

CALIFORNIA COASTAL COMMISSION

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 original staff report

W17a

ADDENDUM

DATE: June 6, 2016

TO: Commissioners & Interested Parties

FROM: South Coast District Staff

SUBJECT: Addendum to Item W17a: Coastal Development Permit Amendment No. 5-15-1670-A1 (SOCWA & OC Parks), scheduled for the Commission Meeting of Wednesday, June 8, 2016.

I. CO-APPLICANT ADDITION

The attached letter from Orange County Parks requesting to be co-applicant on coastal development permit amendment application 5-15-1670-A1 (SOCWA) was received in the South Coast District office on Thursday 5/26/16, after the staff report had been finalized. Pursuant to the request of Orange County Parks, property owner of the subject site, Orange County Parks is now a co-applicant on the subject permit amendment request. Consequently, staff recommends the following correction be made to the staff report on page 1:

(deletions shown in ~~strike through~~; additions shown in ***bold, italic, underline***):

Applicant: South Orange County Wastewater Authority (SOCWA)
 Brian Peck, Director of Engineering

Orange County Parks
Stacy Blackwood, Director
Scott Thomas, Planning & Design Manager

And in the findings, on page 14, in the third paragraph under the heading "Project Location,":

The entirety of the proposed project, including the pipeline replacement, creek bank stabilization, and mitigation, falls within Aliso and Wood Canyons Wilderness Park (AWCWP). AWCWP is owned by the County of Orange and managed by Orange County Parks. The County is aware of the proposed project, ~~but has declined to be a~~ ***and has joined in the application as*** co-applicant.

II. SPECIAL CONDITIONS CLARIFICATION

As the underlying property owner, and co-applicant in the project, Orange County Parks (OC Parks) has requested modifications to the special conditions in order to assure that OC Parks is able to review,

provide input on, and approve/modify, any changes to the project pursuant to the recommended special conditions, and/or any project changes that are required to be submitted to the Executive Director of the Coastal Commission, including changes required by other permitting agencies. OC Parks requests that all plans, reports and surveys prepared for the proposed project in compliance with the special conditions, be submitted to the Director, OC Parks, in addition to the Executive Director of the Coastal Commission. These plans, reports and surveys include, but are not necessarily limited to: the written plan for maintenance of the access roads free of impediments to public access required pursuant to Special Condition No. 17, the required revisions to the Habitat Mitigation and Monitoring Plan (HMMP) and subsequent monitoring plans required pursuant to Special Condition No. 18, the bird surveys required pursuant to Special Condition No. 19, and, the revisions to the Construction Monitoring Treatment Plan (CMTP) and related and subsequent plans required pursuant to Special Condition No. 22. OC Parks has also requested that “*any cultural or paleontological artifacts not left in place or provided to appropriate Native American entities be offered to the County of Orange (as first right of refusal), and that costs associated with proper curation of artifacts be paid by the applicant to OC Parks, consistent with the County of Orange cost-recovery fee schedule for the cultural and paleontological resource curation program.*” This request may be reflected in the revised Construction Monitoring and Treatment Plan, required pursuant to Special Condition No. 22.

As co-applicant in the project, OC Parks automatically has the ability to establish the requested input. In order to emphasize this, staff recommends that the following language be added to the staff report on page 4, following the second paragraph under the heading “II. Special Conditions” (additions shown in ***bold, italic, underline***):

II. SPECIAL CONDITIONS

This permit amendment is granted subject to the following special conditions:

Note: All special conditions of the original Coastal Development Permit **P-78-4365** (which is being amended under the amendment number 5-15-1670-A1) remain applicable. CDP P-78-4365 includes sixteen (16) special conditions, all of which remain in effect. The special conditions of this amendment are in addition to the original 16 special conditions and so are numbered accordingly, beginning with Special Condition No. 17.

All plans, reports and surveys prepared for the proposed project in compliance with the special conditions, shall be submitted to the Director, Orange County Parks (OC Parks) for review and approval, prior to submittal to the Executive Director of the Coastal Commission. These plans, reports and surveys include, but are not necessarily limited to: the written plan for maintenance of the access roads free of impediments to public access required pursuant to Special Condition No. 17, the required revisions to the Habitat Mitigation and Monitoring Plan (HMMP) and subsequent monitoring plans required pursuant to Special Condition No. 18, the bird surveys required pursuant to Special Condition No. 19, and, the revisions to the Construction Monitoring Treatment Plan (CMTP) and related and/or subsequent plans required pursuant to Special Condition No. 22. Likewise, any changes to the proposed project required by other permitting agencies, shall be submitted for review and approval to the Director OC Parks prior to submittal to the Executive Director of the Coastal Commission.

III. STAFF RECOMMENDED CHANGES TO FINDINGS

Staff recommends that the following changes be made to the findings, in the first paragraph on page 20 and in the first paragraph under the heading “Revised Mitigation Plan Required” on page 21 (deletions shown in ~~strike through~~; additions shown in ***bold, italic, underline***):

Page 20:

Areas of habitat impact are depicted on Exhibit 3. Of the impacts identified above, the 1.1 acres of impact to developed, ruderal, and ornamental area do not constitute impacts that require mitigation. ***In addition, the 3.67 acres of “disturbed habitat” are comprised of the unpaved maintenance road, and would more correctly be described as “disturbed land” as no habitat is present within this roadway. Therefore, mitigation of any impacts to this 3.67 acre area is not required.*** Therefore, of the 12.48 acres of impact identified, ~~1.1~~ ***4.77*** acres do not require mitigation, leaving a total of ~~11.38~~ ***7.71*** acres of impact that do require mitigation. The Commission has typically required a mitigation ratio of 3:1 (mitigation:impact) for upland habitats and 4:1 for riparian/wetland habitat communities. However, mitigation is proposed at only a 1:1 ratio.

...

Page 21:

As proposed, the *Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project*, prepared by Dudek, dated August 2015 (HMMP) is not adequate. As described above, the proposed mitigation ratio is insufficient to assure that adverse habitat impacts will indeed be offset. The revised HMMP must provide increased mitigation ratios of 3:1 (mitigation to impact) for all upland impacts, and 4:1 (mitigation to impact) for all wetland/riparian impacts. Thus, based on the information contained in the proposed HMMP, there are 0.0604 acre of riparian/wetland habitat impacted by the pipeline alignment, which requires mitigation at a ratio of 4:1; and 6.11 acres of natural uplands, ~~and 3.67 acres of disturbed habitat~~ which require mitigation at a ratio of 3:1. This increased ratio is appropriate for the reasons described above and because the temporal loss is large when trees are impacted, as is the case with the proposed project’s impacts to southern cottonwood willow riparian forest habitat. This requirement for increased mitigation area can be accommodated within the surrounding ruderal and disturbed vegetation and arundo dominated riparian along Aliso Creek (as mapped in the Biological Technical Report, prepared by Dudek, dated October 2012; Fig. 3), and if necessary, by expanding the mitigation area proposed in Wood Canyon.

This change is recommended in order to more accurately reflect the habitat types that require mitigation. The unpaved access road is a dirt road used to maintain the three existing pipelines. Upon project completion, the unpaved access road will continue to provide maintenance access to the pipelines. The unpaved maintenance road does not constitute sensitive habitat area, and so impacts to the unpaved road need not be mitigated. This point was brought to staff’s attention in the attached letter from the applicant, SOCWA, dated 6/3/16.

IV. CORRESPONDENCE RECEIVED

Correspondence regarding the proposed project has been received from SOCWA (the applicant) and from the public: the South Laguna Civic Association, the Sierra Club, Village Laguna and Jinger Wallace. All these letters are attached hereto. Except for one issue related to noticing, the letters from Village Laguna

and Jinger Wallace raise substantially the same issues raised in the letters from the South Laguna Civic Association and the Sierra Club. The letter from Village Laguna asserts that no public hearing notice was received, even though they had commented on the EIR and are stakeholders in the project. However, Village Laguna was included on the mailing list and the notice was sent to the address on the Village Laguna letter.

The letter from SOCWA supports the staff recommendation and requests the clarification discussed in Section III above.

On page 11 of the staff report, add the following under new heading “III. RESPONSE TO COMMENTS”:

The letter from the South Laguna Civic Association (SLCA) raises issues with the proposed project and with the presence of SOCWA facilities within Aliso Canyon generally. More specifically, the letter provides, on page 3, a numbered list of recommendations, which are discussed (see SLCA 1 through 7) further below. In addition, the SLCA letter states that the staff report contains discrepancies with regard to: 1) the Coastal Treatment Plant (CTP) being owned by the South Coast County Water District, which the letter asserts is an entity that does not exist; 2) an under-reporting of the sewage and hence sludge volumes serviced by the CTP; and, 3) asserts that Aliso Creek is not a “blue line stream.” With regard to the South Coast County Water District and the volume of sewage/sludge: these references in the staff report describe, on pages 1 and 14, 15, the project that was reviewed and approved by the Commission in 1978. The language is taken from the approved Coastal Development Permit for the original project, P-78-4365 which is attached as Exhibit 6 to the staff report. The staff report correctly characterizes, on page 14, the current applicant as SOCWA and describes SOCWA as a “Joint Powers Authority (JPA) with ten member agencies, consisting of local retail water agencies and cities that provide water to their residents.” With regard to the question of whether Aliso Creek is a “blue line stream,” if a stream appears on the U.S.G.S. Quadrangle Map as a blue line stream, then it is considered a blue line stream. In this case, Aliso Creek appears on the San Juan Capistrano USGS Quadrangle map as a blue line stream.

The final EIR prepared for the proposed project, dated March 2013 (SCH# 2011051010), including an addendum to the final EIR to address the creek bank stabilization dated January 2015, includes an alternatives analysis at Section 8 of the EIR. The EIR alternatives analysis and the applicants response is hereby incorporated by reference. The EIR considered a number of alternatives, including: different locations for the new force main pipeline; relining the existing pipeline; trucking the liquid sludge rather than continuing to transport it via pipeline; construction of solids handling at the CTP; and, eliminating the CTP.

Of the alternate locations for the proposed pipeline replacement, the proposed alignment results in fewest impacts to habitat and cultural resources. The relining of the entire existing pipeline alternative is problematic due to the existing pipelines’ diameter of 4 inches. Lining these pipes would reduce the diameter to 3 inches resulting in reduced capacity to convey sludge. Elimination of the CTP would require pumping of raw wastewater currently treated at the CTP to another, existing treatment plant. This would require expansion of other existing treatment plants, and was rejected because it would result in greater environmental impacts due to the need to expand the ocean outfall and/or existing treatment plants. In addition, the estimated cost would approach \$100 million, which is cost prohibitive, compared with the proposed project that is estimated in the 2013 EIR to cost \$4 million. In addition, the elimination of the CTP alternative would require an estimated 5 to 10 years to design, permit, fund and construct. This alternative would not address the current need to replace the aging pipeline to prevent pipeline

failure within sensitive Aliso Canyon. The no project alternative also would not address the current state of the pipeline as needed to prevent pipeline failure.

Under the first of two of liquid sludge trucking alternatives, the trucks would need to cross the AWMA road bridge (which is north of the subject project and outside the coastal zone). The bridge is not constructed to support multiple daily trips of fully loaded (80,000 pounds) sludge transport trucks and so this alternative requires rebuilding of the bridge. Riparian and wetland impacts due to bridge reconstruction would be greater under this alternative. In addition, daily weekday trips would have negative impacts on public views within the park and would adversely impact the public recreational experience within the park. Another trucking alternative considered involves a different route that would not require bridge replacement. However, this route passes an elementary school, which would limit truck trips to after school hours, mostly at night. This alternative would increase risks to wildlife and the potential for spills due to nighttime trucking activity. Both trucking alternatives would increase noise impacts to sensitive receptors, including habitat. For all these reasons, the trucking alternatives were rejected.

Under another alternative called the solids handling at the CTP alternative, solids handling facilities would be constructed at the CTP such that the existing export sludge handling system (pipeline) could be abandoned. This alternative would require construction of a new, approximately 40-foot-tall building at the CTP site. This option would have adverse visual impacts within the wilderness park. Although this alternative would have reduced impacts in some areas, it would have greater impacts in others including aesthetics, air quality, greenhouse gas emissions, and noise. This alternative is also cost prohibitive in that it is estimated it would cost \$17 million, rather than the proposed project's \$4 million. Furthermore, this alternative would not address the current need to replace the aging pipeline to prevent pipeline failure within sensitive Aliso Canyon.

The Commission's response (below) to the SLC Association's numbered list is numbered according to the list on page 3 of the South Laguna Civic Association (SLC) letter:

SLCA 1. Recommends recalculating project impacts based upon construction impacts and sludge line pumping energy requirements over the 30 year project life.

The proposed project would replace a significantly deteriorated sludge pipeline which may fail if not addressed. Failure of the pipeline within the canyon could have devastating impacts on the resources within the Aliso and Wood Canyon Wilderness Park. Thus, while this project may not be the most energy efficient project, it is the project alternative, on the whole, that will substantially lessen a significant adverse impact on the environment because the project that the South Laguna Civic Association proposes will require significant time to design, entitle and build, during which time the existing deteriorating pipeline will likely fail at points along its run resulting in untreated waste flowing into the riparian and upland habitat and causing significant deterioration and destruction of that habitat.

SLCA 2. Recommends eliminating "artificial armoring of Aliso Creek with imported boulders and rock groins."

In addition to the subject sludge force main pipeline, two other pipelines exist in the general project alignment, an effluent transmission pipeline and a gravity sewer line. All three pipelines are currently at risk of being exposed due to creek bank erosion. Erosion analyses were conducted by SOCWA to identify the area of the creek bank at highest risk from erosion. The proposed stabilization is limited to the specific area identified as being at highest risk - 300 feet along the creek bank, not all of which would be occupied by armoring. Rather, the 300 feet length includes gaps between each of the groins and the rock slope protection, totaling approximately 130 feet of the 300 foot length, without armoring. Impacts due to the

creek bank stabilization have been limited to 7000 square feet of riparian and 31 square feet of wetland impacts. The protection proposed is intended as the least necessary to address the area of highest erosion risk. The no bank protection alternative was dismissed due to the need to protect existing and proposed critical infrastructure (including existing access road and pipelines) and to protect health and safety by preventing pipeline failure, which could have devastating impacts on the resources within the Aliso and Wood Canyon Wilderness Park.

SLCA 3. Recommends identifying and evaluating alternative pipeline routes along existing urbanized street and highway corridors.

The Coastal Treatment Plant is not located adjacent to existing urbanized streets or highways. Any pipeline alignment would necessarily pass through significant habitat areas. The pipeline is aligned, as much as possible, within the existing unpaved maintenance road, and is the project alternative that will substantially lessen the project's impact on surrounding habitat.

SLCA 4. Recommends redesigning the Coastal Treatment Plant either: so that the sludge could be converted on-site to biogas and used for fuel cell energy; or, to allow dewatering the sludge on-site to create bio bricks which could be used for fertilizer or soil amendment, with weekly truck removal of bio bricks.

Redesigning the Coastal Treatment Plant is beyond the scope of the proposed project. While redesign and/or relocation of the treatment plant to an area outside of the wilderness park may be a laudable goal, the amount of time necessary to design, fund, entitle and construct such alternatives likely exceeds the expected lifetime of the existing pipeline, which needs urgent replacement to avoid future ruptures and spills. Thus, the proposed project is the project alternative, on the whole, that will substantially lessen a significant adverse impact on the environment by immediately preventing the likely failure of the existing pipeline that would cause significant deterioration and/or destruction of surrounding habitat.

SLCA 5. Recommends mandating dry weather urban runoff flow diversions originating from over-irrigation at known point sources and storm drain outlets to inland sewage treatment plants.

The Commission addresses urban run-off through policies in local coastal programs and through individual permit actions. In this instance the recommended action exceeds the scope of both the subject LCPs and the subject permit amendment application. This is a watershed-wide issue that would require the involvement of numerous local governments, most of which are located outside the coastal zone. This may more appropriately be under the purview of the Regional Water Quality Control Board.

SLCA 6. Recommends partnering with local groups and schools to replant native trees at all SOCWA facilities and surrounding hillside to improve watershed integrity and reduce erosion impacts to Aliso Creek.

The required revised Habitat Mitigation and Monitoring Plan will include the planting of cottonwood, willow, and sycamore trees. Inclusion of all SOCWA facilities goes beyond the scope of the proposed project and exceeds what is necessary to address the impacts caused by the proposal.

SLCA 7. Recommends doubling recycled water production and use in the Coastal Treatment Plant and all SOCWA service areas to reduce ocean pollution from treated sewage discharged into the ocean by the effluent transmission main and the ocean outfall.

Wherever feasible the applicant should be implementing methods to reduce the amount of sewage discharged to the ocean. However, the expansion of water processing facilities is not within the scope of the project, nor is there any work proposed upon the effluent transmission main and the ocean outfall. No changes to the Coastal Treatment Plant are proposed. This recommendation is beyond the scope of this project.

SLCA 8. Recommends co-sponsoring funding and staff in partnership with the California Coastal Conservancy for the Aliso Creek Estuary Restoration Project as mitigation for cumulative SOCWA impacts to the watershed.

Mitigation of impacts due to the proposed project is included in the staff recommendation. The recommendation above is beyond the purview of the proposed project.

The letter from the Sierra Club includes as an attachment the Sierra Club's 2013 comments on the proposed project's 2013 EIR. Both letters are attached hereto. The Sierra Club letter provides background on the group's involvement with the proposed project going back many years, questions the wisdom of the past choice of putting the treatment plant in a wilderness park and the pipelines in the creek, and identifies measures recommended to improve the project (bulleted list beginning on page 2 of the letter). Below is a summary of the bullet points and response to them. Also, it should be noted that the Coastal Treatment Plant was constructed prior to the surrounding area becoming a wilderness park and that the existing and proposed pipelines, although within Aliso Canyon, are not located within Aliso Creek. Below is a summary of the Sierra Club comments (numbers correspond to the order of the bulleted comments), followed by response.

SC 1. The public access plan should be reviewed by OC Parks staff and should assure protection of habitat. Also, the letter raises concerns regarding future trail connection downstream of the AWCWP and use of the trail by the resort located there ("the Ranch" resort).

As described in Section II (Special Conditions), OC Parks staff will have the ability to review and approve the access plan required pursuant to Special Condition No. 18. As described in the findings, it is important to strike the right balance between public use of the public park and protection of habitat. However, the "Ranch" resort's use of the wilderness park is beyond the purview of this project.

SC 2. The required mitigation for all habitat impacts must be 4:1 rather than allowing some mitigation at a 3:1 ratio. Impacts beyond those identified by SOCWA are likely. The mitigation proposed by the applicant is insufficient. The monitoring timeframe must be increased to ensure mitigation restoration success.

The mitigation ratios recommended in the findings are consistent with those typically imposed by the Commission, including in similar circumstances. The findings require an expansion to the quantity of mitigation. Monitoring is required for at least 5 years from the date of installation or until success criteria are met, whichever is longer, per Special Condition No. 18.A.10.

SC 3. The applicant should provide a list of BMPs to be implemented to avoid recruitment/spread of invasive, non-native species. This list must be monitored for compliance.

This will be evaluated as part of review of the revised HMMP (Habitat Mitigation & Monitoring Plan) required by Special Condition 18.

SC 4. The mitigation success criteria should be reviewed by staff of OC Parks, and preferably by a biologist from the environmental community. This also applies to required bird surveys.

As described in Section II (Special Conditions), OC Parks staff will have the ability to review and approve the required, revised Habitat Mitigation and Monitoring Plan and related reports. Input from a third party biologist is not precluded.

SC 5. Inadvertent disturbance to habitat will occur. The project footprint and its impacts have been underestimated. Habitat protection measures should be monitored by OC Parks staff.

As described in Section II (Special Conditions), OC Parks staff will have the ability monitor habitat protection measures.

SC 6. Damming the creek will not solve the erosion problem. Urban runoff from upstream cities must be addressed.

Damming of the creek is not proposed. The creek bank stabilization will occur on the east bank of the creek, which allows continued stream flow. The control of urban runoff from upstream cities is beyond the purview of the proposed project and almost entirely outside the coastal zone.

SC 7. California Cultural Resource Preservation Alliance has worked closely on the potential archaeological impacts of the project. Their input should be maintained and respected.

Noted.



