in Section 4.4.5, under the No Project Alternative no development would occur along the SCR-3 levee system. People who own property within the City of Oxnard located within the inundation area south of SCR-3 and who have federally-backed mortgages would be required to purchase flood insurance. In the event of the one percent annual chance flood event, flood waters would not be blocked and properties within the inundation area on the landward side of SCR-3 would experience flooding. Damages from the one percent annual flood event have been estimated at approximately \$345.5 million (Tetra Tech, 2014).

Air Quality

This alternative would have no direct construction or O&M air quality impacts. However, if a one-percent annual chance flood event were to happen, the clean-up work would have air quality impacts that could exceed those of the proposed Project depending on the extent of the damage and clean-up.

Biological Resources

Under the No Project Alternative, construction and operation of the proposed Project would not occur. The baseline environmental conditions for the No Project Alternative are the same as for the proposed Project, as provided in Section C (Environmental Setting, Analysis, and Mitigation Measures). These baseline conditions would continue to occur into the future, undisturbed, in the absence of project-related construction activities, unless other construction activities took place on the site.

Scenic Resources

Under Alternative 4, no development would occur along the proposed Project alignment. Therefore, no impacts to scenic resources and no changes to the viewshed would occur. In the event of a one percent annual chance flood event, flood damage would result in adverse visual impacts (debris, mud, and property damage) that would persist until the damage is repaired and cleanup activities are completed.

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Liquefaction. The No Project Alternative would not change the existing levee system; however, the liquefaction potential of the alluvial sediments underlying the Project area would remain the same. The potential for adverse effects along Reaches 1-4 would remain unchanged from the current conditions. There would be slightly less potential for adverse effects due to liquefaction-related damage compared to the proposed Project due to the absence of the Reach 4 floodwall in this Alternative.

Hazardous Waste. Compared to the proposed Project, the No Project Alternative would avoid potentially encountering hazardous waste, landfill gas, and contaminated groundwater at the landfill tie-ins and the retaining wall footing excavation. Therefore, this alternative could have less hazardous waste impacts than the proposed Project. However, it is possible that a one percent annual chance flood event could damage the former landfills adjacent to the Project, with the potential for release of solid waste currently contained within the landfills.

Public Health. The No Project Alternative would avoid possible conflicts with the existing landfill gas recovery pipelines and wells. However, neither the proposed Project nor Alternative 5 would result in significant public health impacts. Under the No Project Alternative, the existing flooding hazard in the area would not be addressed and properties would continue to be subject to flooding as a consequence of a large storm event.

Noise and Vibration

Because the proposed Project would not be constructed under the No Project Alternative, the noise and vibration impacts associated with construction would not occur. Periodic noise associated with current O&M activities for the existing levee would continue.

Transportation and Circulation

Because the proposed Project would not be constructed under the No Project Alternative, the traffic and circulation impacts associated with construction would not occur. Current periodic vehicle trips associated with existing O&M activities for the existing levee would continue. Additional trips associated with proposed Project maintenance, such as floodwall and floodgate maintenance, would not occur. In the event of a one percent annual chance flood event, streets in the flood hazard area would be covered with mud and debris and possibly damaged, which would disrupt circulation until cleanup activities are completed and any damage is repaired.

Utilities

The No Project Alternative would maintain the existing flood control facilities in their current location, and would not require relocation of the utility lines. Therefore, impacts associated with the relocation of existing utilities, although not significant, would not occur under this alternative. In the event of a one percent annual chance flood event, utilities in the flood hazard area would be subject to flood damage, including possible disruption of service.

Flood Control and Drainage

The No Project Alternative would not implement additional flood protection along the SCR-3 reach. Therefore, portions of north Oxnard, including approximately 3,800 structures, would continue to be subject to flooding in a one percent annual chance flood event.

Conclusion and Relationship to Project Objectives

Under the No Project Alternative, the proposed Project would not be constructed. As a result, a large area in Oxnard south of the river and west of Highway 101 would continue to be subject to flooding in a one percent annual chance flood event. Construction impacts associated with the proposed Project would be avoided completely under this alternative. Existing O&M activities associated with the existing levee would continue. If the proposed Project is not built, it is possible that another project may be proposed in the future to address the area's flooding problem. It is likely that such a project would have features and impacts that resemble the proposed Project or one of the alternatives discussed above.

The No Project Alternative would not meet the Project's primary objective of providing flood protection for a one percent annual chance flood event. A future bikeway along N. Ventura Road could be accommodated under this alternative.