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June 3, 2016

VIA EMAIL

Meg Vaughn, Coastal Program Analyst
California Coastal Commission
200 OceanGate, 10th Floor
Long Beach, CA 90802-4416

Regarding: Item W17a - CDP Application No. 5-15-1670-A1 South Orange County Wastewater Authority (SOCWA)

Hearing Date: June 8, 2016

Dear Ms. Vaughn,

The South Orange County Wastewater Authority (SOCWA) would like to thank you for your time and consideration of this important public health and safety project. This project is an essential public infrastructure improvement project to replace an existing 35 year old deteriorating iron sludge force main with a new pipeline in order to ensure reliability and prevent failures that could adversely impact the adjacent Aliso Creek and the Aliso and Woods Canyons Wilderness Park (Park). SOCWA has worked diligently for many years to site and design the pipeline to avoid and minimize impacts within the Park and ensure the protection coastal resources, including sensitive biological and archaeological resources. We are writing in support of the staff report and recommendation of approval with special conditions. We very much appreciate the time Commission Staff has taken to conduct a comprehensive analysis of the project.

We would like to provide one clarification regarding proposed biological impacts related to disturbed habitat. The staff report findings (pg. 21) state that there are "3.67 acres of disturbed habitat which require mitigation at a ratio of 3:1." We would like to clarify that "disturbed habitat" is a misnomer and is meant to refer to "disturbed land" that does not consist of habitat requiring mitigation. Table 1 in the Habitat Mitigation and Monitoring Plan (HMMP), dated August 2015, separates non-natural land covers into four categories: developed land (i.e., man-made structural development), ruderal, ornamental, and disturbed habitat. The definitions for the impacted non-natural land cover in each of these four categories was not included in the HMMP; however, a detailed description of each category was included in Sections 5.1.16 to 5.1.19 of the Biological Resources Technical Report (BTR), dated October 2012. According to Section 5.1.17 of the BTR, "disturbed land" is described as:

...[A]reas that experience or have experienced high levels of human disturbance and as a result are generally lacking vegetation. Areas mapped as disturbed land may include unpaved roads,

June 3, 2016

Page 2

trails, and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species. Within the study area, disturbed land includes trails and bare, open areas with less than 20% vegetative cover.

The term "disturbed habitat" was used because it is a common standard characterization as described by Holland (1986) in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* and in the *Draft Vegetation Communities of San Diego County* manual by Oberbauer, T., M. Kelly, and J. Buegge (2008). Additionally, "disturbed habitat" is depicted on Figure 5 (Biological Resources Constraints Map) and is shown as the existing dirt road along the pipeline route. Therefore, the 3.67 acres of impacts to "disturbed habitat" outlined in the staff report as requiring mitigation at a 3:1 ratio does not consist of habitat. Rather, the area consists of an existing dirt roadway developed during construction of the original project and is used as a maintenance roadway; therefore, mitigation of impacts to that area would not be necessary.

We would also like to note our acceptance of Special Condition 17 regarding public access through the Aliso and Wood Canyons Wilderness Park. We understand the goal defined in that Special Condition. The condition sets forth the need to develop a plan and schedule to remove the noted impediments to public access along the specified routes. It is our intent to work with OC Parks to develop the plan within the required 180 days. It is important that the developed plan is able to meet three criteria:

- provide public access as set forth in the Special Condition 17 and discussed in the Staff Report;
- maximize safety on an existing road system that would be jointly used by utility vehicles and park users;
- and conform to OC Parks requirements and planning regarding park utilization.

We thank the Commission and Staff again for your time and consideration and we support the Staff Recommendation of approval with special conditions.

Sincerely,



Amber Geraghty
Environmental/Coastal Planner

Cc: Brian Peck, South Orange County Wastewater Authority
Mike Metts, Dudek

CALIFORNIA COASTAL COMMISSION
South Coast Area Office
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June 3, 2016

Re: 5-15-1670-A1 Applicant: South Orange County Wastewater Authority (SOCWA)
Brian Peck, Director of Engineering

The proposed Sludge Force Main Project uses old technologies to further damage the Aliso and Woods Canyon Wilderness Park. The project will armor and channelize a meandering creek with tons of imported boulders to protect infrastructure while degrading the Aliso Estuary and protected coastal receiving waters.

The Aliso Beach Wetlands at the terminus of Aliso Creek is a designated US Fish and Wildlife Service (USFWS) Tidewater Gobi Recovery Site and historic Southern Steelhead Trout area necessary for juvenile smoltification – a summer long process whereby inland fish evolve from freshwater habitat to adult life in the open ocean.

The community of South Laguna is the primary stakeholder most impacted by a history of failed projects in the Aliso Watershed. Scores of inland developments with Conditions of Approval indicating they would have no impact to Aliso Creek and protected coastal wetlands, tidepools and kelp forests have been persistently violated to degrade Aliso Creek and the subject project area. Environmental progress and full restoration cannot advance utilizing out of date sewage management protocols that turn wilderness creeks into sewage pipelines and armored flood control channels.

A number of discrepancies are included in the Staff Report. The application incorrectly lists the Coastal Treatment Plant (CTP) as a facility owned by the South Coast County Water District (SCCWD). No such agency exists. The CTP is jointly owned by South Coast Water District (SCWD), Moulton Niguel Water District (MNWD) and Laguna Beach County Water District (LBCWD) and operated by South Orange County Wastewater Authority (SOCWA).

The application under-reports the amount of sewage and hence sludge volumes. The CTP services wastewater from 24,000 Laguna Beach residents and about 5,000 citizens from northern Dana Point along with 6 million annual visitors. The CTP not only serves local residents, it is a regional and even global facility with significant impacts not considered in the application nor afforded proper mitigation measures.

“Aliso Creek, a blue line stream, is located near the pipeline alignment. Creek bank stabilization is proposed to protect existing pipelines as well as the proposed pipeline. The proposed project will have impacts on sensitive habitat and a Habitat Mitigation and Monitoring Plan is proposed.” Staff Report.

Historically, Aliso Creek was an intermittent water body, with low flows throughout the long summer season ponding at a coastal wetland estuary. With intensive ranching, native trees and creek vegetation were removed to foster permanent drought conditions and a dry creek. Inland residential developments presently over-irrigate with “nutrient rich” recycled water to create year round flows averaging 1 to 5 million gallons per day of contaminated urban runoff to the Laguna Beach State Marine Conservation Area. Increased flows and persistent year round erosion expose and damage creek pipeline infrastructure requiring costly repairs and on-going armoring of the native creek. The proposed project will simply continue past failed practices yielding more expensive future repairs. Aliso Creek is not a “blue line stream”.

Sewage infrastructure is incompatible with a creek wilderness habitat and should be relocated to urbanized roadways typical in other coastal communities.

The Habitat Mitigation & Monitoring Plan (HMMP) under estimates project impacts. Heavy construction traffic and equipment will require damaging large Environmentally Sensitive Habitat Areas (ESHA) for staging, soil perching, equipment maneuvering and traffic. The application only accounts for the actual pipeline trench and not associated areas required for construction activities. Approximately 300 truckloads of sand and boulders are required to place over 3,000 cubic yards of new imported material into the creek bed and banks.

From the Staff Report: “The proposed pipeline replacement project includes the import of approximately 2,450 cubic yards of clean sand to be used for the bedding zone of the pipeline”, “proposed creek bank stabilization consists of placement of approximately 448 cubic yards of 18” rock” and “In addition, three rock groins (approximately 20 feet by 5 feet) of 24” to 36” rock, 108 cubic yards in total, are proposed to redirect flows away from the bank and to allow sediment capture upstream of the groins. The creek bank stabilization is proposed to protect both existing pipelines (an effluent transmission pipeline and a gravity sewer pipeline), as well as the proposed replacement pipeline.”

Proposed rock groins will block creek flows and prevent fish migration to inland spawning sites.

As a piecemeal project, the installation of a new Sludge Force Main pipeline is likely incompatible with the \$50 million 2005 SUPER Project proposed by the US Army Corp of Engineers seeking a comprehensive restoration of the Aliso Watershed. Future USCOE activities will require additional pipeline realignments to accommodate regrading creek banks for multiple drop structures aimed at reducing erosion of SOCWA regional sewage pipelines.

The proposed project requires a comprehensive Alternative Analysis to process sludge at the Coastal Treatment Plant as biogas for fuel cell energy. Sewage sludge is a valuable natural source of renewable on-site energy. The Orange County Sanitation District (OCS D) has harvested on-site biogas to supply fuel cell power for filtering 70 million gallons of sewage

water per day to high purity standards for over ten years. The proposed project will instead waste significant energy pumping sewage sludge, which is 90% water, against gravity for 5 miles throughout the 30 year project lifecycle. Overall project energy requirements for construction and operation of public works projects are necessary mandates of the Laguna Beach Climate Protection Plan.

Recommended Actions

1. Recalculate all habitat impacts for construction activities and sludge line pumping energy requirements over the 30 year project lifecycle in determining sufficient mitigation measures.
2. Eliminate artificial armoring of Aliso Creek with imported boulders and rock groins.
3. Identify and evaluate alternative pipeline routes along existing urbanized street and highway corridors consistent with other coastal cities such as Newport Beach and Dana Point.
4. Redesign the Coastal Treatment Plant for on-site sludge use as biogas for fuel cell energy in partnership with UC Irvine's National Fuel Cell Research Center. Consider dewatering sludge for weekly truck removal as "bio-bricks" and potential fertilizer or soil amendment.
5. Mandate dry weather urban runoff flow diversions originating from over-irrigation at known point sources and storm drain outlets to inland SOCWA sewage treatment plants.
6. Partner with local groups and schools to replant native trees at all SOCWA facilities and surrounding hillsides to improve watershed integrity and reduce erosion impacts to Aliso Creek.
7. Double recycled water production and use in the CTP and all SOCWA service areas to reduce ocean pollution from 10 million gallons per day of SOCWA secondary sewage discharged by the Effluent Transmission Main and Aliso Creek Ocean Outfall just 1.2 miles offshore.
8. Co-sponsor funding and staff in partnership with the California Coastal Conservancy for the Aliso Creek Estuary Restoration Project as mitigation for cumulative SOCWA impacts to the watershed.

The management of sewage infrastructure is critical to the long term health of creek and coastal resources. Modern tools, techniques and strategies can eliminate negative impacts while advancing sustainable practices aimed at new energy production from wasted wastewater.

The community of South Laguna has benefited from previous partnerships with SCWD and SOCWA to dramatically improve and expand recycled water. A community initiated \$2.3 million SCWD project, the "Aliso Creek Runoff Recovery and Reuse Project", uses reverse osmosis technology to polish 800,000 gallons of secondary sewage water or urban runoff daily to

industrial high purity standards for blending with district recycled water supplies. As a result, the Aliso Golf Course at The Ranch in Laguna Beach gained a 90% reduction in imported water last summer during the prolonged drought.

The talented staff and engineers at SCWD and SOCWA are capable of developing modern methods for sewage and sludge management if given adequate guidance from agencies like the California Coastal Commission. Resorting to past energy intensive sludge and sewage processing, as proposed, will make improving creek, coastal and ocean resource protection a much more difficult task in the future years to come.

Thank you for reviewing comments and recommended actions in improving the health and well-being of Aliso Creek with modern, sensible wastewater systems as a model for other California watersheds and coastal resources.

Michael Beanan
2nd Vice President
South Laguna Civic Association



June 4, 2016

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200 OceanGate 10th Floor
Long Beach, CA 90802

Re: W17a Application No. 5-15-1670-A1 (South Orange County Wastewater Authority)

Dear Coastal Commissioners:

The Sierra Club's local task force has been involved with this issue for well over a decade. Prior to commenting on the staff report for the South Orange County Wastewater Authority (SOCWA) application, I would like to provide you with a bit of background on the task force involvement.

Commencing in the early 2000s the County of Orange, along with a host of NGOs, including Sierra Club, Surfrider and Coastkeeper (to name only a few), began meeting with SOCWA and a group of various water agencies about the "crisis" in Aliso Canyon and Creek. The crisis consisted of deteriorating sludge lines that were located in Aliso Creek that were being threatened by erosion caused by large storm events and millions of gallons of urban runoff from the upstream cities that were in non-compliance with the MS4 Permit. We met every few weeks for many years. We changed chairs for these meetings from agency representatives to NGO representatives in an effort to have every voice heard. We talked and talked about progressive alternatives that could actually solve SOCWA's problem given that their engineers had chosen a few decades earlier to place their Coastal Treatment Plant in a wilderness park, but also had chosen to place their sludge lines in a creek.

In 2005 SOCWA and the County of Orange partnered with a resort developer that wanted to expand their facility in Aliso Canyon and control the runoff and heavy storm event flooding before they began development. In short, as a group they approached a congressional representative with thousands of dollars to push their project through "the system". They called their solution to SOCWA's problems the SUPER project, and it was to be the answer to everyone's problems with Nature, except Nature's. It would have destroyed the ecosystem in the canyon and creek. With the assistance of a more environmentally minded congressional representative and the FBI, the environmental community was able to stop the SUPER project.

Fast forward to 2013 and SOCWA's Draft EIR Coastal Treatment Plant Export Sludge Force Main Replacement Project SCH#2011051010. Please see attached, Sierra Club's comments to the draft EIR. As you will note from the comments, from the early 2000s to 2013, no progress was made on an alternative that would be environmentally friendly or have sound engineering incorporated to actually solve SOCWA's ongoing problems. After all, the facility is built in a wilderness park and the sludge lines are in a creek. Unless these fatal flaws are corrected, the same problems will continue to occur. This has been discussed at infinitum for well over a decade now.

Given this history and the environmental community's inability to have any positive impact on this project, the Sierra Club local task force makes the following comments and suggestions for bolstering the protection and preservation of this fragile ecosystem. In order of special conditions 17 – 22:

- After nearly 40 years of not allowing the public the access provided in the original permitting, require compliance by applicant as outlined in the staff report, including the creation by SOCWA of a thorough safety and maintenance program that will allow for safe passage by the public while also protecting and preserving the natural resources in this sensitive area. This program should be reviewed by not only CCC staff but also by OC Parks staff for compliance with all applicable conditions and the OC Parks Resource Management Plan (RMP).

"Public access" does not include allowing The Ranch management to enter the wilderness park from their private property as an amenity to their paying guests. Any trail that would connect the AWMA road to the proposed Trail to the Sea must be planned for the easement that was dedicated decades ago through the golf course for the Girl Scout's use. Any other trail alignment is not acceptable and will result in degradation and destruction of valuable resources, including a variety of endangered species.

- A revised Habitat Mitigation and Monitoring Plan (HMMP) must incorporate a mitigation for ALL habitat impacts at a minimum ration of 4:1. Anything less than this given the massive destruction that will occur during this project is completely unacceptable. SOCWA is underestimating the damage and destruction that will occur on site and we have discussed this for years now. The small construction footprint that they depict is virtually impossible to contain. The proposed mitigation area in Wood Canyon is much too small and should be expanded to meet the needs as directed by OC Parks.

Increase monitoring program timeframes in an effort to insure the success of the mitigation and restoration program.

Provide a list of best management practices (BMP) that will be implemented to avoid the recruitment or spread of non-native invasive species. Merely requiring this of the applicant is not sufficient given their history of non-compliance. We need to see their list of BMPs and it needs to be monitored for compliance.

With respect to the meeting of the success criteria being monitored by the project biologist, it is imperative that peer review be conducted by designated OC Parks staff and preferably, another biologist provided by the environmental community.

- Given the number of bird species in this ecosystem, some of which have not been listed in the staff report, it is once again imperative that peer review of the nesting bird studies be conducted. There has historically been a lot of nesting destruction at the golf course property so SOCWA needs to amplify their efforts in this area. The Sierra Club recommends a collaborative peer review effort between Sea & Sage Audubon (who has been monitoring Aliso Canyon/Creek for many years now) and Hamilton Biological (also very familiar with this area).

- "Inadvertent disturbance" as the staff report describes it will most definitely occur. As stated previously, SOCWA underestimates its construction footprint and impacts. Habitat protection measures during and after construction should be carefully monitored by OC Parks as well as the project biologist.

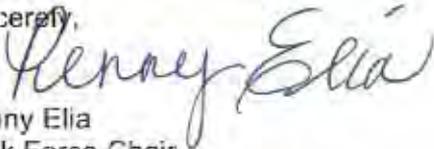
• As noted in the earlier history provided and the attached Draft EIR comments from Sierra Club, creek bank stabilization is nearly impossible. The new piecemeal approach to "damming" the creek will not solve the erosion problem. Until the Regional Board requires compliance from the upstream cities on urban runoff control, SOCWA must contend with millions of gallons of water that will continue to flow in this creek along with flooding from the larger storm events. Sierra Club once again is of the opinion that there are better solutions to SOCWA's ongoing problems, but since they refuse to do anything differently all we can do is hope for the best and count on the other agencies involved to carefully monitor their project.

• California Cultural Resource Preservation Alliance has worked closely on the potential archeological impacts. We ask that CCC staff, OC Parks and SOCWA respect their comments and continue to partner with them through project completion and beyond if necessary.

This concludes our comments which are far from exhaustive. There is so much to say on the problems and destruction associated with this project, but they have all been shared with SOCWA and the other water agencies for years now to no avail. We thank the CCC staff for their work to make this the best project possible and trust that they will stay closely involved with the monitoring and any reports of worrisome additional destruction that may be reported by the environmental community. Your enforcement staff is already involved in trying to remedy other violations in this canyon and creek. This project could add significantly to their already full workload.

Thank you for considering our comments given our many years of involvement in this proposed project. We can only hope that one day SOCWA will work with the environmental community on a real solution to their problems.

Sincerely,



Penny Elia
Task Force Chair
Save Hobo Aliso
Sierra Club

Attachment: Draft EIR comments - Coastal Treatment Plant Export Sludge Force Main Replacement Project SCH#2011051010

Copy: S. Blackwood – OC Parks
R. Hamilton – Hamilton Biological
P. Martz – California Cultural Resource Preservation Alliance
S. Thomas – Sea & Sage Audubon Society



February 6, 2013

Brian Peck, Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, California 92629

RE: Comments to Draft EIR
Coastal Treatment Plant Export Sludge Force Main Replacement Project
SCH#2011051010

Dear Brian:

After attending and commenting at many, many meetings related to the Coastal Treatment Plant as well as the export sludge force main replacement project, there is very little left to say on the topic as it relates to the EIR. Although I realize SOCWA feels it has gone above and beyond in its community outreach efforts and has taken into account comments from all stakeholders, the Sierra Club remains very disappointed in what appears to be the "same old, same old" approach.

For several years I have personally pleaded with you, your board and Tom Rosales to consider the best environmental solutions possible. We (you and the stakeholders, including several environmental organizations) all took a "blood oath" to follow through with a comprehensive plan for the entire Aliso Canyon and Aliso Creek that would address a multitude of issues. We agreed that any plan that was just a band-aid approach was nothing more than the definition of insanity which as Albert Einstein told us is doing the same thing over and over and expecting a different result.

We have discussed much more progressive and sustainable alternatives to this entire project, but these appear to be lacking in this draft EIR.

All of my comments are on file and have been recorded by a court reporter in multiple public meetings. It was my hope, the Sierra Club's hope, that SOCWA would actually take a proactive approach to this and come up with a solution that would better serve our finite natural resources.

I would recommend reopening the EIR for consideration of other alternatives that have been discussed at length in many meetings. There are new technologies out there and better ways of solving our issues in this precious ecosystem.

Thank you for the opportunity to comment on this Draft EIR. I do hope you will consider actually doing some of the things we have repeatedly discussed.

Sincerely,

Penny Elia

Penny Elia
Task Force Chair, Save Hobo Aliso
Sierra Club
30632 Marilyn Drive
Laguna Beach, CA 92651

June 3, 2016

Coastal Commission
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302

SUBJECT: No.: 5-15-1670-A19 South Orange County Wastewater Authority (SOCWA)

Dear Commissioners,

There is another alternative to the bulldozing and armoring of Aliso Creek in order to protect SOCWA's sludge force main. Please consider the role of urban runoff aggravating and accelerating the erosion of Aliso Creek and the undermining of the sludge force main before approving this project. Until urban runoff is eliminated we will continue to look for ways to armor Aliso Creek to protect pipes buried along its course. The real answer is not concrete buttresses and bank walls but instead for surrounding cities to be prevented from allowing urban runoff to spill into, erode and pollute this beautiful canyon and the ocean at Aliso Beach.

Historically Aliso Creek did not run year-round to the ocean. Today, however, there is 3 to 5 million gallons of urban runoff reaching the ocean every day. It erodes the majestic canyon, isolates thirsty trees and vegetation, degrades our promising wetlands, and endangers the public who come to the beach at Aliso. As a result of urban runoff, the County bulldozes this pretty creek and beach with its view of the canyon behind so that it doesn't meander and threaten the homes along the bluff. The bulldozing prevents the public from using the beach and the polluted creek running across the beach endangers the public health and safety.

Something must be done and it does not require us to armor Aliso Creek. You, as Commissioners protecting our coastline, have the ability to bring protection from urban runoff to the public, ocean and landscape. As a stipulation to this project, please require SOCWA to monitor and abate excess irrigation water produced by SOCWA from entering the creek and eroding pipe infrastructure.

Thank you for your help.

Best regards,

Jinger Wallace
31952 Sunset Avenue
Laguna Beach, CA 92651



To preserve and enhance the unique village character of Laguna Beach

June 4, 2016

Re: 5-15-1670-A1(SOCWA)

Dear Coastal Commissioners,

As stakeholders in SOCWA's Aliso Canyon sludge pipeline replacement project and participants in the EIR process three years ago, we had expected to receive notice of the permit hearing. Instead, we learned of it by chance only this week, and therefore this letter will be reaching you rather late. We hope that you will nevertheless be able to give our issues your consideration and vote to reject this replacement project.

The resource management plan of the Aliso and Wood Canyons Wilderness Park stresses "preserving the park's natural resources and providing recreational opportunities and public access with minimal impact on those resources." It doesn't mention conveying sewage. A wilderness park is obviously no place for a sewer, and we would like to see all of the pipes removed from it eventually. This is the first opportunity we have had since the park was created to remove any of the existing sewer pipes from the canyon, and we are hoping that you will take advantage of this opportunity by rejecting SOCWA's proposal.

Even if the location weren't a wilderness park, the pipeline alignment is known to be highly vulnerable to erosion. As the staff report for the project makes clear, locating a new pipeline in the same place as the existing one depends on the eventual ability to protect it with something like the SUPER Project first proposed several years ago, with its 26 dams, channelization of the creek, and massive grading. Indeed, the bank stabilization plan proposed here, invasive as it is, is admittedly adequate only for ordinary storms. The "potential, future federal project" mentioned by staff as eventually providing permanent creek stabilization is, as far as we know, unfunded and has yet to receive public review, and if it is like the original in its environmental impact it is likely to be controversial.

Moreover, increasing public concern about protecting ocean water quality, conserving energy and water, and reducing the production of greenhouse gases all call for new, integrated approaches to the handling of sewage. These approaches are increasingly becoming available, and their costs can often be managed with federal or state grants or by public-private partnerships. Simply replacing a 30+-year-old pipeline in kind and in place is a step in the wrong direction.

The EIR for the project identified two alternatives to the pipeline as “environmentally superior”: solids handling at the coastal treatment plant and trucking. Treatment of solids at the plant would generate electricity, and it would save water because it would no longer be necessary to add water to the sludge to move it through a pipe. Trucking would, according to the EIR, save energy and reduce the production of greenhouse gases, and its additional impacts on air quality would remain below the South County Air Quality Management District’s thresholds.

We suggest that trucking be adopted as a temporary measure while a comprehensive plan is developed for treating sewage sustainably and eventually moving all of the sewage infrastructure out of the wilderness park. If this became the objective, it might be the first step toward a self-contained system, with more recycling, that would make it unnecessary to go on dumping treated sewage into the ocean.

We hope that you’ll agree with us that this problem calls for a thoughtful twenty-first-century solution and encourage the applicant to pursue one.

Sincerely,

A handwritten signature in cursive script that reads "Ginger Osborne".

Ginger Osborne
Acting President

CHAPTER 8.0 ALTERNATIVES

8.1 INTRODUCTION

In order to fully evaluate proposed projects, CEQA requires that alternatives be discussed. Section 15126.6 of the State CEQA Guidelines (14 CCR 15000 et seq.) requires the discussion of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” The alternatives discussion is intended to focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives as listed in *Section 3.4* of this EIR.

Pursuant to the guidelines stated above, a range of alternatives to the proposed project are considered in this EIR. These alternatives were developed in the course of project planning, environmental review, and the public scoping process. The discussion in this section provides the following:

1. A description of alternatives considered.
2. An analysis of whether the alternatives meet most of the objectives of the proposed project (described in *Section 3.4* of this EIR).
3. A comparative analysis of the alternatives under consideration and the proposed project. The focus of this analysis is to determine if alternatives are capable of eliminating or reducing the significant environmental effects of the project to below a level of significance. As identified in the various sections of *Chapter 4* of this EIR, the following issues resulted in potentially significant impacts prior to mitigation: biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and paleontological resources. However, there are no significant project impacts that cannot be reduced to below a level of significance with incorporation of mitigation measures, as analyzed in *Chapter 4*.

Twelve alternatives were originally considered for the proposed replacement of the export system. These alternatives are presented in *Table 8-1*.

**Table 8-1
Alternatives Considered**

Type of Alternative	Name	Brief Description	Description of Alternative	Time to Implement
Force Main	FM-1	New force main east side	Construct new force main on east side of creek within existing easement.	3 years
	FM-2	New force main west side	Construct new force main on west side of creek beneath existing AWMA Road.	3 years
	FM-3	New force main with pipe bridge	Construct new force main on east side of creek within existing easement from CTP to point opposite AVCA Road cul-de-sac; construct pipe bridge over vehicle bridge; pipe over creek; connect to pipe beneath AVCA Road on west side of creek.	4 years, possibly longer
	Relining	Reline existing force main on east side	Reline existing force main to strengthen pipeline.	1 year
Truck Liquid Sludge	TR-1a	Trucking liquid sludge	Truck sludge from CTP to RTP over newly constructed AWMA Road bridge.	2 years
	TR-1b	Trucking liquid sludge	Truck sludge from CTP to RTP via Knollwood Route	0-6 months
Solids Handling at CTP	SH-1a	Construct solids handling facility at CTP	Construct digestion, dewatering and co-generation alternatives similar to other facilities	2 years
	SH-1b	Construct solids handling facility at CTP	Implement innovative solids handling technology such as thermal combustion	3 years, possibly more
Eliminate CTP	ECTP-1	Eliminate CTP – Pump sewage to JBLTP	Sewage flows from South Laguna (South Coast Water District; SCWD/City of Laguna Beach/Emerald Bay Sanitation District; EBSD) pumped to expanded JBLTP; CTP retired	5-10 years
	ECTP-2	Eliminate CTP – Pump sewage to JBLTP/ETM flows diverted to San Juan Creek Outfall System	Sewage flows from South Laguna (SCWD)/CLB/EBSD pumped to expanded JBLTP; CTP retired; ETM flows pumped to San Juan Outfall System; San Juan Ocean Outfall possibly expanded	5-10 years
	ECTP-3	Eliminate CTP – Pump sewage to RTP	Sewage flows from South Laguna (SCWD)/CLB/EBSD pumped to expanded RTP; CTP retired	5-10 years
	ECTP-4	Eliminate CTP – Pump sewage to RTP/ETM flows diverted to San Juan Creek Outfall System	Sewage flows from South Laguna (SCWD)/CLB/EBSD pumped to expanded RTP; CTP retired; ETM flows pumped to San Juan Outfall System; San Juan Ocean Outfall possibly expanded	5-10 years

8.2 ALTERNATIVES CONSIDERED BUT REJECTED

The alternatives described in *Section 8.2* were initially considered by SOCWA but were eliminated from further detailed environmental review for reasons specified below.

8.2.1 Hybrid Force Main Alignment Alternative

Under this hybrid alternative, known as Force Main 3 or FM-3 in preliminary engineering evaluations, the majority of the new export sludge force main would follow the existing easement on the east side of Aliso Creek. The new pipeline would cross Aliso Creek at the northern end, requiring a new pipe bridge, to connect into the existing 6-inch pipeline within AVCA Road installed during the previous Phase 2 project. The biological impacts of construction of a new structure, the pipe bridge within Aliso Creek, were considered to be too intrusive and hence would not meet project objective number 2, to limit the impact of construction and operation on the surrounding Aliso and Woods Canyon. Also, since this alignment mostly follows the same alignment as the proposed project, it was eliminated from further consideration.

8.2.2 Relining Alternative

Rather than replace the existing force main, this alternative would reline the existing pipelines in an attempt to strengthen them. However, the existing pipelines are 4 inches in diameter, and relining would limit their usable diameter to approximately 3 inches in diameter, resulting in reduced capacity to convey sludge. As a result, this alternative would not meet project objective number 1, since it would not move sludge from the CTP to the RTP in a reliable manner, and was therefore eliminated from further consideration.

8.2.3 Elimination of the Coastal Treatment Plant

This alternative was identified during the public scoping process, and would eliminate the CTP as a means of removing sludge force main infrastructure from the AWCWP. It would consist of four possible options, all involving pumping raw wastewater currently treated at the CTP to either the RTP or to the Jay B. Latham Wastewater Treatment Plant (JBLTP) in Dana Point:

- Pump sewage to the JBLTP. Sewage flows from south Laguna Beach would be pumped to the JBLTP, which would require expansion to accommodate these flows.
- Pump sewage to the JBLTP, with effluent transmission main (ETM) flows diverted to San Juan Creek Outfall system. This would be the same as the first option, except that the ETM flows would be pumped to the San Juan Creek Outfall, rather than the Aliso Creek Ocean Outfall, where it is currently discharged. To balance flows between these two outfall systems, it is assumed that the El Toro Water District treated flows would be

transferred from San Juan Creek to Aliso Creek. The San Juan Creek Outfall would require expansion to accommodate these flows.

- Pump sewage to the RTP. Sewage flows from south Laguna Beach would be pumped to the RTP, would require expansion to accommodate these flows.
- Pump sewage to the RTP, with ETM flows diverted to San Juan Creek Outfall system. This would be the same as the third option, except that the ETM flows would be pumped to the San Juan Creek Outfall. The outfall would require expansion to accommodate these flows.

This alternative was eliminated because it would result in additional environmental impacts related to expanded ocean outfall, or expanded treatment plants, that would not result under the proposed project. Also, the estimated preliminary cost would be approximately \$100M, which is prohibitive. Finally, to design, permit, and fund, this alternative would not be ready to be in operation for approximately 5 to 10 years, which would not rectify the more immediate need of replacing the aging infrastructure in Aliso Canyon.

8.3 ALTERNATIVES UNDER CONSIDERATION

An analysis of alternatives has been provided in this document to provide decision makers with a reasonable range of possible alternatives to be considered. Each of the alternatives is described below. As described in the various sections of *Chapter 4* of this EIR, there are no significant project impacts that cannot be reduced to below a level of significance.

8.3.1 No Project Alternative

Under the No Project Alternative, the existing dual 4-inch export sludge force mains would remain in operation to transport sludge from the CTP to the RTP. The pipeline currently is located along the east side of Aliso Creek parallel to other existing utilities. As described in *Section 3.3, Project Purpose and Need*, the existing pipelines have experienced a number of problems, including variability in sludge concentration, pumping pressure, and intermittent operational scenarios leading to internal deposition, and concern over interior and exterior corrosion. These conditions would not be corrected under the No Project Alternative.

Environmental Analysis

Land Use and Planning

The No Project Alternative would comply with applicable plans and policies, similar to the proposed project. Since no construction would occur, there would be no disturbance of sensitive vegetation communities or species, and therefore, no conflicts with the Central-Coastal Subregion NCCP/HCP would arise. Impacts would be generally similar to those of the proposed project, that is, less than significant.

Aesthetics

The No Project Alternative would not result in ground disturbance related to construction activities. Similar to the proposed project, the existing force mains are located underground and are not visible from surrounding areas. There would be no aesthetic impacts resulting from the No Project Alternative, similar to the proposed project.

Air Quality

The No Project Alternative would not result in emissions related to construction activity. Operational emissions would be similar to those for the proposed project.

Biological Resources

The No Project Alternative would not result in direct impacts to biological resources since no construction or excavation activities would occur, and therefore, would reduce impacts when compared to the proposed project. However, biological resources such as wetlands and habitat could potentially be impacted indirectly through contamination of the environment if one of the existing force mains were to rupture. Spills could affect sensitive habitat and vegetation, and also, if a break were to occur, SOCWA would be required to take emergency actions to halt the breakage. Emergency actions would include use of heavy machinery and equipment, which could affect sensitive biological resources. While difficult to predict the number and location of ruptures, and extent of sludge contamination, overall, this alternative is considered to result in a greater level of impact to biological resources when compared to the proposed project.

Cultural Resources

The No Project Alternative would not involve any new construction or excavation activities, and therefore, would avoid the potential for direct impacts to recorded archaeological sites. However, as discussed under biological resources, cultural resources could potentially be impacted indirectly through contamination of the environment if one of the existing force mains were to rupture. If a break were to occur, SOCWA would be required to take emergency actions to halt the breakage. Emergency actions would include use of heavy machinery and equipment, which could affect sensitive cultural resources. While difficult to predict the number and location of ruptures, and extent of sludge contamination, overall, this alternative is considered to result in a greater level of impact to cultural resources when compared to the proposed project.

Energy

The No Project Alternative would not involve any construction activities, and therefore, would not require fuel or other energy sources to operate construction equipment or additional trucking

activities. The No Project Alternative would continue to operate the existing dual 4-inch force mains, which require electricity to pump sludge from the CTP to the RTP. The amount of energy required would be similar to the amount of energy required to pump sludge through the 6-inch force main proposed by the project. Therefore, while the No Project Alternative would slightly reduce energy requirements during construction, over the long term, operational energy requirements would be the same.

Geology and Soils

The existing dual 4-inch force mains would continue to operate under the No Project Alternative and, similar to the proposed project, would be subject to risk of geologic hazards. This alternative would not involve any construction which could potentially result in soil erosion or activate landslide deposits; therefore, this alternative would reduce impacts related to geology and soils when compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, electricity would continue to be consumed for the pumping of sludge from the CTP to the RTP. Energy requirements would be similar to that required by the proposed project, and therefore, impacts related to GHG emissions would be similar.

Hazards and Hazardous Materials

Implementation of the proposed project would replace the existing dual 4-inch ductile iron force mains with a single 6-inch high density polyethylene (HDPE) force main. As analyzed in *Section 4.9*, the proposed project would result in potential short-term construction impacts related to emergency access; however, mitigation measure HAZ-1 would reduce potential impacts to less than significant. Additionally, the proposed project would result in a beneficial impact in relation to the risk of upset caused by a rupture in the pipeline due to the deteriorating condition of the pipeline, which would not be afforded under the No Project Alternative. Overall, the No Project Alternative would increase impacts related to hazards and hazardous materials in comparison to the proposed project.

Hydrology/Water Quality

The No Project Alternative would not involve construction which could lead to short-term impacts related to sediment runoff, polluted runoff or groundwater dewatering. However, the No Project Alternative would leave in place the existing force mains which are at risk for future ruptures and spills and which could impact the water quality of Aliso Creek and downstream water bodies (i.e., the Pacific Ocean). Therefore, the beneficial impacts related to the proposed project's replacement of the force mains and the reduced potential for impacts to water quality from spills would not be realized.

Noise

The No Project Alternative would not require any construction, and therefore, would not result in any short-term noise impacts, similar to the proposed project. No noise would be generated from the continued operation of the existing force mains, similar to the proposed project. Therefore, the No Project Alternative would result in similar impacts related to noise.

Paleontological Resources

The No Project Alternative would not require any construction; and therefore, would not involve earth working activities such as trenching that could pose the potential to disturb geologic deposits within which fossils are buried. Therefore, this alternative would have reduced impacts when compared to the proposed project in relation to paleontological resources.

Recreation

The No Project Alternative would require no construction, and therefore, equipment and vehicles would not potentially conflict with park users. Similar to the proposed project, this alternative would not result in direct impacts related to the recreational use of AWCWP. However, as discussed under biological and cultural resources, recreational use and access could potentially be impacted if one of the existing force mains were to rupture. If a break were to occur, SOCWA would need to close down all or parts of trails to take emergency actions to halt the breakage. In addition, pipeline rupture could affect recreation at Aliso Beach downstream if water quality were to be impaired. While difficult to predict the number and location of ruptures, overall, this alternative is considered to result in a greater level of impact when compared to the proposed project.

Project Objectives

This alternative would meet only project objective number 3, since it would involve no construction, and therefore, would not result in short-term, temporary impacts related to ground disturbance or the operation of heavy equipment. The No Project Alternative would not minimize risk to the environment or avoid the potential impacts of failure of the existing system since it would not abandon the existing, corroded force mains.

8.3.2 West Side Force Main Alignment Alternative

This alternative, known as FM-2 in preliminary engineering evaluations, would locate a new 6-inch export sludge force main west of Aliso Creek within the existing paved areas of the AWMA Road (see *Figure 8-1*). The new pipeline would be required to cross Aliso Creek in two locations. The pipeline would be suspended from the AWMA Road Access Bridge, near Alicia

Parkway, and from the CTP Access Bridge adjacent to CTP facility. The total installed length would be approximately 15,800 feet.

The new 6-inch pipeline would connect to the existing 3,460 lineal feet Phase II 6-inch ductile iron force main located within the right-of-way of AVCA Road. This connection would be located within the existing cul-de-sac, adjacent to the SOCWA gate. An additional segment would be required to connect the northern end of the existing 6-inch pipeline in AVCA Road to the southern extent of the pipeline installed during Phase I in Alicia Parkway.

Due to the vertical fall and rise of the AWMA Road, the pipeline would require the installation of at least two air-vacuum valves (ARVs). To avoid the need for deep trenching and installation of ARVs, trenchless construction methods, specifically horizontal directional drilling, would be used (see *Figure 8-2*).

Environmental Analysis

Land Use and Planning

Similar to the proposed project, the FM-2 Alternative would not divide an established community as it would be located within the open space area of AWCWP, nor would it conflict with the Central-Coastal Subregion NCCP/HCP. The Orange County General Plan, AWCWP RMP, and Aliso Viejo Segment of the ACPU LCP contain goals, policies and objectives related to the development of infrastructure and activities within the AWCWP. Similar to the proposed project, the FM-2 Alternative would generally be consistent with the goals and policies of these plans, or would be consistent with mitigation incorporated.

However, due to greater potential impacts to cultural resources, as discussed below, Alternative FM-2 would not be consistent with many of the cultural resources goals and objectives of the General Plan, the RMP, or the LCP. In addition, the Recreation Element of the General Plan contains goals related to the provision of safe and useful trail systems and minimization of trail closures. As discussed below under Recreation, implementation of Alternative FM-2 would result in the closure of the AWMA Road to public access, as well as potential closures along Aliso Creek Trail. Therefore, this alternative would result in greater impacts when compared to the proposed project.

Aesthetics

Similar to the proposed project, the force main installed under this alternative would be located underground and would not result in permanent aesthetic impacts. However, during construction, the staging of equipment and ground disturbance would occur along the west side of Aliso Creek which is open to public access and paralleled by Aliso Creek Trail, which is frequented by park

users. Therefore, this alternative would likely result in a significant short-term aesthetic impact to park users. Additionally, the force main would be suspended from the AWMA Road Access Bridge and CTP Access Bridge, and would be visible in both cases. Therefore, this alternative would generally have greater impacts related to aesthetics than the proposed project.

Air Quality

Construction techniques and the size of the area disturbed during construction would be similar to the proposed project, and therefore, would result in similar emissions and dust generated. Additionally, once constructed, this alternative would result in similar emissions as the proposed project. Therefore, impacts related to air quality would be similar to the proposed project.

Biological Resources

The FM-2 Alternative would be constructed beneath the existing, paved, AWMA Road, which has been subject to previous ground disturbing activities at the surface. Short-term, indirect, construction related impacts from noise, fugitive dust and to sensitive biological species would be similar to those caused by the proposed project. Also similar to the proposed project, long-term operational impacts would be minimal and less than significant.

Direct impacts related to ground disturbance to special-status vegetation communities would be reduced when compared to the proposed project since ground disturbance would be limited to construction staging impacts within the construction easement along the side of the AWMA Road. This alternative would result in approximately 2.81 acres of impacts to upland communities and 0.19 acres of impacts to wetland/riparian communities (compared to 11.33 acres and 1.66 acres, respectively for the proposed project). Therefore, the FM-2 Alternative would reduce impacts to biological resources when compared to the proposed project.