4.6 Environmentally Superior Alternative

In accordance with CEQA requirements, an "environmentally superior alternative" must be identified among the alternatives analyzed in an EIR. The environmentally superior alternative is the alternative found to have an overall advantage compared to the other alternatives based on the impact analysis in the EIR. Based on the discussions of alternatives in Section 4.5, above, a comparison of the impacts of the alternatives to the proposed Project is summarized in Table 4-1.

Of the alternatives analyzed, the No Project Alternative (Alternative 5) would result in the fewest environmental impacts and is therefore considered the environmentally superior alternative; however, the No Project Alternative would not meet the Project objectives. Furthermore, in accordance with State CEQA Guidelines Section 15126.6(e)(2), if the No Project Alternative is identified as the environmentally superior alternative, an EIR is required to identify an environmentally superior alternative from among the other alternatives.

Only one alternative was considered within Reaches 1-3 (Alternative 1). The proposed Project, utilizing Option 1B, results in the least environmental impacts as it would minimize the amount of construction and land disturbance associated with raising the levees and constructing a floodwall. Protection of the VRSD flare and golf course maintenance yard, while beneficial aspects of Alternative 1, would not outweigh the additional impacts associated with the other aspects of design in Reaches 1-3.

Within Reach 4, three alternatives were considered (Alternatives 2, 3, and 4). Of these alternatives, Alternatives 3 and 4 would result in fewer environmental impacts than Alternative 2, as they would minimize the placement of the floodwall along the river side of N. Ventura Road and thereby reduce biological resource impacts to river channel habitat and sensitive species. Alternatives 3 and 4 would also result in fewer scenic resources impacts than Alternative 2, as the floodwall height would be minimized and more of the Santa Clara River would remain visible from N. Ventura Road and adjacent developed areas. Alternatives 3 and 4 would result in additional impacts that would not occur under Alternative 2; however, these impacts would occur in a less biologically sensitive area (urban landscaping) than placement of the floodwall on the river side of N. Ventura Road. As such, within Reach 4, Alternatives 3 and 4 would be superior to Alternative 2. Alternatives 3 and 4 have fairly similar impacts; however, the lining of the railroad embankment in Alternative 4 would be further removed from the El Rio Drain, which would reduce potential water quality impacts. In addition, the lining of the railroad embankment would be slightly farther away from more residences than Alternative 3, which would reduce exposure to construction noise. Therefore, Alternative 4 is considered environmentally

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superior to Alternative 3. The proposed Project would eliminate the need for constructing a floodwall up the El Rio Drain (Alternative 3) or lining the railroad embankment (Alternative 4), resulting in the fewest environmental impacts in Reach 4.

It is important to note that in addition to the five alternatives analyzed in Section 4.5 above, the proposed Project includes two options for Reaches 1-3. Option 1A includes raising the existing levee across the entire length of Reaches 1 through 3, while Option 1B involves more limited levee improvements. (Please see Chapter 2 for full descriptions of Options 1A and 1B.) Because of the reduced amount of levee construction associated with Option 1B compared to Option 1A, Option 1B would result in fewer overall impacts. Option 1B involves three landfill tie-ins compared to two tie-ins for Option 1A, but overall Option 1B has a smaller footprint and involves less construction. Therefore, Option 1B is superior to Option 1A from an environmental standpoint.