Cultural Resources

The FM-2 Alternative would largely follow AWMA Road, an existing asphalt road. Previous ground disturbing activities associated with construction of the road have disturbed underlying soils to at least 12 to 18 inches below the original grade; however, unlike on the east side of the creek where the proposed project would be implemented, previous ground disturbance on the west side has not been substantial below these 12 to 18 inches of surface soil, and hence there would be more disturbance to previously undisturbed soils. Ten prehistoric archaeological sites are recorded within 250 feet of the road (Dudek 2012b). Therefore, there is a greater potential for both intact and previously disturbed archaeological deposits to exist within the FM-2 Alignment when compared to the proposed project alignment. As a result, a greater number of archaeological sites could be potentially affected by construction of this alternative than by the proposed project, and potential impacts would be greater.

Energy

Alternative FM-2 would require similar amounts of fuel and other energy sources during construction as the proposed project. Operation of the pipeline on the west side of Aliso Creek would require similar amounts of energy for the pumping of sludge and other operational activities associated with the pipeline as for the proposed project.

Geology and Soils

The FM-2 Alternative would be subject to similar geologic hazards on the west side of Aliso Creek as the proposed project. Seismic activity would be the same as it would be for the proposed project and landslide deposits are present on the west side of the creek as well. Similar project design features and/or mitigation would be implemented for the FM-2 Alternative to reduce the potential for soil erosion from construction and to reduce the potential for activating landslide deposits. Similar to the proposed project, segments of unstable areas also exist along the west side of the creek. However, according to the erosion assessment prepared for this alignment, only approximately 1,200 feet of the FM-2 alignment would have a high erosion risk (as compared to 3,300 feet of the proposed alignment), and 850 feet would be subject to a moderate erosion risk (as compared to 1,250 feet of the proposed alignment) (Tetra Tech 2012). Therefore, impacts related to geology and soils would be slightly reduced when compared to the proposed project.

Greenhouse Gas Emissions

Similar construction equipment would be used for this alternative as for the proposed project, and therefore, would result in similar emissions. Additionally, the energy required to pump sludge from the CTP to RTP would remain similar to current energy requirements, as would the proposed project. Therefore, impacts related to GHG emissions would be similar.

Hazards and Hazardous Materials

Similar to the proposed project, the FM-2 Alternative would replace the existing dual 4-inch ductile iron force mains with a single 6-inch HDPE force main. The FM-2 Alternative would result in similar short-term construction impacts related to the risk of hazardous materials spills and emergency access, and could similarly reduce potential impacts to less than significant. The FM-2 Alternative would also result in a beneficial impact in relation to the risk of upset by abandoning the existing, corroded force mains and replacing them with an improved single force main. Therefore, the FM-2 Alternative would result in similar impacts related to hazards and hazardous materials as the proposed project.

Hydrology/Water Quality

During construction of the FM-2 Alternative, the potential for polluted/sediment laden runoff from the project site to Aliso Creek would be similar to impacts caused by the proposed project, and best management practices (BMPs) would be implemented to reduce impacts. The FM-2 Alternative would, similar to the proposed project, be located underground once constructed, and therefore would not impede flows or result in other hydrological changes. By adhering to all state and federal regulations, as well as the Orange County Drainage Area Management Plan (DAMP), this alternative would result in similar impacts when compared to the proposed project.

Noise

This alternative would result in similar temporary noise impacts from construction noise as the proposed project. Residences along the west ridge of the canyon are approximately the same distances from the construction corridor of the FM-2 Alternative as residences along the east ridge are from the proposed project's construction corridor. While construction of the FM-2 Alternative would be in the immediate vicinity of recreational users on Aliso Creek Trail and the AWMA Road, users would generally only be exposed for a few minutes to noise levels exceeding 60dB(A). Similar to the proposed project, there would be no long-term operational noise impacts resulting from Alternative FM-2. Therefore, noise impacts would be similar to that of the proposed project.

Paleontological Resources

The area where construction of the FM-2 Alternative would occur is underlain by the same geologic rock units as the proposed project; therefore, the sensitivity of these resources in regards to the potential for the occurrence of paleontological resources is the same. However, ground disturbance beneath the AWMA Road has generally not extended to more than 12 to 18 inches below the ground surface, unlike the construction easement of the proposed project which has experienced substantially deeper and more extensive ground disturbance related to the installation and maintenance of the existing pipelines. Therefore, the FM-2 Alternative would have a greater potential for impacts relative to paleontology when compared to the proposed project.

Recreation

Construction of Alternative FM-2 would result in the closure of the AWMA Road to public access for the duration of the 7.5-month construction period, as well as potential closures along Aliso Creek Trail. Construction vehicles and equipment would be staged on and alongside the AWMA Road, further interfering with recreational use of the AWCWP. Therefore, this alternative would result in greater impacts to recreational users than the proposed project.

Project Objectives

This alternative would generally meet all of the project objectives.

8.3.3 Trucking Alternative 1– Bridge Route

As under the proposed project’s short-term construction scenario, this alternative would involve the trucking of sludge from the CTP to the RTP. However, rather than a short-term interim scenario during construction, under this alternative, trucking would be the permanent solution for moving sludge from the CTP to the RTP.

Sludge would be loaded into 5,500-gallon tanker trailers at the CTP. Once loaded, trucks would follow the AWMA Road north through the AWCWP until the road exits the park, becoming AVCA Road. Trucks would continue east onto the original AWMA Road, passing the park ranger station and parking lot. Trucks would cross the AWMA Road Access Bridge, prior to reaching Alicia Parkway, then travel on public streets to the RTP site. Refer to *Figures 8-3* and *Figure 3-7* for a map of the proposed route, and a photograph of the type of truck that would be utilized.

The AWMA Road Access Bridge currently does not meet structural standards, and as a result has maximum weight limit of 16,000 pounds. The anticipated weight of a fully loaded truck would approach 80,000 pounds. Therefore, under this alternative, SOCWA would have to rebuild the bridge, the construction impacts of which are considered in this alternatives analysis. Currently, less than 10% of vehicle traffic crossing the AWMA bridge is related to SOCWA operations. SOCWA has consulted possible participants including the Cities of Laguna Niguel and Aliso Viejo to enter into a cost-sharing agreement for replacement of the bridge, which is estimated to cost \$3M to construct; however, none of the potential participants have expressed interest in the cost-sharing agreement.

An existing agreement between OC Parks and SOCWA allows use of AWMA Road on weekends and holidays for public use by park patrons; pedestrian and bicycle traffic on AWMA Road can be substantial during these periods. As a result, sludge hauling operations would not be safe and reliable on the weekend, and would be required to be limited to 5 days per week, excluding weekends. To maintain a 5-day hauling schedule and avoid weekend trips, 7 trips per day would be required during peak load periods, and an additional truck, for a total of 2 trucks, would be needed to complete the hauling.

Environmental Analysis

Land Use and Planning

This alternative would not divide an established community, conflict with the Central-Coastal Subregion NCCP/HCP, or generally conflict with the goals and policies of applicable plans. However, the General Plan and RMP contain goals related to the provision of a useful and safe regional trail system. Under this alternative, trucks would traverse the AWCWP on the AWMA Road up to 14 times per day (7 round trips). As discussed below, this would create a potential safety hazard for park users and would generally not be consistent with the County’s goals for the AWCWP. Replacement of the AWMA Road Access Bridge would also temporarily disrupt access to the park by blocking the primary entrance point. Therefore, this alternative would result in greater land use compatibility impacts than the proposed project.

Aesthetics

Under this alternative, short-term impacts to aesthetics from ground disturbing activities adjacent to the creek would be avoided. However, replacement of the AWMA Road Access Bridge would involve construction at the entrance to the AWCWP, which would result in a temporary visual impact to park users. Therefore, impacts to aesthetics would be slightly greater under this alternative than for the proposed project.

Air Quality

This alternative would result in increased air quality impacts relative to those associated with the proposed project due to operational emissions associated with trucking. Based on 7 round trips per day, the estimated daily emissions associated with trucking sludge from the CTP to the RTP are shown in *Table 8-2*.

Table 8-2
Estimated Emissions from Sludge Transport (pounds/day)

	ROG	NOx	CO	SOx	PM10	PM2.5
Estimated Emissions	0.27	2.35	2.08	0.00	1.31	0.08
<i>Threshold</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>
Threshold Exceeded?	No	No	No	No	No	No

As shown in *Table 8-2*, the emissions would be less than the South Coast Air Quality Management District’s thresholds of significance for operational emissions, but when compared to the proposed project, they would be greater.

In addition to the operational emissions, air pollutants would be emitted during replacement of the AWMA Road Access Bridge. These emissions associated with bridge construction would be greater than those for construction of the proposed project due to the use of large heavy-duty construction equipment, although similar to the proposed project, those emissions would be short-term.

Biological Resources

Since no force main would be installed, this alternative would not involve construction or ground-disturbing activities that would result under the proposed project, and therefore would avoid the short-term impacts to biological resources as a result of trenching and construction. Also, when compared to the proposed project, lesser impacts would result to upland habitats along the canyon since no force main alignment would be implemented. However, bridge replacement would be required, which would most likely impact ruderal habitat.

Long-term operation of this alternative could indirectly impact sensitive species through increased noise, fugitive dust, pollutants, and with regards to wildlife species, the potential for collisions. Overall, this alternative would result in reduced impacts to sensitive biological resources when compared to the proposed project.

Cultural Resources

This alternative would reduce the potential for direct impacts to recorded archaeological sites within the trucking corridor along AWMA Road. Under this alternative, however, bridge replacement could result in impacts to a known cultural resource site (CA-ORA-423, a permanent camp) near the bridge site. A better understanding of the level of impacts to this resource would need to be determined once bridge design details were made available, as the design could determine the amount of excavation, precise location of abutments, whether or not previously undisturbed soils would be encountered, and other parameters.

This alternative would have the potential for indirect impacts to archaeological resources from accidents in the vicinity of a known archaeological site, if clean-up activities using heavy equipment were to extend beyond the existing paved road. This potential, however, is considered relatively low given established truck safety procedures. Overall, while a precise evaluation of the level of impact to CA-ORA-423 is not yet known, it is assumed that this alternative would result in a similar level of potential impacts to cultural resources when compared to the proposed project.

Energy

This alternative would require energy such as fuel for the rebuilding of the AWMA Road Access Bridge. Fuel would also be required on a long-term basis to haul sludge from the CTP to the RTP

via truck. It is estimated that approximately 2,600 gallons of fuel would be required for the sludge hauling truck to make approximately seven 10-mile round trips 5 days per week. However, electricity would no longer be required under this alternative to pump sludge from the CTP to the RTP. Therefore, overall, energy requirements would be reduced under this alternative.

Geology and Soils

This alternative would not expose any people or structures to geologic hazards. Additionally, this alternative would not involve any construction which could potentially result in soil erosion or activate landslide deposits; therefore, no mitigation would be required. Additionally, handling sludge on the west side of the creek would have fewer long term erosion risks than handling sludge on the east side (Tetra Tech 2012). Hence, this alternative would reduce impacts related to geology and soils when compared to the proposed project.

Greenhouse Gas Emissions

This alternative would result in additional greenhouse gas (GHG) emissions due to operational emissions associated with trucking. Based on 7 round trips per day, 5 days per week, the annual GHG emissions associated with trucking sludge from the CTP to the RTP are estimated to be approximately 36 metric tons carbon dioxide equivalent per year. As discussed in *Section 4.8*, the GHG emissions associated with sludge treatment at the RTP would remain unchanged under this alternative. Under this alternative, however, net indirect GHG emissions associated with generation of electricity for pumping sludge from the CTP to the RTP would be reduced by approximately 47 metric tons carbon dioxide equivalent per year relative to the proposed project. Thus, the overall GHG emissions for this alternative would be less than those for the proposed project.

In addition to the operational emissions, GHGs would be emitted during rebuilding of the AWMA Road Access Bridge. The emissions associated with bridge construction would be greater than those for construction of the proposed project due to the use of large heavy-duty construction equipment. However, like the proposed project, those emissions would be short-term.

Hazards and Hazardous Materials

This alternative involves no construction along the creek, and therefore, does not pose the temporary, short-term risk of spills of potentially hazardous materials such as oil and fuel from construction equipment. Additionally, similar to the proposed project, this alternative would abandon the existing dual 4-inch force mains and would result in an overall beneficial impact relative to the risk of upset or spills.

However, the longer-term operation of this alternative would involve the hauling of sludge through AWCWP and the potential exists for an accident to occur during which sludge and/or fuel could be released into the environment, resulting in a greater long-term, operational impact than the proposed project. Additionally, trucks operating along the AWMA Road in the AWCWP could pose a potential safety hazard to recreational users in the park. This alternative would require trucks to make a left turn from AWMA Road to northbound Alicia Parkway. Adequate gaps for large/slow trucks to make the subject permissive left turn at this uncontrolled intersection are very limited, even during off peak periods. The additional truck trips would potentially increase the likelihood of collision and decrease overall traffic safety at this intersection.

Therefore, impacts related to hazards would be greater under this alternative than for the proposed project.

Hydrology/Water Quality

This alternative would require no construction or alterations to the physical environment of the AWCWP. Therefore, when compared to the proposed project, the potential for erosion and sediment runoff would be reduced and there would be no need for groundwater dewatering. This alternative would also not require the construction of any permanent structures which could place people or housing at risk of flood, or other storm event impacts. Long-term operation of trucks along AWMA Road could result in the leakage of oil and fuels onto the roadway which would result in polluted runoff to the creek; however, this could be minimized through implementation of appropriate BMPs. Therefore, this alternative would generally result in reduced impacts to hydrology and water quality when compared to the proposed project.

Noise

Trucking operations would result in a significant long-term operational noise impacts to adjacent sensitive receptors such as residences. Unlike the proposed project, trucking would be long-term and would result in noise impacts outside of the canyon, especially to residential sensitive receptors near the RTP. Also, bridge construction would result in greater construction noise impacts that would not result under the proposed project. Overall, impacts would be greater under this alternative.

Paleontological Resources

This alternative would avoid the proposed project's earth working activities such as trenching, but would result in potential excavation activities for the replacement bridge. Overall, this alternative would disturb a smaller area than the proposed project and would result in lesser potential impacts to paleontological resources.

Recreation

This alternative would involve up to 14 truck trips (7 round trips) each weekday along the AWMA Road within AWCWP indefinitely. Trucks traveling along AWMA Road could pose a potential safety hazard to recreational users in park, particularly those jogging and biking along AWMA Road. Additionally, construction of the AWMA Road Access Bridge could interrupt access to the park, resulting in a significant short-term impact. Therefore, this alternative would result in greater recreational impacts than the proposed project.

Project Objectives

This alternative would not meet project objective number 1, since the cost to replace the bridge would be prohibitive absent any cost-sharing with other bridge users or stakeholders. Also, it would not meet project objective number 2, since replacement of the bridge would take several years and would not allow for expedient abandonment/removal of the existing force mains. Since it would require bridge replacement, the construction impacts would be greater to riparian and wetland biological resources and hence, this alternative would not limit the impact on the canyon, and project objective number 3 would not be achieved. Overall, this alternative would not meet most of the basic project objectives.

8.3.4 Trucking Alternative 2 – Wood Canyon Drive Route

Similar to the Trucking Alternative 1 – Bridge Route, this alternative would transport sludge from the CTP to the RTP via tanker trailer. However, this alternative route would use the same trucking route as described for the proposed project, instead of using the AWMA Road bridge described under Trucking Alternative Number 1 (refer to *Figure 3-7* in *Chapter 3*). As described in *Section 3.5.1*, trucks would load up with sludge at the CTP, then travel along the AWMA Road north through the AWCWP until the road exits the park becoming AVCA Road. Trucks would travel west on Knollwood then north on Wood Canyon Drive to Aliso Creek Road, passing Wood Canyon Elementary School. Trucks would take Aliso Creek Road east to La Paz Road south, ending at the RTP. Sludge would be unloaded at the RTP, the trucks would be cleaned, and then they would return to the CTP.

Due to the location of an elementary school along the trucking route used in this alternative, trucking would be limited to occurring outside school hours, mostly at nighttime. Seven trips per day would be required under peak conditions and an additional truck, for a total of two trucks, would be required. SOCWA is not adequately staffed for evening and nighttime sludge hauling operations, however, and would need to hire additional staff.

Environmental Analysis

Land Use and Planning

This alternative would not divide an established community, conflict with the Central-Coastal Subregion NCCP/HCP, or generally conflict with the goals and policies of applicable plans. However, the General Plan and RMP contain goals related to the protection of wildlife. Under this alternative, trucks would make up to 7 round trips on the AWMA Road at night. As discussed below, this would create a potential hazard for wildlife and could interfere with wildlife movement in the park. Therefore, this alternative would result in greater land use compatibility impacts when compared to the proposed project.

Aesthetics

Under this alternative, short-term impacts to aesthetics from ground disturbing activities adjacent to the creek would be avoided. Additionally, trucking along AWMA Road to transport sludge from the CTP to the RTP would occur at night, and therefore, would not be visible during park hours. Therefore, impacts to aesthetics would be similar under this alternative when compared to the proposed project, that is less than significant.

Air Quality

This alternative would result in increased air quality impacts relative to those associated with the proposed project due to operational emissions associated with trucking. Given a similar trucking distance to that of Trucking Alternative No. 1, the operational emissions for this alternative would be similar to those shown in *Table 8-2*. This alternative would not generate additional construction emissions as under Trucking Alternative Number 1.

Biological Resources

Since no force main would be installed, this alternative would not involve construction or ground-disturbing activities that would result under the proposed project, and therefore would avoid the short-term impacts to biological resources as a result of trenching and construction.

Long-term operation of this alternative could indirectly impact sensitive species through increased noise, fugitive dust, and pollutants, and with regards to wildlife species, due to the potential for collisions. Also, due to the nighttime hauling of sludge, trucks would need to traverse approximately 3 miles of unlit roadway. This situation poses a potential impact to wildlife that is known to traverse the road during the night.

Despite potential impacts to wildlife, this alternative would generally reduce impacts to biological resources when compared to the proposed project.

Cultural Resources

This alternative would reduce the potential for direct impacts to recorded archaeological sites within the trucking corridor along AWMA Road. Similar to the proposed project, this alternative would have the potential for indirect impacts to archaeological resources from accidents in the vicinity of a known archaeological site, if clean-up activities using heavy equipment were to extend beyond the existing paved road. This potential, however, is considered relatively low given established truck safety procedures. Overall, this alternative would result in reduced impacts to cultural resources when compared to the proposed project.

Energy

No construction would occur under this alternative, and therefore, no fuel for construction equipment would be required. As discussed above for Trucking Alternative 1, approximately 2,600 gallons of fuel would be required per year to transport sludge from the CTP to the RTP. However, this energy requirement would be more than offset by the reduction in electricity needed by eliminating the need for pumping of sludge through the force mains. Therefore, this alternative would reduce impacts related to energy usage compared to the proposed project.

Geology and Soils

This alternative would not expose any people or structures to geologic hazards. Additionally, this alternative would not involve any construction which could potentially result in soil erosion or activate landslide deposits; therefore, no mitigation would be required. Additionally, handling sludge on the west side of the creek would have fewer long-term erosion risks than handling sludge on the east side (Tetra Tech 2012). Hence, this alternative would reduce impacts related to geology and soils when compared to the proposed project.

Greenhouse Gas Emissions

This alternative would result in decreased GHG emissions relative to those associated with pumping under the proposed project as discussed under Trucking Alternative Number 1. However, this alternative would not generate additional construction GHG emissions as under Trucking Alternative Number 1.

Hazards and Hazardous Materials

This alternative involves no construction along the creek, and therefore, does not pose the temporary, short-term risk of spills of potentially hazardous materials such as oil and fuel from construction equipment. Additionally, similar to the proposed project, this alternative would abandon the existing dual 4-inch force mains and would result in an overall beneficial impact relative to the risk of upset or spills.

However, the longer-term operation of this alternative would involve nighttime hauling of sludge, requiring the trucks to traverse approximately 3 miles of unlit roadway. This situation poses a potential safety impact for the truck driver, as well as the potential for spills of sludge or fuel as a result of an accident, that would be greater when compared to the proposed project. Therefore, impacts related to hazards would be greater under this alternative than for the proposed project.

Hydrology/Water Quality

This alternative would require no construction or alterations to the physical environment of the AWCWP. Therefore, when compared to the proposed project, the potential for erosion and sediment runoff would be reduced, and there would be no need for groundwater dewatering. This alternative would also not require the construction of any permanent structures which could place people or housing at risk of flood, or other storm event impacts. Long-term operation of the trucks along AWMA Road could result in the leakage of oil and fuels onto the roadway which would result in polluted runoff to the creek; however, this could be minimized through implementation of appropriate BMPs. Therefore, this alternative would generally result in reduced impacts to hydrology and water quality when compared to the proposed project.

Noise

Nighttime trucking operations would result in significant, long-term operational noise impacts to adjacent sensitive receptors such as residences, particularly at the RTP where residences are in close proximity to the project site. Therefore, impacts would be greater under this alternative.

Paleontological Resources

This alternative would not involve earth-working activities such as trenching; rather all activities would occur above the ground surface. Therefore, this alternative would not disturb any geologic units and would not impact paleontological resources. Impacts would be reduced when compared to the proposed project.

Recreation

Trucking operations would occur along the west side of Aliso Creek where a designated trail system exists and which is frequently used by recreational users. However, because trucking operations would occur at night under this alternative, impacts to recreational users would be reduced, and similar to the proposed project, would have a less than significant impact.

Project Objectives

This alternative would not meet project objective number 3, due to the trucking noise impacts to sensitive receptors, and due to increased risk to wildlife due to same nighttime trucking activity. It would also not meet objective number 1, due to the risk of spills associated with nighttime trucking activity on unlit roadways. As such, it would not meet most of the basic project objectives.

8.3.5 Solids Handling at the CTP

Under this alternative, known as SH-1 in preliminary engineering evaluations, SOCWA would construct solids handling facilities at the CTP such that the existing Export Sludge Handling System could be abandoned. Two approaches were considered for this alternative: (1) construct anaerobic digestion, sludge dewatering system similar to the systems at other SOCWA facilities (resulting in final sludge product concentrations between 22 – 24%), and a cogeneration facility and (2) construct an innovative technology, such as thermal combustion (resulting in final sludge product concentrations over 90%). The latter option could be pursued through a privatized contracting approach based on the relatively unfamiliar technology. Each option would involve the construction of a new, approximately 40-foot-tall building on the CTP site. The remaining sludge would be trucked from the CTP to a final disposal/reuse site (e.g. compost, landfill), traveling along AWMA Road through the park.

Environmental Analysis

Land Use and Planning

Similar to the proposed project, this alternative would not divide an established community, conflict with the Central-Coastal Subregion NCCP/HCP, or generally conflict with the goals and policies of applicable plans. Impacts would be similar to the proposed project and less than significant.

Aesthetics

This alternative would result in greater visual impacts than the proposed project due to the construction of additional facilities at 40-foot heights at the CTP site. The CTP site is currently developed with wastewater treatment facilities, and the new uses would not significantly change the visual character of the site. However, the site is visible from the surrounding AWCWP and vista points, including the Aliso Summit Trail. Therefore, the construction of these new facilities, including buildings up to 40 feet tall, would result in a permanent impact to aesthetics, and impacts would be greater when compared to the proposed project.

Air Quality

This alternative would require construction of new facilities, including centrifuges, ancillary equipment for sludge dewatering, and a cogeneration facility, which would result in construction emissions greater than those under the proposed project. Operational emissions would be expected to be similar to those associated with solids handling at the RTP, assuming the amount of solids handling at the RTP would be reduced proportionately to the new solids handling at the CTP. From a regional perspective, the operational emissions would remain unchanged when compared to the proposed project.

Biological Resources

This alternative would involve construction of new facilities at the CTP site. No construction would occur off the CTP site within the AWCWP. The CTP site has been previously disturbed and no sensitive vegetation communities would be directly impacted from construction of the facilities associated with this alternative. Indirect impacts related to noise, fugitive dust and polluted runoff could impact sensitive species within the AWCWP areas surrounding the CTP. Therefore, when compared to the proposed project, this alternative would reduce impacts to sensitive biological resources.

Cultural Resources

This alternative would be constructed on a previously disturbed area within the CTP site. Excavations related to the construction of the new facilities at the CTP site could potentially result in the discovery and disturbance of cultural resources. However, no known historical or archaeological sites are located where construction would occur and the area to be developed would be less than the area impacted by trenching for the proposed project. When compared to the proposed project, this alternative would reduce potential impacts to cultural resources.

Energy

Under this alternative, sludge would be processed at the CTP and electricity requirements for pumping sludge from the CTP to the RTP would be eliminated. However, more purchased electricity would be required at the CTP for the additional sludge handling process and overall this alternative would require more energy when compared to the proposed project.

Geology and Soils

This alternative would, similar to the proposed project, be located in a seismically active region subject to strong ground shaking and other seismic-related events. Any structures located on the western edge of the site would be located adjacent to potentially active landslide deposits. Due to the size and height of the structures proposed by this alternative, there is potential for loss from a seismic event. However, all structures would be constructed to conform to the Uniform Building Code, which would reduce potential impacts from seismic events or other geologic impacts. Additionally, this alternative would avoid construction along unstable portions of Aliso Creek. Therefore, this alternative would result in reduced impacts related to geology and soils.

Greenhouse Gases

From a regional perspective, the GHG emissions would remain unchanged under this alternative when compared to the proposed project. The GHG emissions associated with generation of

electricity for pumping sludge from the CTP to the RTP would be eliminated. However, more overall purchased electricity and chemical production would result under this alternative when compared to the proposed project (Carollo Engineers 2012). Thus, the overall GHG emissions from this alternative would be greater than those for the proposed project.

Hazards and Hazardous Materials

Similar construction-related hazardous materials would be required for construction of this alternative as for the proposed project. Additional chemicals would be required for the additional treatment processes that would be implemented by the solids handling facilities. However, similar to the proposed project, BMPs would be incorporated to contain accidental spills of hazardous materials. Also similar to the proposed project, a Traffic Management Plan would be required to reduce potential impacts related to emergency access resulting from construction traffic traveling along AWMA road within AWCWP.

The risk associated with failure of the existing force mains would be eliminated under this alternative since all sludge would be processed at the CTP and the existing force mains would be abandoned. Therefore, similar to the proposed project, the risk of upset would be reduced compared to existing conditions.

Hydrology/Water Quality

This alternative would result in an increase in the amount of impervious surfaces on the CTP site, which could result in increased stormwater flows and runoff from the site. Conversion of pervious surfaces to impervious surfaces could also alter the drainage patterns of the site. However, this alternative would require compliance with the Orange County DAMP, and would be designed to avoid alterations to existing drainage patterns and to minimize off-site flows.

For this alternative, similar to the proposed project, SOCWA would prepare a Stormwater Pollution Prevention Plan (SWPPP) and incorporate BMPs during construction (as well as during operation for this alternative) to reduce impacts to water quality that could result from runoff into the adjacent Aliso Creek. Overall, impacts to hydrology and water quality would be similar when compared to the proposed project.

Noise

Construction of this alternative would occur entirely within the CTP site, which is located at the southern end of Aliso Canyon and is surrounded by the AWCWP. Construction noise would generally be associated with the operation of heavy equipment and trucks. Operational noise impacts would also result from this alternative due to the operation of the new solids handling facilities; these operational noise impacts would not occur under the proposed project.

However, while noise generated by this alternative would be greater than for the proposed project, the nearest sensitive receptors to the site would be park users hiking along Aliso Summit Trail and golfers at the Aliso Creek Golf Course, both of which are located greater than 0.25 mile from the CTP site. Therefore, noise generated by this alternative is not expected to result in significant impacts to park users. Similarly, operational noise is not expected to impact residential receptors on the canyon rim.

Paleontological Resources

This alternative would be constructed entirely at the CTP site, which is underlain by younger alluvium. Younger alluvium is classified as having a low sensitivity for the occurrence of paleontological resources. Unlike the proposed project which has the potential to impact geologic units classified as having a high sensitivity (the Topanga and Monterey formations), the potential for discovery of paleontological resources during earthwork is low, and impacts would be reduced under this alternative.

Recreation

All construction and operational activities associated with this alternative would occur at the CTP site at the southern end of the AWCWP. Some trucking would occur along the AWMA Road to remove the final sludge product to a final disposal or reuse site; however, trucking would be infrequent and would not substantially interfere with recreational use of the park. Therefore, similar to the proposed project, this alternative would have less than significant impacts related to recreation.

Project Objectives

This alternative would not meet project objective number 1, since the cost to build the new facilities would be prohibitive and not cost effective. SOCWA estimates an approximate cost of \$17M to construct this alternative, as opposed to approximate cost of \$4M to implement the proposed project; in addition, completed infrastructure at the RTP would go unused if this alternative is implemented, which is not considered a cost effective use of public dollars. This alternative would generally meet the other project objectives.

8.3.6 Summary of Alternatives

A summary of impacts of the alternatives compared to the proposed project is included in *Table 8-3*.

8.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(b), indicate that a list of reasonable alternatives must be developed and considered by the lead agency. Elimination of potential environmental impacts of the proposed project should be considered when developing potential alternatives. As evaluated in *Chapter 4* of this EIR and as shown in the table under the Proposed Project column, the significant impacts of the proposed project are: Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, and Paleontological Resources.

As shown in *Table 8-3* above, the No Project Alternative would be environmentally superior to the proposed project, based on the minimization or avoidance of most of the proposed project's significant environmental impacts. However, the No Project Alternative does not meet most of the basic project objectives. Additionally, CEQA Guidelines, Section 15126.6(c) require that, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Based on the summary provided in *Table 8-3*, the Solids Handling Alternative and Trucking Alternative 2 would result in reduced impacts to four topics (Biological Resources, Cultural Resources, Geology and Soils, and Paleontological Resources). However, Trucking Alternative 2 would result in greater impacts to air quality when compared to the proposed project, and hence, this alternative does not afford the same degree of impact reduction as the Solids Handling Alternative. It would also not meet most of the basic project objectives.

The Solids Handling Alternative would result in the greatest degree of reduction of the proposed project's identified significant impacts, while increasing impacts to other topics, since it would result in greater impacts to Aesthetics, Air Quality, Greenhouse Gas Emissions, and Noise. This alternative would meet most of the basic project objectives, and therefore it is the environmentally superior alternative. However, since all of the proposed project's significant impacts would be fully mitigated to below a level of significance, this alternative would not offer a substantial advantage in terms of impact avoidance for any environmental topic, while increasing impacts elsewhere.

**Table 8-3
Summary of Alternatives' Impacts**

Issue Area	Proposed Project (FM-1 Alternative)	No Project Alternative ¹	FM-2 Alternative	Trucking Alternative No. 1	Trucking Alternative No. 2	Solids Handling Alternative
Land Use & Planning	Less than significant	Similar	Greater impacts	Greater impacts	Greater impacts	Similar
Aesthetics	Less than significant	Similar	Greater impacts	Slightly greater impacts	Similar	Greater impacts
Air Quality	Less than significant	Similar	Similar	Greater impacts	Greater impacts	Greater impacts
Biological Resources	Less than significant with mitigation	Greater impacts	Reduced impacts	Reduced impacts	Reduced impacts	Reduced impacts
Cultural Resources	Less than significant with mitigation	Greater impacts	Greater impacts	Similar	Reduced impacts	Reduced impacts
Energy	Less than significant	Similar	Similar	Reduced impacts	Reduced impacts	Greater impacts
Geology and Soils	Less than significant with mitigation	Reduced impacts	Slightly reduced impacts	Reduced impacts	Reduced impacts	Reduced impacts
Greenhouse Gas Emissions	Less than significant	Similar	Similar	Reduced impacts	Reduced impacts	Greater impacts
Hazards and Hazardous Materials	Less than significant with mitigation	Greater impacts	Similar	Greater impacts	Greater impacts	Similar
Hydrology and Water Quality	Less than significant with mitigation	Greater impacts	Similar	Reduced impacts	Reduced impacts	Similar
Noise	Less than significant	Similar	Similar	Greater impacts	Greater impacts	Slightly greater impacts
Paleontological Resources	Less than significant with mitigation	Reduced impacts	Greater impacts	Reduced impacts	Reduced impacts	Reduced impacts
Recreation	Less than significant	Greater impacts	Greater impacts	Greater impacts	Similar	Similar
Meets Most of the Basic Project Objectives?	Yes	No	Yes	No	No	Yes

¹ Impacts compared to those of proposed project.

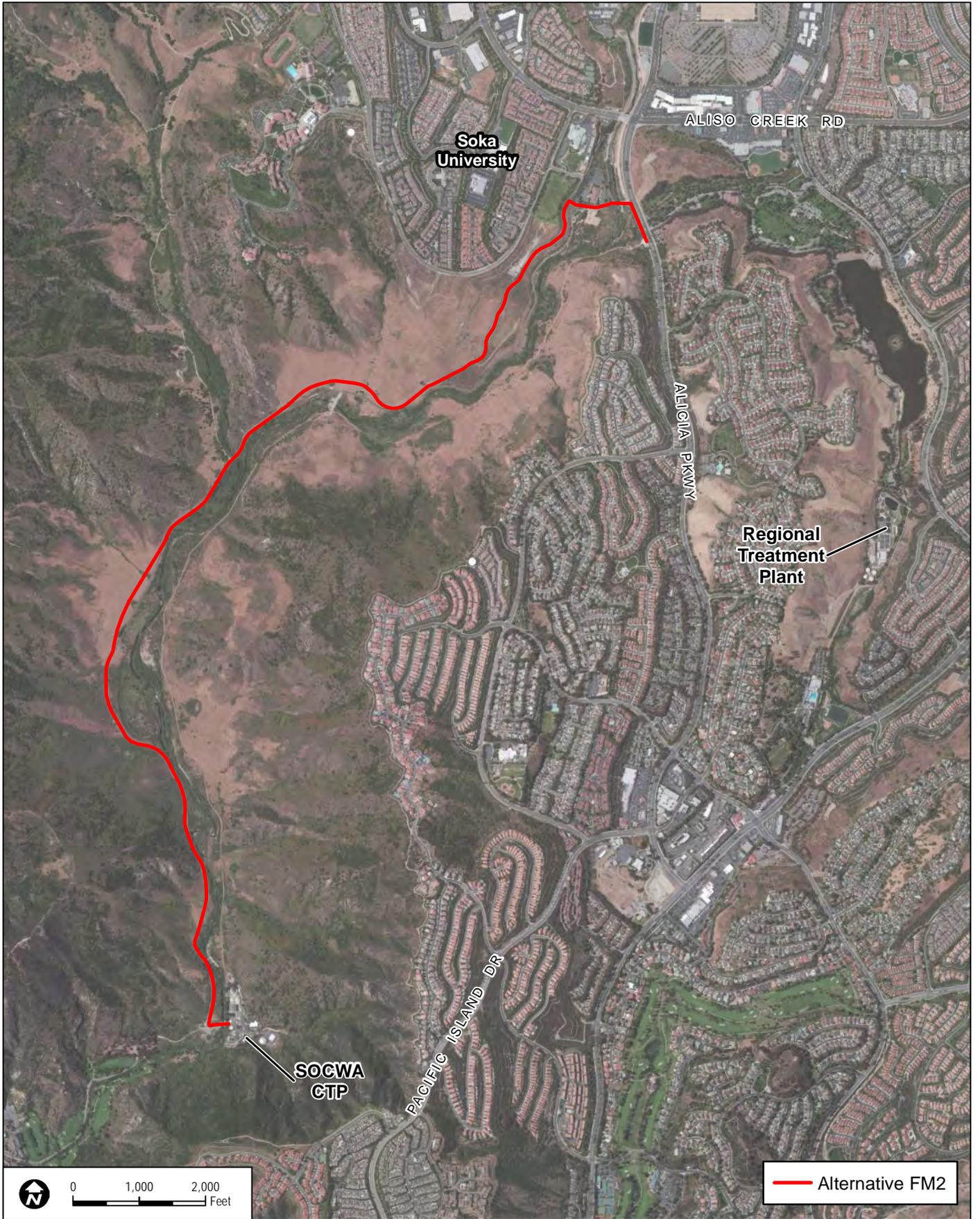


Figure 8-1
Alternative FM2

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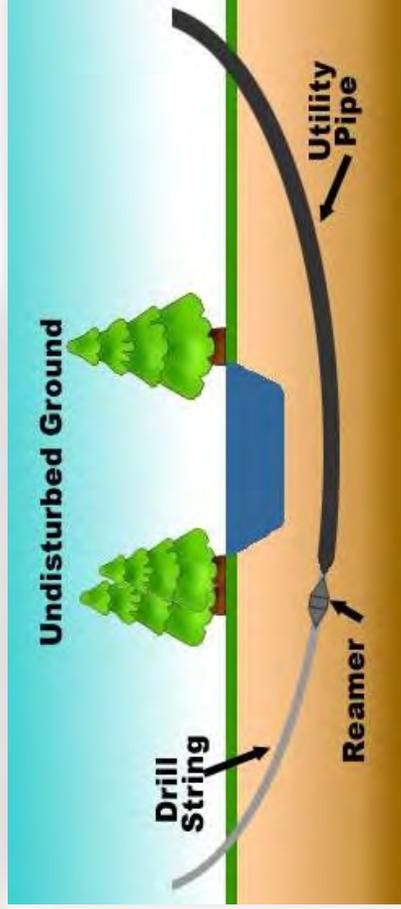
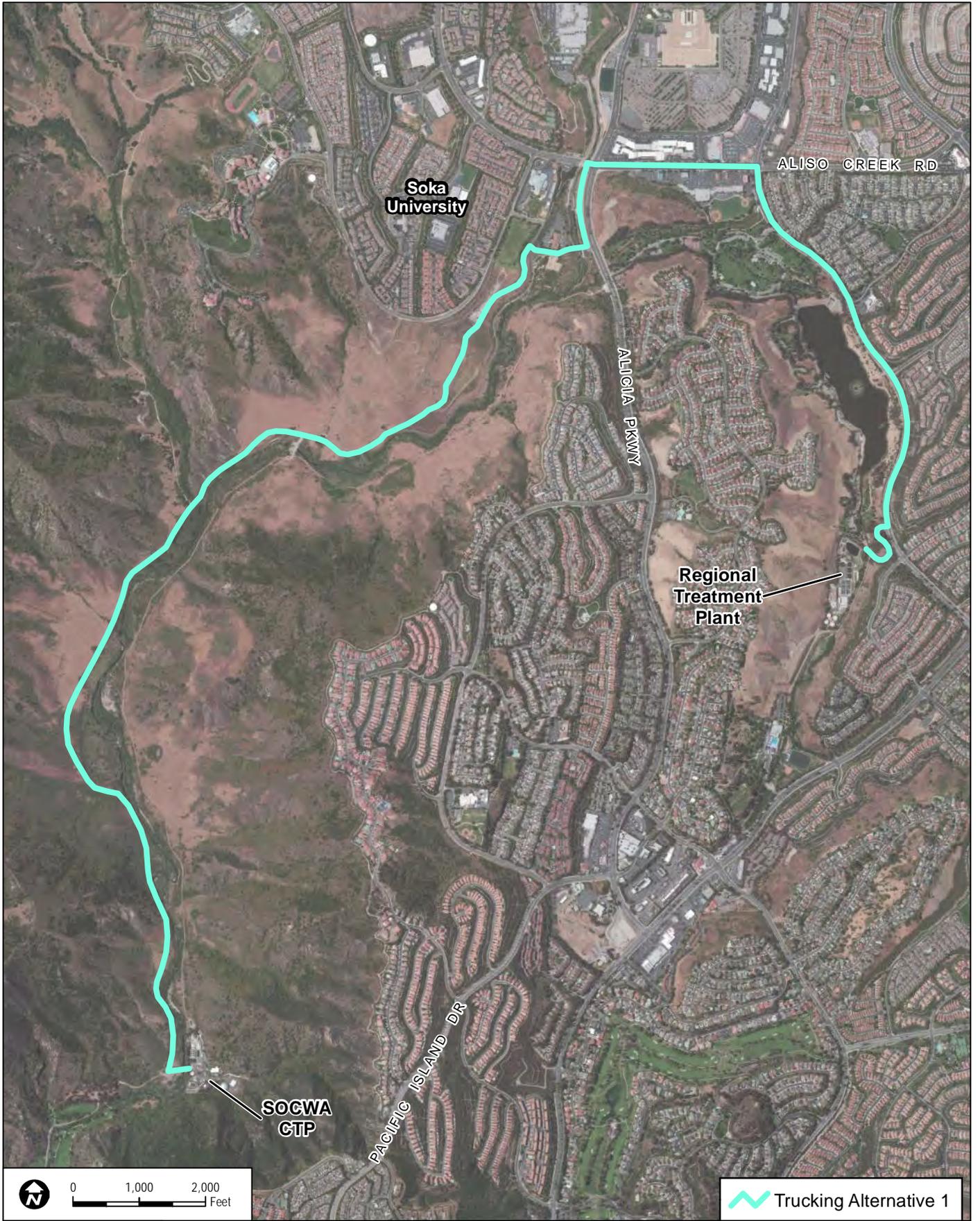


FIGURE 8-2
Horizontal Directional Drilling Technique for Alternative FM2

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CALIFORNIA COASTAL COMMISSION

South Coast Area Office
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W17a

Filed: 9/24/2015
 270th Day: 6/20/2016
 Staff: M. Vaughn-LB
 Staff Report: 5/26/2016
 Hearing Date: 6/8/2016

STAFF REPORT: PERMIT AMENDMENT

Application No.: 5-15-1670-A1

Applicant: South Orange County Wastewater Authority (SOCWA)
 Brian Peck, Director of Engineering

Agent: Amber Geraghty, Dudek

Project Location: Between SOCWA's Coastal Treatment Plant (CTP) and SOCWA's Regional Treatment Plant (RTP), in Aliso Canyon, in Aliso and Wood Canyons Wilderness Park, Orange County

Description of Proposed Amendment: Replace two existing, 4" diameter, ductile iron force main sludge transport pipelines with one, 6" diameter, high density polyethylene (HDPE) force main sludge transport pipeline; creek bank stabilization within Aliso Creek; and mitigation including restoration of riparian and upland habitat in Wood Canyon.