Overall, the proposed Project (utilizing Option 1B) is environmentally superior to Alternatives 1 through 4 due to its reduced footprint and reduced amount of construction in Reaches 1-3, as well as Reach 4.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Air Quality						
Net increase in non-attainment pollutants during construction.	Level of impact proportional to emissions so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater construction emission than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	<i>No Direct Impact.</i> However, impacts could be more than proposed Project after one percent annual chance flood event.
Health impacts to sensitive receptors during construction.	Level of health impact proportional to diesel particulate emission so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater exposure than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>No Direct Impact.</i> However, impacts could be more than proposed Project after one percent annual chance flood event.
Potential increase in the incidence of Valley Fever infections during construction.	Impact is proportional to fugitive dust emissions, so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater potential than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>No Direct Impact.</i> However, impacts could be more than proposed Project after one percent annual chance flood event.
Biological Resources						
Temporary and permanent losses of native vegetation.	Disturbance to native vegetation including arroyo willow thickets, coyote brush scrub, California sagebrush scrub, Fremont cottonwood forest, mulefat thickets, and quailbush scrub. Option 1B 0.51 acres permanent 0.47 acres temporary Option 1A 0.91 acres permanent 0.95 acres temporary	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Reduced impacts to habitats and land cover types than Opt. 1A, but would result in more impacts than Opt. 1B.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Loss of foraging habitat for wildlife.	Disturbance to native vegetation and non-native land cover types, including arroyo willow thickets, coyote bush scrub, eucalyptus groves, developed areas, and maintained landscape. Option 1B 7.91 acres permanent 6.85 acres temporary Option 1A 12.43 acres permanent 7.39 acres temporary	Slightly Less than Option 1A, Slightly Greater than Option 1B. Reduced impacts to habitats and land cover types than Opt. 1A, but would result in more impacts than Opt. 1B.	Slightly Greater. Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats.	Slightly Greater. Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	Slightly Greater. Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to wildlife in adjacent habitat.	Both Options 1B and 1A would result in indirect effects such as increased noise and fugitive dust that could disrupt foraging, breeding, and movement.	Slightly Less than Option 1A, Slightly Greater than Option 1B. Similar impacts to those of the proposed Project.	Slightly Greater. Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories. Additional flood-wall sections would prolong construction impacts.	Slightly Greater. Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat. Additional flood-wall sections would prolong construction impacts.	Slightly Greater. Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potential suitable nesting habitat. Embankment lining would prolong construction impacts.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Disturbance to nesting birds or raptors.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to nesting southwestern willow flycatchers, least Bell's vireos, or their habitat.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Loss of sensitive Lancetooth, Timema, and Shoulderband Snails or Monarch Butterfly.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potentially suitable habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats compared to Opt. 1B (less than Opt. 1A). Would remove additional eucalyptus trees that can provide roosting habitat for monarch butterflies.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact non-native landscaping with potentially suitable habitat for monarch butterfly; less impacts to habitat for sensitive snails.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact non-native landscaping with potentially suitable habitat for monarch butterfly; less impacts to habitat for sensitive snails.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Mortality or injury to southwestern pond turtles or a disruption of nesting habitat.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support pond turtles.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Injury or mortality for two-striped garter snakes and south coast garter snake.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support snakes.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support amphibians and reptiles.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Disturbance to nesting or migrant California Species of Special Concern, CDFW Special Animals or California Fully Protected bird species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats that could support sensitive species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Mortality of, and loss of habitat for, special-status bat species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types that may provide foraging habitat for bat species compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that may provide foraging habitat for bat species. Removes additional eucalyptus trees that may provide roosting habitat.