Description of Previously Approved Project P-78-4365: (Exhibit 10) Improvements to the existing 2.5 million gallon per day (MGD) South Coast County Water District (SCCWD) Sewage Treatment Plant to upgrade treatment. Construction of new 4.2 MGD sewage treatment plant immediately adjacent to the SCCWD plant to treat sewage from City of Laguna Beach and Emerald Bay Service District; sewage to be transported to plant via the previously approved North Coast Interceptor (PE-75-779 and 77-1404). Also included are construction of roughly 2.5 miles of a 5 mile force main (that portion within the Coastal Zone) to transport sludge from the Coastal Plant (new SCCWD plant) to the regional sludge facility at the Moulton-Niguel Water District Plant (outside the Coastal Zone) and an effluent transmission line from the Moulton Niguel Plant to the Coastal Plant and eventually to the ocean outfall (P-76-5073 and P-77-1404). The two pipelines will be placed in a common trench. An access road will also be constructed, generally following an existing ranch road on the westerly side of the creek.

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The proposed project would replace an existing force main sludge transport pipeline necessary to transport sludge from the existing Coastal Treatment Plant (within the coastal zone) to the existing Regional Treatment Plant (outside the coastal zone). The Coastal Treatment Plant and the existing and proposed pipelines are located within Aliso and Wood Canyons Wilderness Park. The Park includes extensive sensitive habitat and public trails. In addition, significant cultural resources are known to be present within the general project vicinity. Aliso Creek, a blue line stream, is located near the pipeline alignment. Creek bank stabilization is proposed to protect existing pipelines as well as the proposed pipeline. The proposed project will have impacts on sensitive habitat and a Habitat Mitigation and Monitoring Plan is proposed. In addition, a Construction Monitoring Treatment Plan is proposed due to the presence of cultural resources within the general project vicinity.

Staff is recommending approval of the proposed project subject to six special conditions requiring (in addition to the 16 special conditions required of the original CDP P-78-4365): 1) agreement to non-interference with public access and recreation within Aliso and Wood Canyon Wilderness Park and removal of existing impediments to public access; 2) submittal of a revised Habitat Mitigation and Monitoring Plan as necessary for the protection of sensitive habitat; 3) requirement to conduct a nesting bird survey if work will occur during the nesting season and implementation of measures necessary to protect any nesting birds from construction impacts; 4) requirement to flag, fence or stake the construction site to avoid impacts to adjacent habitat; 5) submittal of final design plans for the proposed creek bank stabilization; and, 6) submittal of a revised Construction Monitoring Treatment Plan and other measures necessary to assure protection of cultural resources. The motion to carry out the staff recommendation is on page 4.

PROCEDURAL NOTE:

The Commission's regulations provide for referral of permit amendment requests to the Commission if:

- 1) The Executive Director determines that the proposed amendment is a material change,
- 2) Objection is made to the Executive Director's determination of immateriality, or
- 3) The applicant appeals the Executive Director's determination that a proposed amendment would lessen or avoid the intended effect of a permit.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Code Regs. § 13166.

The subject application is being forwarded to the Commission because the Executive Director has determined that the proposed amendment is a material change and affects conditions required for the purposes of protecting coastal resources or coastal access.

Staff Note:

Due to Permit Streamlining Act requirements, the Commission must act upon this permit amendment application by June 20, 2016, thus this is the last hearing for Commission action on the proposed project.

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APPENDICES

Appendix A – Substantive File Documents

EXHIBITS

Exhibit 1 – Area Maps

- a) Regional Vicinity Map
- b) Aliso Wood Canyon Wilderness Park Location
- c) Detailed Area Map
- d) Proposed Project Alignment

Exhibit 2 – Project Plans (Pages 1, 4, 8, 13, 25, 31, 32, 33)

Exhibit 3 – Biological Resources Maps (Biological Technical Report, Dudek, October 2012, Figures 5a, b, c)

Exhibit 4 – Mitigation Site Location

Exhibit 5 – Wildlife Corridors (AWCWP RMP, Figure 15)

Exhibit 6 – Nature Reserve of Orange County (AWCWP RMP, Figure 3)

Exhibit 7 – Creek Bank Stabilization Location

Exhibit 8 – “Ranch” OTD Trail Easement Location (A-5-LGB-14-0034)

Exhibit 9 – CTP Relative to “Ranch” Property

Exhibit 10 - CDP P-78-4365 (Aliso Water Management Agency (AWMA))

Exhibit 11 – CDP P-78-4365, Special Condition 13, Notarized Letter Agreeing Not to Interfere with Public Access

I. MOTION AND RESOLUTION:

MOTION: *I move that the Commission approve the proposed Coastal Development Permit Amendment No. 5-15-1670-A1 pursuant to the staff recommendation.*

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE A PERMIT AMENDMENT:

The Commission hereby approves the coastal development permit amendment on the ground that the development as amended and subject to conditions, will be in conformity with the policies of the certified Local Coastal Programs for the area. Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment, or 2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. SPECIAL CONDITIONS

This permit amendment is granted subject to the following special conditions:

Note: All special conditions of the original Coastal Development Permit **P-78-4365** (which is being amended under the amendment number 5-15-1670-A1) remain applicable. CDP P-78-4365 includes sixteen (16) special conditions, all of which remain in effect. The special conditions of this amendment are in addition to the original 16 special conditions and so are numbered accordingly, beginning with Special Condition No. 17.

17. Public Access.

- A. The permittee shall not interfere with or obstruct in any way the public's ability to access public accessways within Aliso and Wood Canyons Wilderness Park, including, but not limited to, along the paved road located west of Aliso Creek (also known as AWMA Road) and/or along the unpaved access/maintenance road along the east side of Aliso Creek, except under the limited circumstances described below in subsections 1B, 1C, and 1D of this special condition.
- B. The permittee shall maintain the CTP access roads free of impediments to public access, including but not limited to gates, fences, and signage restricting or discouraging public access. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT**, the permittee shall submit, for the review and approval of the Executive Director, a written plan for maintenance of the access road free of impediments to public access, including refraining from installing any such impediments and removal of any

existing impediments to public access, including but not limited to, signage discouraging public use of and gates obstructing the two roads described above in subsection 1A. This required plan shall include a time frame for removal and may include controls restricting motor vehicular access and crosswalk beacons or other shared-road safety measures across these roads subject to the review and approval of the Executive Director of the plans depicting the types and locations of these measures. Any motor vehicular controls must allow the passage of pedestrians, bicycles, and equestrians during park operating hours. This required plan shall be developed in conjunction with the Orange County Parks, County of Orange, owner of the subject property. This plan shall be submitted for the review and approval of the Executive Director within one hundred eighty (180) days of Commission action on this coastal development permit amendment (5-15-1670-A1), or within such additional time as granted by the Executive Director for good cause.

- C. Gates precluding public access into the area surrounded by the properly permitted fence surrounding the Coastal Treatment Plant facility itself are permitted so long as any such gates are designed and implemented in a manner that does not interfere with public access connecting inland areas of the Aliso and Wood Canyons Wilderness Park with areas seaward of the Coastal Treatment Plant, including but not limited to, the “offer to dedicate” public access referenced in subsection 1E, below. Plans for such gates shall be included in the plan described above in subsection 1B of this special condition.
- D. Temporary closure, not to exceed three (3) days, for the least duration necessary when required to accomplish a specific pipeline, roadway, and/or treatment plant operational and/or safety goal may be allowed subject to Executive Director approval of a written request from the permittee describing in detail: 1) the reason for the temporary closure; 2) the duration of the temporary closure; and, 3) the location of the temporary closure. Such request shall be submitted in writing to the Executive Director and shall include any necessary supporting exhibits and/or documentation. No closures longer than three (3) days shall occur without a Commission subsequent amendment to this coastal development permit amendment unless the Executive Director determines that no amendment is legally required.
- E. By acceptance of this permit amendment, the permittee acknowledges and agrees not to interfere with the future linking of the trails within Aliso and Wood Canyons Wilderness Park, including, but not limited to, agreeing not to interfere with public access on the two roads described above, and the “offer to dedicate” public access across the site known as “the Ranch at Laguna Beach” within the City of Laguna Beach pursuant to Coastal Development Permit A-5-LGB-14-0034, Special Condition No. 5.
- F. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

18. Revised Habitat Mitigation & Monitoring Plan

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT, the applicant shall submit, for the review and approval of the Executive Director, a revised

Habitat Mitigation & Monitoring Plan (HMMP) that requires and incorporates the following changes:

- 1) Establishes mitigation for all wetland/riparian impacts at a minimum ratio of 4:1 (restoration:impact); establishes mitigation for all special status upland vegetation impacts at a minimum ratio of 3:1 (restoration:impact);
- 2) All mitigation plantings shall be container plantings when shrubs or trees are part of the vegetation;
- 3) All areas of impact, including impacts due to pipeline construction and impacts due to creek bank stabilization, shall be subject to the HMMP, including, but not limited to, requirements regarding mitigation ratios, monitoring and maintenance;
- 4) Maps showing specific locations of temporary and permanent project impacts shall be included;
- 5) Specific soil amendments to be used must be identified in the HMMP;
- 6) No added fertilizer shall be used;
- 7) No permanent fencing shall be permitted; temporary pole and animal migration-friendly single cable or rope fencing to delineate the site with temporary signage with text such as “habitat restoration area, please keep out” may be permitted;
- 8) No permanent irrigation shall be permitted;
- 9) *Isocoma menziesii* shall be eliminated from the seed mix for coastal sage scrub and none shall be planted at the mitigation sites;
- 10) Maintenance and monitoring of the mitigation sites shall be conducted for five years from the date of installation or until success criteria are met, whichever is longer;
- 11) Final monitoring for success shall take place after at least 3 years with no remediation or maintenance other than weeding;
- 12) Success criteria for riparian habitat shall be native species with percentage cover appropriate to unimpacted examples of the vegetation type being restored. There shall be quantitative success criteria for each vegetation layer. Success criteria shall include both cover criteria and criteria for species diversity;
- 13) Monitoring shall be conducted with sufficient replication to detect a 10% difference in cover between the restoration site and the success criterion for total native cover with 90% power and $\alpha=0.10$ using a single sample t-test. The necessary replication should be estimated using a statistical power analysis;
- 14) Include best management practices to avoid the recruitment or spread of non-native invasive species, including the polyphagous shot-hole borer;
- 15) Coastal sage scrub, in addition to qualitative assessment by the project biologist, shall be assessed for quantitative success criteria for the combined vegetative cover of *Artemisia* and *Encelia* by the project biologist making a visual estimate of cover within that small area;
- 16) Add the following language, in the appropriate location, to the Habitat Mitigation & Monitoring Report: *“If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved performance standards, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved performance standards. The revised restoration program, if necessary, shall be processed as an amendment to this coastal development permit.”*;
- 17) Correct HMMP references to Figure 5 such that it makes clear that it is referring to Figure 5 in the Biological Technical Report, Dudek, October 2012, not Figure 5 in the HMMP;
- 18) Consultation with designated OC Parks staff shall be added requiring communication, coordination, reporting and a final walk-through.

- B. The applicant shall implement all mitigation habitat establishment, maintenance, monitoring and management, as proposed and described in the document titled Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plan Export Sludge Force Main Replacement Project, prepared by Dudek, dated August 2015, as revised by the conditions of this permit amendment. Any changes to the approved plan shall be reported to the Executive Director. No change(s) to the approved plan shall occur without a Coastal Commission approved subsequent amendment to this coastal development permit amendment or an approved coastal development permit unless the Executive Director determines that none is legally required.

19. Nesting Bird Survey

- A. If construction activities are to occur during bird nesting season (January 1 through April 30), a qualified biologist, with experience in conducting bird surveys, shall conduct a bird nesting survey(s) within the thirty (30) days prior to commencement of construction to detect any active raptor and/or California Department of Fish & Wildlife (CDFW) listed species and/or species of special concern nests or nesting activity within 500 feet of the construction area. If an active nest or nesting activity is determined to be located within 500 feet of active construction activities, all such activities within 500 feet from raptor nests and 300 feet from CDFW listed species and/or species of special concern, shall cease until the qualified biologist has confirmed that the detected nest(s) is vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. The 500 foot limit (raptors) and/or 300 foot limit (CDFW listed species and/or species of special concern) shall be identified and protected with flagging, stakes, or construction fencing. Construction personnel shall be instructed by the qualified biologist on the sensitivity of the area and biological importance of maintaining the buffer area to allow the continuation of the natural nesting and fledgling process. The biologist shall record the results of the recommended protective measures described above to document compliance with this special condition and with applicable State and Federal laws pertaining to protection of nesting birds. These biologist's recorded results shall be submitted to the Executive Director within fifteen (15) days of discovery of the nest(s), along with a description of protective measures implemented.
- B. Activities allowed under this permit located further than 500 feet of an active raptor and/or 300 feet from an active CDFW listed species and/or species of special concern nest or nesting activities, however, may continue.

20. Habitat Protection Measures During Construction

- A. The construction area/limits of work shall be demarcated by flagging, construction fencing or staking that clearly identifies the boundaries of the construction area. All plans shall include a note apprising all on-site workers of the sensitive nature of the on-site habitat.
- B. As proposed by the applicant to prevent inadvertent disturbance to special status vegetation communities outside the limits of work, all vegetation removal/clearing activities approved by this permit shall be monitored by a qualified biologist.

21. Creek Bank Stabilization Final Design Plans

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT, the applicant shall submit, for the review and approval of the Executive Director, final

engineered plans for the creek bank stabilization aspect of the proposed project, including specific length and width of each final groin configuration. The final design plans shall be in substantial conformance with the conceptual design plans included by the applicant in the initial amendment submittal.

- b. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

22. Area of Potential Archaeological Significance.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT

AMENDMENT, the applicant shall submit for the review and approval of the Executive Director, a revised Construction Monitoring Treatment Plan (CMTP) for the Coastal Treatment Plant Export Sludge Force Main Replacement Project (Dudek, February 2016) prepared by a qualified professional and in conformance with subsection E of this condition that includes all the recommendations of the CMTP prepared by Dudek, dated February 2016 except as modified by the requirements below:

- 1) If any cultural deposits are discovered during project construction, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, the permittee shall carry out significance testing of said deposits and, if cultural deposits are found to be significant, additional investigation and mitigation is required in accordance with this special condition including all subsections. No significance testing, investigation or mitigation shall commence until the provisions of this special condition are followed, including all relevant subsections;
- 2) If any cultural deposits are discovered, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, all construction shall cease in accordance with subsection B of this special condition;
- 3) In addition to recovery and reburial, in-situ preservation and avoidance of cultural deposits shall be considered as mitigation options, to be determined in accordance with the process outlined in this condition, including all subsections;
- 4) Archaeological monitor(s) qualified by the California Office of Historic Preservation (OHP) standards, Native American monitor(s) with documented ancestral ties to the area appointed consistent with the standards of the Native American Heritage Commission (NAHC), and the Native American most likely descendent (MLD) when State Law mandates identification of a MLD, shall monitor all project grading and/or ground disturbance. Required monitoring shall extend the entire length of the pipeline alignment;
- 5) The permittee shall provide sufficient archeological and Native American monitors to assure that all project grading/ground disturbance is monitored at all times;

- 6) All required monitors shall be notified a minimum of 30 days prior to commencement of construction by confirmable means such as certified mail with return receipt. Attempts to contact the required monitors shall include a follow-up phone call;
- 7) If human remains are encountered, the permittee shall comply with applicable State and Federal laws. Procedures outlined in the monitoring plan shall not prejudice the ability to comply with applicable State and Federal laws, including but not limited to, negotiations between the landowner and the MLD regarding the manner of treatment of human remains including, but not limited to, scientific or cultural study of the remains (preferably non-destructive); selection of in-situ preservation of remains, or recovery, repatriation and reburial of remains; the time frame within which reburial or ceremonies must be conducted; or selection of attendees to reburial events or ceremonies. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Where appropriate and consistent with State and Federal laws, the treatment of remains shall be decided as a component of the process outlined in the other subsections of this condition.
- 8) Prior to the commencement and/or re-commencement of any monitoring, the permittee shall notify each archeological and Native American monitor of the requirements and procedures established by this special condition, including all subsections. Furthermore, prior to the commencement and/or re-commencement of any monitoring, the permittee shall provide a copy of this special condition, the archeological monitoring plan approved by the Executive Director, and any other plans required pursuant to this condition and which have been approved by the Executive Director, to each monitor.

B. If an area of cultural deposits, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, is discovered during the course of the project, all construction activities in the area of the discovery that has any potential to uncover or otherwise disturb cultural deposits in the area of the discovery and all construction that may foreclose mitigation options or the ability to implement the requirements of this condition shall cease and shall not recommence except as provided in subsection C and other subsections of this special condition. In general, the area where construction activities must cease shall be no less than a 100 foot wide buffer around the cultural deposit.

C. An applicant seeking to recommence construction following discovery of the cultural deposits shall submit a Significance Testing Plan for the review and approval of the Executive Director. The Significance Testing Plan shall identify the testing measures that will be undertaken to determine whether the cultural deposits are significant. The Significance Testing Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), and the Most Likely Descendent (MLD) when State Law mandates identification of a MLD.

- 1) If the Executive Director approves the Significance Testing Plan and determines that the Significance Testing Plan's recommended testing measures are de minimis in nature and scope, the significance testing may

commence after the Executive Director informs the permittee of that determination.

- 2) If the Executive Director approves the Significance Testing Plan but determines that the changes therein are not de minimis, significance testing may not commence until after an amendment to this permit is approved by the Commission.
- 3) Once the measures identified in the significance testing plan are undertaken, the permittee shall submit the results of the testing to the Executive Director for review and approval. The results shall be accompanied by the project archeologist's recommendation as to whether the findings are significant. The project archeologist's recommendation shall be made in consultation with the Native American monitors and the MLD when State Law mandates identification of a MLD. The Executive Director shall make the determination as to whether the deposits are significant based on the information available to the Executive Director. If the deposits are found to be significant, the permittee shall prepare and submit to the Executive Director a Supplementary Archeological Plan in accordance with subsection D of this condition and all other relevant subsections. If the deposits are found to be not significant, then the permittee may recommence grading in accordance with any measures outlined in the significance testing program.

D. An applicant seeking to recommence construction following a determination by the Executive Director that the cultural deposits discovered are significant shall submit a Supplementary Archaeological Plan for the review and approval of the Executive Director. The Supplementary Archeological Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), the Most Likely Descendent (MLD) when State Law mandates identification of a MLD, as well as others identified in subsection E of this condition. The Supplementary Archeological Plan shall identify proposed investigation and mitigation measures. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. A good faith effort shall be made to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, capping, and placing cultural resource areas in open space. In order to protect cultural resources, any further development may only be undertaken consistent with the provisions of the Supplementary Archaeological Plan.