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas that may provide foraging habitat for bat species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas that may provide foraging habitat for bat species.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Mortality of, and loss of habitat for, special-status mammals.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage when compared to Opt. 1B (less than Opt. 1A), of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with increase in impacts to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Mortality of listed or special-status fish.	Both Options 1B and 1A would not impact the Santa Clara River channel but may result in indirect effects related to water quality.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact when compared to Opt. 1B (less than Opt. 1A), to native and non-native vegetation and land cover types that could result in a degradation to water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to endangered, threatened, proposed, or other special-status plant species or their habitat.	Both Options 1B and 1A would not result in the direct take of listed or other special-status plant species. Indirect effects such as fugitive dust and weed control would impact these species in adjacent areas.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types that may increase the chance for the disturbance of listed or special-status plant species compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that may increase the chance for the disturbance of listed or special-status plant species.	<i>Similar.</i> Similar impacts to the proposed Project. Additional impacts to maintained landscape and developed areas would not disturb habitat with the potential to support listed or special-status plant species.	<i>Similar.</i> Similar impacts to the proposed Project. Additional impacts to maintained landscape and developed areas would not disturb habitat with the potential to support listed or special-status plant species.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Interference with established wildlife migratory corridors.	Both Options 1B and 1A would introduce new barriers to movement.	<i>Similar.</i> Similar impacts to the proposed Project.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, the riverside floodwall would increase the total length of constructed barriers within the area.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, the floodwall along the El Rio Drain would increase the total length of constructed barriers within the area.	<i>Similar.</i> Similar impacts to the proposed Project.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Loss of jurisdictional waters and/or wetland habitats.	<p>Option 1B: Approx. 0.004 acres of federal wetlands, 0.18 acres of federal non-wetland waters and 2.56 acres of State waters.</p> <p>Option 1A: Approx. 0.004 acres of federal wetlands, 0.10 acres of federal non-wetland waters and 4.57 acres of State waters.</p> <p>Impacts under both options include removal of native riparian vegetation, alteration of hydrological conditions, and degradation of water quality.</p>	<i>Similar.</i> Similar impacts to those of the proposed Project; however, the amount of jurisdictional area affected would be reduced in comparison to Opt. 1B because the golf course swale would not be filled.	<i>Greater.</i> Similar impacts to those of the proposed Project; however, impacts to more CDFW jurisdictional waters in Reach 4.	<i>Similar.</i> Similar impacts to those of the proposed Project. Direct impact to El Rio Drain is avoided. However, construction of the floodwall along the El Rio Drain may result in indirect effects to water quality.	<i>Similar.</i> Similar impacts to those of the proposed Project. As in the proposed Project, construction of the floodwall across the El Rio Drain may result in indirect effects to water quality.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Scenic Resources						
Visibility of construction and O&M activities from public viewing locations.	Due to the temporary nature of construction and O&M activities, impacts to scenic resources from public viewing locations would not be significant.	<i>Similar.</i> Essentially the same as Option 1B.	<i>Greater.</i> The longer and taller floodwall would introduce a greater visual change in Reach 4. More existing eucalyptus trees along N. Ventura Road would be removed.	<i>Greater.</i> Visual effects from the raised levee and new floodwall would be similar to the proposed Project, but with the additional visual element of the floodwall along El Rio Drain, which would be visible from public viewing locations along E. PCH.	<i>Slightly Greater.</i> Visual effects from the raised levee and new floodwall would be similar to the proposed Project, but with the additional visual element of the railroad embankment lining.	<i>No Direct Impact.</i> There would be no impact to scenic resources.
Alteration of scenic resources by introducing new structures.	In Reach 4, mitigation would reduce impacts associated with graffiti, but the floodwall would result in significant impacts.	<i>Similar.</i> Essentially the same as the proposed Project.	<i>Greater.</i> Increased impact due to higher and longer floodwall along the river side of N. Ventura Road.	<i>Greater.</i> Increased impact due to longer floodwall extending up El Rio Drain and additional impacts to views from E. PCH.	<i>Greater.</i> Increased impact due to the railroad embankment lining.	<i>No Direct Impact.</i> There would be no impact to scenic resources.