- 1) If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after the Executive Director informs the permittee of that determination.
- 2) If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not de minimis, construction may not recommence until after a subsequent amendment to the permit is approved by the Commission.

E. Prior to submittal to the Executive Director, all plans required to be submitted pursuant to this special condition, except the Significance Testing Plan, shall have received review and written comment by peer reviewers in accordance with current professional practice, and by representatives of Native American groups with documented ancestral ties to the area (as identified by the Native American Heritage Commission and others known to the Executive Director). Names and qualifications of selected peer reviewers shall be submitted for review and approval by the Executive Director. The plans submitted to the Executive Director shall incorporate the recommendations of the peer reviewers. Furthermore, upon completion of the peer review process, all plans shall be submitted to the California Office of Historic Preservation (OHP) and the NAHC for their review and an opportunity to comment. The plans submitted to the Executive Director shall incorporate the recommendations of the OHP and NAHC. Submittal of the plans to these entities shall be by confirmable means such as certified mail with return receipt and evidence of submittal shall be submitted to the Executive Director along with the plans. If the OHP and/or NAHC do not respond within 30 days of their receipt of the plan, the requirement under this permit for that entities' review and comment shall expire, unless the Executive Director extends said deadline for good cause. All plans shall be submitted for the review and approval of the Executive Director.

- G. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without approval by the Commission of a subsequent amendment to the coastal development permit unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS

A. PROJECT LOCATION, DESCRIPTION AND BACKGROUND

The proposed project would amend a coastal development permit approved in 1978: P-78-4365. Development approved under P-78-4365 included expansion of the existing Coastal Treatment Plant (a sewage treatment plant) and construction of the pipelines now proposed to be replaced. Construction approved under the original coastal development permit was completed in the early 1980s.

The proposed amendment would allow replacement of the force main sludge transport pipelines approved as part of the 1978 permit, which are now more than thirty years old. In the winter of 2010-2011, the existing pipelines experienced failures near Alicia Parkway due to their age and deteriorating integrity. Problems associated with existing pipelines include variability in sludge concentration, pumping pressure, and intermittent operational scenarios leading to internal deposition, and concern over interior and exterior corrosion. Due to the pipelines' age and condition, there is the potential for discharge of sludge into the creek or its tributaries should a failure similar to the 2010-2011 event occur nearer the creek.

The proposed project also includes creek bank stabilization along Aliso Creek. The stabilization project would protect existing pipelines (a 36-inch effluent transmission pipeline (ETM) and an

18-inch gravity sewer pipeline), as well as the proposed replacement pipeline. No work is proposed to the ETM or the gravity sewer pipeline.

Finally, the project also proposes habitat mitigation to offset impacts due to the proposed project. The mitigation is proposed to occur in place along the pipeline alignment in Aliso Canyon and in Wood Canyon, approximately 500 feet upstream of the confluence of Wood and Aliso Creeks. All aspects of the project are located within Aliso and Wood Canyons Wilderness Park, which is owned by the County of Orange and managed by Orange County Parks. The project is described in greater detail below.

A force main pipeline is used to convey sewage wastewater from a lower elevation to a higher elevation. The force main sludge transport pipelines proposed to be replaced transport the byproduct of primary and secondary wastewater treatment stages called sludge and thickened water activated sludge. The pipelines transport the sludge from SOCWA's Coastal Treatment Plant (CTP) inland to SOCWA's Regional Treatment Plant (RTP). The CTP is located approximately one mile inland, near the downstream end of Aliso Creek, inland of Coast Highway and just inland of the recently approved "Ranch" resort project in Laguna Beach (A-5-LGB-14-0034). The RTP is located inland of the Coastal Zone boundary. No increase in capacity is proposed or would result from the proposed development.

Pipeline Replacement

The applicant proposes to fill, cap and abandon in place all but 660 feet of the existing approximately 16,600 linear feet of parallel 4-inch ductile iron force main sludge transport pipelines. The parallel, 4-inch ductile iron pipes (two side by side, four-inch pipelines) will be replaced with one, 6-inch, high density polyethylene (HDPE) pipeline. The HDPE material was selected by the applicant due to its smaller interior diameter, which increases the velocity of the sludge. In addition, the applicant states that the HDPE pipe, due to its thermal fusion joints and material strength, could continue to operate even if surrounding soil was eroded and the pipeline was exposed, whereas the existing pipelines would not.

The replacement pipeline would run roughly parallel to the existing pipelines. The pipeline alignment is east of Aliso Creek, a blue line stream with year round flow. The vast majority of the length of the pipeline replacement alignment will fall within an existing unpaved, maintenance road or within a few feet of the existing road. However, for limited stretches of the project, the pipeline will veer well west of the existing access road, up to a maximum of 90 feet west of the road (Exhibit 2 Project Plans, page 8). A three-foot wide trench is proposed to be excavated and the new pipeline placed a minimum of three feet below grade. The depth of the trench, and correspondingly the final depth of the new pipeline, ranges according to topography and site conditions, from a minimum of three feet to up to approximately twelve feet. Most of the project will use standard open-cut pipeline construction. Construction equipment will include an excavator, dump trucks, and end loaders. Equipment will be stored and staged within the footprint of the existing unpaved, maintenance road.

Within the area located between approximately Station 73+00 and Station 81+00 along the pipeline route (Exhibit 2 Project Plans, page 13), the project encounters site constraints in the form of a large rock outcropping on the east side of the pipeline alignment, by Aliso Creek to the west, and by an area of cultural significance below ground. Along this stretch of the project,

approximately 660 linear feet of the pipeline is proposed to connect to the existing parallel, four-inch force main pipelines via the jack and bore (sometimes called auger boring) method. Along this 660-foot segment of pipeline project, the existing, force main pipelines will remain in service. This trenchless construction method will eliminate the need to cut a continuous open trench in the constrained area and will avoid trenching in culturally significant area. Although open trenching will be eliminated in this section, this method requires excavation of access pits (also called jacking and receiving pits). Two, 12 by 20 foot jacking pits are proposed at either end of the trenchless length, and one 12 by 15 foot receiving pit is proposed in the center. These pits will be excavated to a depth of approximately 1½ feet below the existing pipelines. The access pits will be located east of the existing unpaved maintenance road (and thus east of the creek). The trenchless boring will allow the new six-inch force main pipe to extend to and connect with the existing parallel four-inch force mains. The existing four-inch, parallel force main (as well as the existing effluent transmission main) pipelines were encased within a sixty-inch casing pipe at the time they were originally constructed. The pipeline will then return to the unpaved maintenance road alignment at either end of the site constraints. The proposed jack and boring will occur east of and outside Aliso Creek.

The proposed pipeline replacement project includes the import of approximately 2,450 cubic yards of clean sand to be used for the bedding zone of the pipeline (1-foot below and above the pipe). The sand will be imported to the site over the duration of the project. The material excavated from the trench will be used to refill the trench and any excess dirt will be used to re-grade the dirt road back to pre-construction condition. No export of materials is proposed.

Creek Bank Stabilization

Creek bank stabilization along approximately one hundred feet on the east side of Aliso Creek is proposed in the form of a three rock groins and rock slope protection including a rock windrow at its base. The proposed stabilization work would occur from approximately Station 72 to approximately Station 75 on the project plans (Exhibit 2 Project Plans, pages 13, 31, 32, and 33). More specifically, proposed creek bank stabilization consists of placement of approximately 448 cubic yards of 18" rock (269 cubic yards for rock slope protection and 179 cubic yards for rock windrow); 438 cubic yards of compacted backfill, 718 square yards of geotextile/coir fabric, and replanting the backfilled channel bank with native riparian vegetation. In addition, three rock groins (approximately 20 feet by 5 feet) of 24" to 36" rock, 108 cubic yards in total, are proposed to redirect flows away from the bank and to allow sediment capture upstream of the groins. The creek bank stabilization is proposed to protect both existing pipelines (an effluent transmission pipeline and a gravity sewer pipeline), as well as the proposed replacement pipeline.

Habitat Mitigation and Monitoring Plan

The proposed creek bank stabilization will result in 0.16 acre (about 7,000 sq. ft.) impact to riparian habitat and 0.00069 acre (about 31 sq. ft.) of coastal sage scrub. Habitat restoration of 0.48 acre (about 21,000 sq.ft.) of southern cottonwood willow riparian forest habitat and 0.002 acre (about 90 sq.ft.) of coastal sage scrub habitat is proposed, a mitigation ratio of 3:1 (restoration:impact), to occur within Wood Canyon. The mitigation site is located west of Wood Creek, adjacent to the western side of Wood Canyon Trail. Wood Canyon Trail is a dirt access road used primarily for bicycling, pedestrian and equestrian uses. The mitigation site is bordered to the north, east, and south by the Wood Creek riparian corridor, and by Wood Canyon Trail to the west. Mitigation proposed for impacts due to the pipeline work entails application of a

bonded fiber matrix and native seed hydroseed mix to the area of impact at a mitigation ratio of 1:1. Proposed mitigation is described in the Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, prepared by Dudek, dated August 2015 (HMMP), described in greater detail later in this report.

Project Location

The proposed pipeline replacement project is located between SOCWA's Coastal Treatment Plant (CTP) and Regional Treatment Plant (RTP), within Aliso Canyon, in Aliso and Wood Canyons Wilderness Park. The pipeline alignment lies east of Aliso Creek and east of an unpaved, access/maintenance road. The proposed creek bank stabilization is located on the eastern bank of Aliso Creek, at approximately Stations 72 through 76 (Exhibit 2 Project Plans, pages 13, 31, 32, and 33). The proposed mitigation is located in Wood Canyon, approximately 500 feet upstream of its confluence with Aliso Canyon, also within Aliso and Wood Canyon Wilderness Park.

The pipeline replacement project covers approximately 2½ miles, originating at the Coastal Treatment Plant located in Aliso Canyon, approximately one mile inland of the ocean, extending inland from there to the coastal zone boundary. Outside the coastal zone boundary it would then tie into an existing, but not yet in service, pipeline that would then convey the sludge to the Regional Treatment Plant (located outside the coastal zone).

The majority of the project is located within unincorporated Orange County area, but a small portion of the project at the inland-most end, nearest the coastal zone boundary falls within the City of Laguna Niguel. The entirety of the proposed project, including the pipeline replacement, creek bank stabilization, and mitigation, falls within Aliso and Wood Canyons Wilderness Park (AWCWP). AWCWP is owned by the County of Orange and managed by Orange County Parks. The County is aware of the proposed project, but has declined to be a co-applicant.

Project Applicant

The applicant, the South Orange County Wastewater Authority (SOCWA) is the legal successor to the Aliso Water Management Agency (AWMA). AWMA was the applicant on CDP P-78-4365, which is proposed to be amended under this current amendment request. SOCWA was created on July 1, 2001, to facilitate and manage the collection, transmission, treatment, and disposal of wastewater for more than 500,000 homes and businesses across South Orange County. SOCWA is a Joint Powers Authority (JPA) with ten member agencies, consisting of local retail water agencies and cities that provide water to their residents. SOCWA operates four wastewater treatment plants, including the Coastal Treatment Plant (in coastal zone) and the Regional Treatment Plant (outside coastal zone), which the export sludge force main pipelines proposed for replacement connect. Approximately 36% of the water treated by SOCWA is treated to secondary standards and discharged to the ocean through one of two outfall pipes. The remaining water undergoes tertiary treatment and is reused throughout South Orange County as recycled water.

Original CDP Project

The previously approved coastal development permit (P-78-4365, Exhibit 10), included improvements to the existing 2.5 million gallon per day (MGD) South Coast County Water District (SCCWD) Sewage Treatment Plant to upgrade treatment; construction of a new 4.2

MGD sewage treatment plant immediately adjacent to the SCCWD plant to treat sewage from City of Laguna Beach and Emerald Bay Service District; sewage to be transported to plant via the previously approved North Coast Interceptor (PE-75-779 and 77-1404). Also included was the construction of roughly 2.5 miles of a 5 mile force main (that portion within the Coastal Zone) to transport sludge from the Coastal Plant (new SCCWD plant) to the regional sludge facility at the Moulton-Niguel Water District Plant (outside the Zone) and an effluent transmission line from the Moulton Niguel Plant to the Coastal Plant and eventually to the ocean outfall (P-76-5073 and P-77-1404). The two pipelines were placed in a common trench. An access road will also be constructed, generally following an existing ranch road on the westerly side of the creek. The 2.5 mile force main referenced above is the pipeline that is proposed to be replaced. The access road constructed under the original project coastal development permit is now commonly referred to as the AWMA road.

The original permit was issued to the Aliso Water Management Agency (AWMA). The South Orange County Wastewater Authority (SOCWA) is the legal successor to AWMA. The CTP has been in operation since the 1940s for wastewater treatment. Construction of the current version of the CTP began in 1967. Work under CDP P-78-4365 began in the early 1980s.

B. JURISDICTION

The majority of the project is located within unincorporated Orange County within the County's certified Aliso Viejo LCP. Portions of the project, however, fall within the boundary of the City of Laguna Niguel, and the Laguna Niguel certified LCP. Although the proposed project falls within areas covered by certified LCPs, the proposed project represents a material change to and affects special conditions of a Commission-issued coastal development permit (P-78-4365). Thus the Commission retains jurisdiction over the proposed amendment.

The proposed development is located within an area covered by two certified Local Coastal Programs: the County of Orange Aliso Viejo Segment LCP and the City of Laguna Niguel LCP. However, the proposed development proposes material changes to a previously approved coastal development permit, CDP P-78-4365, granted when there was no certified LCP for the project area. The Coastal Commission approved the original coastal development permit, and therefore retains jurisdiction over material changes to the approved project. Although the Commission retains permit amendment authority over this project, the standards of review for the proposed amendment, are the two certified Local Coastal Programs covering the subject site.

The County's Aliso Viejo LCP was effectively certified on September 11, 1986. Initially, the County's Aliso Viejo LCP was applicable to the entire project area. However, on December 1, 1989, the incorporation of the City of Laguna Niguel became effective, causing that portion of the County's LCP located within the then new City of Laguna Niguel to lapse. However, an LCP for the City of Laguna Niguel was approved as submitted by the Commission on November 14, 1990. The City of Laguna Niguel LCP adopted all the applicable portions (all policies, land use designations, zoning and development standards) of the County's previously certified Aliso

Viejo LCP¹. Thus, the policies of both the County’s Aliso Viejo LCP and the City of Laguna Niguel LCP are identical².

In addition, though not a document reviewed by the Coastal Commission and not a standard of review, the Aliso and Wood Canyons Wilderness Park Resource Management Plan (RMP), provides more recent (2009 vs 1987 and 1990) consideration for uses and management within AWCWP and provides insight as to the OC Park’s (the owner of the property) goals for the area. The RMP is required by the Orange County Central and Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (also not a Commission-approved plan) to establish policies and adaptive management plans for fire, habitat restoration/enhancement, and recreation for each County park within the habitat reserve system. The AWCWP RMP includes specific policies for managing and monitoring the park, including polices addressing habitat restoration and enhancement, public access and recreation, and cultural resources. As stated in the RMP: “The major objectives [of the RMP] are to enhance wildlife habitats, develop vegetation management practices, and provide recreational opportunities and public access that have minimal impacts on resources.”

Although the standards of review for the proposed amendment are the two certified LCPs that cover the subject site, to the extent that the RMP is consistent with those LCPs, it provides a source of guidance in implementing the LCPs in a manner that protects habitat while recognizing the public access and recreation components of the public park. The RMP has been considered herein as guidance, but does not constitute a standard of review.

C. HABITAT

County of Orange Aliso Viejo Segment and City of Laguna Niguel LCP Policies:

1. Resource Component Policies

a. Environmentally Sensitive Habitat Areas

1)To preserve identified wildlife and vegetation habitats in the Aliso Viejo LCP Segment by controlling human access and accepting habitat area dedications, and to safeguard key areas for scientific/educational values.

2)To prevent the elimination of fish or wildlife species due to man’s activities, to ensure that fish and wildlife populations do not drop below self-perpetuating levels, to preserve for future generations representations of all animal communities and to provide for public viewing of these species.

3) ...

4)Key areas of chaparral or coastal sage scrub identified as warranting conservation measures shall be protected from man’s activities and preserved for

¹ The City of Laguna Niguel LCP also adopted all applicable portions of the County’s previously certified South Laguna Segment LCP, but no part of the proposed project falls within that area.

² Except that the City’s LCP made changes to refer to the “City” rather than the “County” and to the “City Council” rather than the “Board of “Supervisors”, and adjustments to the boundaries

observation and future generations; intrusion on these areas for wildlands fuel modification programs shall be minimized.

5)To preserve the natural resources of the Aliso Viejo LCP Segment by planning for, and assuming management responsibility for open space areas required for ecologic and other scientific study purposes; and watershed management and other natural resources purposes.

6)To retain Aliso Creek and other stream channels in a natural state or enhance them to the maximum extent possible.

7) ...

8)To maintain ecological balance by protecting from infringement those areas in and along Aliso Creek which have significant environmental value.

9)Preserve significant riparian areas in the Aliso Viejo LCP Segment as sources of shelter and water for wildlife.

10)Ensure that improvements within the corridor are compatible with the natural environment and do not damage ecologically sensitive areas.

11)Preserve a continuous open space corridor along Aliso Creek in order to maintain animal migration opportunities, and preserve natural and recreational resource values.

Aliso and Wood Canyons Description

Aliso and Wood Canyons Wilderness Park (AWCWP) covers 3,873 acres including hills, canyons, and floodplains surrounding Aliso and Wood Canyons and portions of Laguna Canyon. AWCWP is located at the lower reach of the Aliso Creek watershed. The landscape ranges from oak woodlands to grassland and coastal sage scrub. AWCWP is part of a larger 17,000-acre regional coastal ecosystem comprised of Laguna Coast Wilderness Park, Crystal Cove State Park, and the City of Irvine Open Space and is a significant component of the Nature Reserve of Orange County (NROC). The NROC forms a large island of habitat almost entirely surrounded by urban development. Despite past uses and proximity to urban development, the nature reserve supports many of the typical and unique landscapes native to coastal Southern California. The connectivity between these areas within the nature reserve provides a rare opportunity for preservation of a functional wildland habitat (Exhibit 6).

AWCWP is also part of the Orange County Central and Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The Aliso and Wood Canyons Wilderness Park Resource Management Plan, prepared by Orange County Parks (OC Parks), August 2009 states:

“Biologically, the NCCP/HCP Habitat Reserve preserves a microcosm of the California Floristic Province, an identified biodiversity hot spot in North America and a genetic reserve for the continent. The Reserve, of which AWCWP is a part, is therefore

regionally and nationally significant as a prime example of this unique habitat web, yet it occurs in an area that [is] nearly surrounded by existing development, with the attendant human influences.”

Overall, AWCWP contains seven unique habitat types: coastal scrub; chaparral; grassland; vernal pools, seeps, and meadow habitats; marsh; riparian; and woodland habitats. Also present within the park are disturbed habitat areas characterized by non-native plant species, although this represents a small amount compared to the entirety of the park (approximately 41 acres of the 3,873 total park acres). AWCWP also has high species diversity and numbers of wildlife due to the quality native habitat associated with the undisturbed slopes and canyons and its diverse habitat types. In addition, the connectivity and continuity of this high quality habitat with adjacent native lands promotes, protects, and enhances the survival of a variety of wildlife species. AWCWP provides wildlife corridors/linkages that unify locally established open space and wilderness areas (Exhibit 5).

A Biological Technical Report (Dudek, October 2012) was prepared for the subject site that surveyed the area within 500 feet of the proposed pipeline alignment. The Biological Technical Report found four pairs of California gnatcatchers and two uncapped individuals; seven pairs of least Bell’s vireo; and seven other special status wildlife species were observed in the study area during the focused surveys: cooper’s hawk, Nuttall’s woodpecker; western pond turtle, yellow-breasted chat, yellow warbler, and white-tailed kite. In addition, northern harrier and southwestern willow flycatcher have the potential to be present in the vicinity. Fourteen vegetation communities (including disturbed forms) were mapped that are considered special status pursuant to local, state, and federal guidelines and policies (including those listed on the HMMP Table 1, below). In addition, the Biological Technical Report states:

“Aliso Creek is identified in the Central-Coastal Subregion NCCP/HMP as part of a linkage system from the Sycamore Hills to the San Joaquin Hills via Laguna Canyon. Riparian corridors are typically used by wildlife as movement corridors and this links inland areas of Orange County with the Pacific Ocean, less than two miles west of the CTP [Coastal Treatment Plant]. Abundant mule deer and coyote prints were observed on sand bars, benches, and margins of the main channel during focused surveys, and bobcat and mountain lion were also detected in the study area, indicating that Aliso Creek is functioning as a wildlife use and movement corridor.”