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Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Obstruction of the viewshed of the Santa Clara River.	In Reach 4, mitigation would reduce impacts associated with graffiti. Nonetheless, the floodwall would result in significant impacts.	<i>Similar.</i> Essentially the same as the proposed Project.	<i>Greater.</i> Increased impact due to higher and longer floodwall along the river side of N. Ventura Road.	<i>Greater.</i> Increased due to longer floodwall extending up El Rio Drain and additional impacts to views from E. PCH.	<i>Similar.</i> The railroad embankment lining would not obstruct views of the river, making the visual impact similar to the proposed Project.	<i>No Direct Impact.</i> There would be no impact to scenic resources.
Hazards						
Liquefaction-related damage.	Liquefaction-related lateral spreading and/or compaction could cause damage to Project components. Under Opt. 1A damage could occur to Reach 1-3 levees, Reach 2 retaining wall, and Reach 4 floodwall and floodgate. Slightly less potential for Opt. 1B due to shorter levee length and no retaining wall.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Same potential impact due to liquefaction along Alt. 1. Slightly reduced impacts compared to Opt. 1A (less levee in Reach 2) and slightly increased compared to Opt. 1B due to more levee length and the retaining wall.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects increased slightly for Alt. 2 compared to both Options 1A and 1B. Increase is due to increased floodwall length within Reach 4.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects increased slightly for Alt. 3 compared to both Options 1A and 1B. Increase is due to increased floodwall length within Reach 4.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects is the same for Alt. 4 compared to both Options 1A and 1B; and increased minimally for Reach 4 due to potential for damage of the concrete lining along the El Rio Drain.	<i>No Direct Impact.</i> Potential for effects from liquefaction would be less than the proposed Project as no new components would be exposed to liquefaction-related damage. The potential for liquefaction damage would remain unchanged from the current conditions; existing levees would remain vulnerable.
Hazardous waste at landfill tie-ins and retaining wall footing excavation.	Option 1A: One landfill tie-in and retaining wall footing excavation may encounter hazardous waste. Option 1B: Three landfill tie ins may encounter hazardous waste.	<i>Slightly Greater.</i> Five landfill tie-ins and retaining wall footing excavation.	<i>Similar.</i> One or three landfill tie-ins and retaining wall footing excavation.	<i>Similar.</i> One or three landfill tie-ins and retaining wall footing excavation.	<i>Similar.</i> One or three landfill tie-ins and retaining wall footing excavation.	<i>No Direct Impact.</i> No landfill tie-ins or retaining wall footing excavation.
Potential health effects to workers and possibly the public if a gas recovery pipeline is damaged during construction.	Option 1A and 1B: Landfill gas recovery pipelines and wells may conflict locally. Greater potential conflict in Option 1A than in Option 1B.	<i>Slightly Greater.</i> More landfill tie-ins in the vicinity of gas recovery pipelines, increasing potential for conflicts.	<i>Similar.</i> No additional gas recovery facility conflicts.	<i>Similar.</i> No additional gas recovery facility conflicts.	<i>Similar.</i> No additional gas recovery facility conflicts.	<i>No Direct Impact.</i> No gas recovery facility conflicts.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Noise and Vibration						
Disturbance of sensitive receptors by construction noise.	Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.	<i>Similar.</i> Construction activities near sensitive receptors would be basically identical to the proposed Project.	<i>Slightly Reduced.</i> Construction noise impacts similar to the proposed Project. However, a portion of the floodwall would be built further from residences along N. Ventura Road.	<i>Slightly Greater.</i> Construction noise similar to the proposed Project, but the El Rio Drain floodwall would involve construction near additional residences.	<i>Slightly Greater.</i> Construction noise similar to the proposed Project, but lining the UPRR embankment would involve construction near additional residences.	<i>No Direct Impact.</i> No construction noise would be generated.
Disturbance of sensitive receptors by O&M-related noise.	O&M activities could result in increased noise levels affecting sensitive noise receptors.	<i>Similar.</i> O&M activities very similar to the proposed Project, producing similar noise impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar noise impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar noise impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar noise impacts.	<i>No Direct Impact.</i> No additional O&M-related noise would occur.
Affect nearby buildings from construction-related vibration.	Project construction would not result in vibration levels that could cause structural damage.	<i>Similar.</i> Construction activities near sensitive receptors would be basically identical to the proposed Project.	<i>Similar.</i> Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	<i>Similar.</i> Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	<i>Similar.</i> Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	<i>No Direct Impact.</i> No construction vibration would be generated.
Annoyance of nearby residents caused by construction-related vibration.	Project construction could result in vibration levels that are annoying to nearby residents.	<i>Similar.</i> Construction activities near sensitive receptors would be basically identical to the proposed Project.	<i>Slightly Reduced.</i> Construction vibration effects similar to the proposed Project. However, a portion of the floodwall would be constructed further from residences along N. Ventura Road.	<i>Slightly Greater.</i> Construction vibration effects similar to the proposed Project, but the El Rio Drain floodwall would involve construction near additional residences.	<i>Slightly Greater.</i> Construction vibration similar to the proposed Project, but lining the UPRR embankment would involve construction near additional residences.	<i>No Direct Impact.</i> No construction vibration would be generated.
Vibration caused by O&M activities.	O&M activities would result in temporary minor increases in local vibration levels.	<i>Similar.</i> O&M activities very similar to the proposed Project, producing similar vibration impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar vibration impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar vibration impacts.	<i>Similar.</i> O&M activities similar to the proposed Project, producing similar vibration impacts.	<i>No Direct Impact.</i> No additional O&M-related vibration would occur.

4.
Alternatives

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Transportation and Circulation						
Effects on ICU values and LOS at area intersections during construction.	The Project would have an adverse impact on ICU values and LOS at study area intersections.	<i>Similar.</i> Adverse, but not significant impact on ICU values and LOS at area intersections.	<i>Slightly Greater.</i> Greater effect on ICU values and LOS at intersections due to additional construction of the longer and taller floodwall.	<i>Slightly Greater.</i> Greater effect on ICU values and LOS at intersections due to construction of the El Rio Drain floodwall.	<i>Slightly Greater.</i> Greater effect on ICU values and intersection LOS due to lining of the UPRR embankment.	<i>No Direct Impact.</i> No change in ICU values or LOS.
Construction traffic effects on volume/capacity ratios and LOS on area roadway segments.	Two segments of US Highway 101 would be significantly affected by construction traffic. Mitigation would reduce impacts to a less-than-significant level.	<i>Similar.</i> The same roadway segments would be affected by a similar amount of construction traffic.	<i>Slightly Greater.</i> The same roadway segments would be affected by an increased amount of construction trips for construction of the longer and taller floodwall.	<i>Slightly Greater.</i> The same roadway segments would be affected by an increased amount of construction trips for construction of the El Rio Drain floodwall.	<i>Slightly Greater.</i> The same roadway segments would be affected by an increased amount of construction trips for lining of the UPRR embankment.	<i>No Direct Impact.</i> No change V/C ratios and LOS on area roadway segments.
Physical disruptions to traffic flow on adjacent roadways during construction.	Physical disruptions to traffic flow would occur on roadways adjacent to the construction zones, including temporary roadway and lane closures.	<i>Similar.</i> Temporary disruptions to traffic during construction would be very similar to the proposed Project.	<i>Slightly Greater.</i> Disruptions would persist for a longer period due to the extended construction schedule for the longer and taller floodwall.	<i>Slightly Greater.</i> Disruptions would persist for a longer period due to the extended construction schedule for the El Rio Drain floodwall.	<i>Slightly Greater.</i> Disruptions would persist for a longer period due to the extended construction schedule for the UPRR embankment lining.	<i>No Direct Impact.</i> No construction-related disruptions to traffic flow would occur.
Temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.	Construction traffic entering and exiting Ventura Road and Victoria Avenue via the staging area access roads and other access routes would temporarily affect traffic operations and safety.	<i>Similar.</i> Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	<i>Similar.</i> Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	<i>Similar.</i> Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	<i>Similar.</i> Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	<i>No Direct Impact.</i> No traffic effects related to construction vehicles entering and exiting the construction area.
Increase in site-generated traffic volumes for O&M.	Minor periodic trips generated for inspections and repairs.	<i>Similar.</i> O&M traffic would be very similar to the proposed Project.	<i>Similar.</i> O&M traffic would be very similar to the proposed Project.	<i>Similar.</i> O&M traffic would be very similar to the proposed Project.	<i>Similar.</i> O&M traffic would be very similar to the proposed Project.	<i>No Direct Impact.</i> No additional traffic related to O&M.

Periodic closure of Ventura Road due to flooding.	The Project would have a beneficial impact relative to roadway flooding, as the western portion of N. Ventura Road would be protected.	<i>Similar.</i> Beneficial impact relative to roadway flooding, as a greater portion of the levee access road would be raised.	<i>Similar.</i> Beneficial impact relative to roadway flooding, as a larger portion of N. Ventura Road would be protected.	<i>Same.</i> Identical beneficial impact relative to roadway flooding of N. Ventura Road.	<i>Same.</i> Identical beneficial impact relative to roadway flooding of N. Ventura Road.	<i>No Direct Impact.</i> The potential for road closure due to flooding would remain unchanged; the easternmost portion of N. Ventura Road would continue to flood.
Utilities						
Accidental damage to buried utilities resulting in service disruption.	Coordination with utility service providers during construction would ensure proper relocation and protection of utility lines.	<i>Slightly Greater.</i> More landfill tie-ins in the vicinity of gas recovery pipelines, increasing potential for disruptions.	<i>Similar.</i> Same relocation of utilities as the proposed Project but in a different location along N. Ventura Road.	<i>Same.</i> Same relocation of utilities as the proposed Project.	<i>Same.</i> Same relocation of utilities as the proposed Project.	<i>No Direct Impact.</i> Relocation of the utility lines beneath N. Ventura Road would not occur.
Flood Control and Drainage						
Potential to increase base flood elevation.	Increase in the base flood elevation (0.07 foot) for areas across from or downstream of the proposed levee improvements.	<i>Similar.</i> Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	<i>Similar.</i> Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	<i>Similar.</i> Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	<i>Similar.</i> Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	<i>No Direct Impact.</i> The existing flood hazard in the area would persist.
Flood protection	Protects residences along Reaches 1-3; however the northeast portion of Ventura Road would experience flooding during a flood event.	<i>Greater.</i> More of the levee access road would be raised allowing for access during flood events compared to Option 1B, but less than Option 1A.	<i>Greater.</i> Longer river side floodwall would provide greater flood protection to N. Ventura Road.	<i>Greater.</i> Floodwall up the El Rio Drain would provide full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed.	<i>Greater.</i> Lining the slope on the northeast side of the UPRR embankment and parallel to the El Rio Drain would provide full flood protection downstream of the UPRR bridge in the event Wagon Wheel improvements do not occur.	<i>Less.</i> No additional flood protection would be provided. Approximately 3,800 structures would be subject to flooding.