Based upon all of the above, the subject vicinity is considered to be biologically significant. The goal of the LCP policies cited above, is to preserve and protect, to the maximum extent feasible, the habitat value of Aliso Canyon. The policies also recognize the need to balance public use of the Park with protection of habitat resources (Policy a11, above, requires preservation of both natural and recreational resource values). The LCPs’ requirement to preserve habitat while allowing for public use is also reflected in the Recreation and Visitor Serving Facilities and the Public Access and Trails policies cited later.

Pipeline Construction Impacts

The proposed pipeline alignment is within Aliso Canyon, east of Aliso Creek. To the maximum extent possible, the proposed pipeline will be placed within the existing dirt access road. However, the proposed pipeline alignment will result in adverse impacts to sensitive habitat.

These impacts are caused by ground disturbance from trenching activities within the footprint of the pipeline alignment and due to stockpiling and staging within the footprint of the existing dirt road. Construction is proposed to occur within a 30-foot wide, temporary construction easement. Although only three feet of the 30-foot wide easement will be excavated to accommodate the pipeline trench, additional portions of the easement will be used for access and temporary construction staging.

The applicant has characterized impacts due to the pipeline construction as temporary because no permanent displacement of habitat will occur and the disturbed area is to be reseeded with hydroseed mix at the conclusion of construction. As proposed, these impacts are to be mitigated at a 1:1 ratio. However, the Commission has classified these types of impacts (where the impact footprint is restored) as permanent impacts for mitigation purposes in cases where: the ground is significantly disturbed or the vegetation removed, where the habitat impacted is especially significant, where there will be delay (typically one year or more) between occurrence of the impacts and full restoration of the impacted vegetation, and, where the area of impact is large. All of these circumstances are present with the proposed project. Therefore, the impacts characterized by the applicant as temporary are more appropriately characterized as permanent for purposes of mitigation. Thus, these permanent impacts must be mitigated with ratios appropriate to the category of habitat impacted.

More specifically, impacts within the pipeline footprint (characterized by the applicant as temporary, but considered by the Commission to be permanent impacts) are described in the proposed *Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project*, prepared by Dudek, dated August 2015 (HMMP) as follows:

Table 1
Temporary Impact Summary

Vegetation Community/Land Cover	Impacts (Acres)
<i>Natural Uplands</i>	
California Sagebrush Scrub	1.88
Coyote Brush Scrub	0.57
Menzies' Goldenbush Scrub	0.06
California Annual Grassland	3.60
<i>Subtotal</i>	<i>6.11</i>
<i>Riparian and Wetland Communities</i>	
Southern Willow Scrub	0.0066
Southern Cottonwood–Willow Riparian Forest	0
Arundo-Dominated Riparian	0
Mulefat Scrub	0.0406
White Alder–Mulefat Scrub	0.01
Yerba Mansa Meadow	0.003
Open Channel	0.0002
<i>Subtotal</i>	<i>0.0604</i>
<i>Non-Natural Land Covers</i>	
Developed Land	0.24
Disturbed Habitat	3.67
Ruderal	0.85
Ornamental	0.01
<i>Subtotal</i>	<i>4.77</i>
Total	12.48

Areas of habitat impact are depicted on Exhibit 3. Of the impacts identified above, the 1.1 acres of impact to developed, ruderal, and ornamental area do not constitute impacts that require mitigation. Therefore, of the 12.48 acres of impact identified, 1.1 do not require mitigation, leaving a total of 11.38 acres of impact that do require mitigation. The Commission has typically required a mitigation ratio of 3:1 (mitigation:impact) for upland habitats and 4:1 for riparian/wetland habitat communities. However, mitigation is proposed at only a 1:1 ratio.

Creek Bank Stabilization Impacts & Proposed Mitigation:

The HMMP identifies permanent project impacts due to the proposed placement of three rock groins and rock slope protection necessary for creek bank stabilization (described later in this report) within the creek and creek banks. Total impacts due to the proposed creek bank stabilization include 0.16 acre of impact to Southern Cottonwood Willow Riparian Forrest (SCWRF) and 0.00069 acre of coastal sage scrub (CSS). The applicant is proposing to establish 0.48 acre of Southern Cottonwood Willow Riparian Forrest habitat and 0.002 acre of coastal sage scrub habitat. The proposed HMMP states:

“The proposed mitigation activities will establish native SCWRF vegetation suitable for use by wildlife for nesting, breeding and forage, and will also serve to provide additional wildlife corridor linkage, as described in Section 5.4. This establishment [mitigation] site is currently dominated by non-native annual grasses and ruderal species, which appear to be regularly disturbed by mowing. Several isolated patches of CSS individuals are scattered around the periphery of the site.

Replacement of the non-native, regularly disturbed vegetation with a native vegetation community will increase habitat functions for wildlife, reduce reestablishment of invasive species, provide soil cover for erosion control, and expand contiguous native vegetation communities with adjacent riparian corridor of Wood Creek, thereby reducing potential negative edge-effects. In addition, stands of invasive non-native species within the proposed mitigation sites currently serve as a seed bank for non-native plant species and likely contribute to the degradation of and infestation by non-native species in Aliso Creek. Converting the area into a mitigation site will have a net benefit to the surrounding areas through reduction of this invasive plant species seed source. Since the site would no longer experience regular, human disturbance from mowing, the site could function as a location to host native plant and animal species, which the current mowing regime severely limits.”

The proposed mitigation site is located within Wood Canyon (Exhibit 4), in AWCWP. The proposed mitigation represents a ratio of 3:1 for both riparian/wetland habitat impacts and upland habitat impacts. As stated above, typically the Commission requires a mitigation ratio of 4:1 for riparian/wetland habitat impacts and 3:1 for upland habitats. The Commission typically imposes the higher, 4:1 mitigation ratio for wetlands/riparian habitats to address the loss of habitat value in the interim between the loss of habitat and the establishment of the fully functioning replacement, a recognition that a high portion of artificially restored or created habitats are not successful, and for those that are successful, they can tend to be less diverse than natural or even natural but degraded wetland/riparian systems. That is, only by requiring mitigation at a 4:1 ratio can the Commission find that the proposed loss of wetlands/riparian habitat will indeed be offset

by the restoration effort that will not be complete until well after the initial loss. The higher ratio also recognizes the statewide significance of these types of habitat and that their historic loss places greater value on those that remain. As much as 75% of coastal wetlands in southern California have been lost, and, statewide up to 91% of wetlands have been lost. Additional mitigation area may compensate for problems and/or delays that may arise in developing the mitigation site to full function. An alternate to the increased mitigation ratio would be to establish a fully functioning mitigation site prior to creating the impacts that result in the habitat loss. Typically, this is not the preferred alternative of project proponents.

Revised Mitigation Plan Required

As proposed, the *Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project*, prepared by Dudek, dated August 2015 (HMMP) is not adequate. As described above, the proposed mitigation ratio is insufficient to assure that adverse habitat impacts will indeed be offset. The revised HMMP must provide increased mitigation ratios of 3:1 (mitigation to impact) for all upland impacts, and 4:1 (mitigation to impact) for all wetland/riparian impacts. Thus, based on the information contained in the proposed HMMP, there are 0.0604 acre of riparian/wetland habitat impacted by the pipeline alignment, which requires mitigation at a ratio of 4:1; and 6.11 acres of natural uplands, and 3.67 acres of disturbed habitat which require mitigation at a ratio of 3:1. This increased ratio is appropriate for the reasons described above and because the temporal loss is large when trees are impacted, as is the case with the proposed project's impacts to southern cottonwood willow riparian forest habitat. This requirement for increased mitigation area can be accommodated within the surrounding ruderal and disturbed vegetation and arundo dominated riparian along Aliso Creek (as mapped in the Biological Technical Report, prepared by Dudek, dated October 2012; Fig. 3), and if necessary, by expanding the mitigation area proposed in Wood Canyon.

In addition, the HMMP includes hydroseeding only along the area of pipeline impacts and a combination of container and hydroseeding in the area of creek bank impacts. This must be revised to include container plantings for both pipeline alignment as well as creek bank impacts because container plantings have greater establishment success than hydroseeding alone. This would increase the likelihood of success and reduce the duration of interim loss of habitat.

The HMMP should be further revised to specifically identify any soil amendment to be used and to specifically preclude the use of added fertilizer. In addition, *Isocoma menziesii* must be eliminated from the proposed coastal sage scrub seed mix because it is an aggressive colonizer and can overwhelm other species.

Effective monitoring of the mitigation sites must be conducted with sufficient replication to detect a 10% difference in cover between the restoration site and the success criterion for a total native cover with 90% power and $\alpha = 0.10$ using a single sample t-test. A point-contact transect is a single replicate. The necessary replication should be estimated using a statistical power analysis. A revised HMMP must be submitted which incorporates these changes.

In addition, the proposed HMMP describes the success criterion for SCWRF as 80% cover relative to pre-impact vegetation after two years. However, monitoring is required for five years and success criteria should be based on native species with percentage cover appropriate to unimpacted examples of the vegetation type being restored. Moreover, there must be quantitative

success criteria for each vegetation layer. Success criteria must include both cover criteria and criteria for species diversity. As proposed the HMMP does not do this, and so must be revised accordingly.

Also, the HMMP states “The CSS buffer vegetation development will be qualitatively assessed by the Project Biologist.” However, there should be quantitative success criteria for the combined vegetative cover of Artemisia and Encelia that can be monitored by the Project Biologist by making a visual estimate of cover within that small area. As proposed the HMMP does not do this, and so must be revised accordingly.

Maintenance activities are proposed for the 5-year maintenance and monitoring period. It should be 5 years or until the success criteria are met, whichever is longer. As proposed the HMMP does not do this, and so must be revised accordingly.

The HMMP must be revised to add the following requirement: “If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved performance standards, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved performance standards. The revised restoration program, if necessary, shall be processed as an amendment to this coastal development permit, unless the Executive Director determines that none is legally required.”

For these reasons, it is important that the revised HMMP be submitted for the review and approval of the Executive Director to assure the measures are incorporated as necessary to assure adequate mitigation is provided and adverse impacts to habitat are minimized to the maximum extent feasible. Therefore, the Commission imposes Special Condition 18, which requires submittal of the revised HMMP. Only as conditioned, can the project be found to be in conformance with the Environmental Hazards policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

Other Necessary Habitat Protection Measures

As proposed by the applicant and included as Mitigation Measure Bio 2.1 to the project EIR, a qualified biologist shall be present on-site during all vegetation removal. The biologist shall have the authority to stop work in the event impacts to special status species outside the project footprint appear likely. In addition, the limits of work must be identified via flagging, staking, or fencing in order to avoid inadvertent impacts to sensitive habitat and/or species beyond the project limits. In order to minimize adverse impacts on habitat the Commission imposes Special Condition 20, which requires implementation of these habitat protection measures during project construction. Only as conditioned, can the project be found to be in conformance with the Environmental Hazards policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

As stated above, sensitive bird species, including the California gnatcatcher, least Bell’s vireo, cooper’s hawk and others are present in the project vicinity. In order to avoid impacts to these species, impacts during the nesting season must be avoided. If construction activities are to occur during the bird nesting season (January 1 through April 30), a qualified biologist with experience in conduction bird surveys, must conduct nesting bird surveys to identify their presence or

absence during construction. If active nests are identified within the construction area, work shall cease within 500 feet for raptor and within 300 feet for California Department of Fish & Wildlife listed species and/or species of special concern. Work outside these limits, however, may continue. In order to avoid adverse impacts to sensitive bird species during nesting season, the Commission imposes Special Condition 19, which requires that surveys for nesting birds be conducted by a qualified biologist when work is undertaken during the nesting bird season. Only as conditioned, can the project be found to be in conformance with the Environmental Hazards policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

D. PUBLIC ACCESS

Aliso Viejo & Laguna Niguel LCP Policies:

b. Recreation and Visitor Serving Facilities

- 6) To provide for maximum public access to the amenities afforded by the site.*
- 7) To arrange building, structures and man-made improvements so that scenic aspects of the site are available for public enjoyment.*
- 13) Public access to the Aliso Creek corridor through private and public developments shall be provided.*
- 16) To ensure that park lands will be increased proportionately with increases in population.*

c. Public Access and Trails

- 17) To provide (and to describe the location within area plans to be developed) hiking, bicycling and equestrian trail systems that are continuous and which connect schools, recreation nodes, community centers, residential areas and other areas of high public use within the urban and open space areas of Laguna-Aliso.*
- 18) To provide for continuous pedestrian, equestrian, bicycle and public transit circulation through the Aliso Creek corridor to Pacific Coast Highway.*
- 20) Investigate regional systems such as utility easements for possible dual use as regional open space and trail linkages.*

The AWMA (paved) road is shown on *Figure 11 Coastal Access* of the LCPs as a regional hiking and riding trail.

The proposed project, including the pipeline replacement project, the creek bank stabilization project, and the mitigation restoration project are all located within Aliso and Wood Canyons Wilderness Park (AWCWP). AWCWP is owned the County of Orange and managed by Orange County Parks (OC Parks). Aliso and Wood Canyons Wilderness Park (AWCWP) covers 3,873 acres, including hills, canyons, and floodplains surrounding Aliso and Wood Canyons and portions of Laguna Canyon. AWCWP's location is convenient to major freeways and arterials, making it an extremely popular recreation destination for not only nearby residents, but also regional, statewide and even national visitors. AWCWP is located at the lower reach of the Aliso Creek watershed. The diverse landscape and topography provides spectacular views and opportunities for a variety of visitor experiences. Consistent with OC Parks definition of a

wilderness park³, the County manages the park in a manner intended to protect and preserve native habitat for the benefit of its natural resources, while also providing outdoor education and low-impact public recreational opportunities

According to OC Parks Aliso and Wood Canyons Wilderness Park Resource Management Plan, August 2009 (RMP), the major objectives in managing the park are “to enhance wildlife habitats, develop vegetation management practices, and provide recreational opportunities and public access that have minimal impacts on resources.” The RMP includes the following goals and strategies: “Achieve compatibility between protection of the site’s natural and cultural resources and human use demands.” The RMP also includes the following goal and strategy: “Allow for passive recreational uses that contribute to enjoyment of the natural resources and promote healthy lifestyles (recognizing that park uses must have minimal impact on park resources and be compatible with a wilderness experience).” Finally, the RMP recognizes that OC Parks will improve the current network of authorized trails.

Goals for AWCWP identified by OC Parks in the RMP include:

- *Provide public use facilities and associated services with the park as needed to facilitate public enjoyment of the natural setting.*
- *Provide a trail system that provides a broad public benefit by accommodating diverse trail uses and abilities.*
- *Provide a comprehensive trail system that promotes linkages within the park to the Pacific Ocean and to adjacent communities and to other regional trails and destinations outside the park.*
- *Provide a trail system that balances recreation demand with the primary purpose to protect the natural and cultural resources within the park.*
- *Provide sufficient access to the park trail system to adequately serve the public and to discourage the creation of unauthorized and individual access points by adjacent neighbors.*
- *Accommodate trail amenities that maintain the natural character of the land, enhance resource protection and contribute to the enjoyment of open space.*
- *Provide a trail system that promotes and enhances public enjoyment and appreciation of the natural, cultural, and scenic resources.*

³ OC Parks definition of Wilderness Park: “A regional park in which the land retains its primeval character with minimal improvements and which is managed and protected to preserve natural processes. The park (1) generally appears to have been affected primarily by forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation’ (3) is of sufficient size to make practicable its preservation and sue in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic or historic value. In essence, park uses envisioned will result in minimal impact to existing park resources and are compatible with a wilderness experience.”

- *Identify appropriate passive uses of the park and prohibit inappropriate recreational uses.*
- *Provide a bikeway to Aliso Beach Park consistent with the regional bikeway plan (OCTA Strategic Bikeways Plan).*
- *Provide a trail on the east side of Aliso Creek from Alicia Parkway to the Coastal Treatment Plant.*

A connection between AWCWP and the Pacific Ocean is identified as desirable in both the certified LCPs for the project site and in the RMP for the park. Regarding this connection, the RMP states: “The AWMA Road exits AWCWP through the Aliso Creek Golf Course [now called “The Ranch at Laguna Beach”, subject of CDP A-5-LGB-14-0034] and ends at PCH [Pacific Coast Highway] and the Beach parking lot. At present, this is not an authorized connection from AWCWP to Aliso Beach Park. A connection from AWCWP to Aliso Beach Park would be desirable.” Regarding this connection, the certified LCPs for the project include the following requirements: “To provide for continuous pedestrian, equestrian, bicycle and public transit circulation through the Aliso Creek corridor to Pacific Coast Highway.” and “Provide a bikeway to Aliso Beach Park consistent with the regional bikeway plan (OCTA Strategic Bikeways Plan).” Public parking lot present at AWCWP entry at inland end of the AWMA road, adjacent to Alicia Parkway, a major arterial and thus major public access route to the park trailhead. Moreover, an existing trail/class 1 bikeway exists immediately inland along Aliso Creek. Thus, use of the AWMA road as a bikeway to the coast would be an extension of an existing, popular trail/bikeway.

When Coastal Development Permit P-78-4365 for additions to the Coastal Treatment Plant was approved, the approval included construction of the paved access road known as the AWMA Road and the unpaved, maintenance road along the dual sludge force main pipeline alignment. CDP P-78-4365 was approved subject to 16 special conditions. Special Condition No. 13 of that permit states:

“The applicant shall submit a signed and notarized letter agreeing that the Aliso Water Management Agency will not interfere in any plans that may be made by the Aliso Viejo Company (or successors in interest), the County of Orange, and/or the Coastal Commission (or its successor agency) for any trail or tramway or other public access way along Aliso Creek pipeline easements. AWMA shall allow access easements & accessways to cross and/or follow their pipeline easements, accessways, and treatment plant locations, if necessary, to implement public access through Aliso Canyon.”

As required by this special condition, the applicant, SOCWA the legal successor to Aliso Water Management Agency, may not interfere with public access plans of the County of Orange or the Coastal Commission along the Aliso Creek pipeline easements and accessways and must allow access easements and accessways to cross and follow their pipeline easements⁴, accessways, and treatment plant locations. Pipeline easements and SOCWA accessways include the paved

⁴ The project is located within a public park owned by the County of Orange, and managed by OC Parks. The applicant, SOCWA, holds easements allowing it to access its Coastal Treatment Plant through the park and to access the infrastructure pipelines located between the CTP and the Regional Treatment Plant within the park.

AWMA Road on the west side of Aliso Creek and the unpaved, maintenance road on the east side of the creek. Nevertheless, gates and signage discouraging public access exist in these areas, inconsistent with the requirements of the project's approval. These gates and signs were not a part of CDP P-78-4365 and no other CDP has been approved for them. Gates exist at the northerly portion of the AWMA road at the Wood Canyon trailhead and at southerly end of the AWMA road. Signage discouraging public access is present in these same areas. The applicant acknowledges informal trail use of both the AWMA road and the unpaved maintenance road by the general public.

A 'trail to the sea' has long been sought by the Coastal Commission, County of Orange, City of Laguna Beach and residents and visitors of the project area. Such a 'trail to the sea' would connect the AWCWP and inland areas of Orange County to the County's Aliso Beach, extending from the trails of AWCWP, generally along Aliso Creek, downstream to the County's Aliso Beach. Such a trail would provide an important non-automobile regional linkage between the beach and densely urbanized inland areas of Aliso Viejo, Laguna Niguel, and the remainder of the County. Indeed, LCP policies cited above seek this trail connection. The Aliso Beach Park Class 1 Bikeway is a master-planned regional bikeway intended to stretch from the mountain foothills to the Pacific Ocean. Currently this bikeway stretches inland 18 miles, beginning at the foot of the Santa Ana Mountains, at the intersection of Santiago Canyon, El Toro, and Live Oak Canyon roads (Cook's Corner) and extending south into AWCWP. A final connection, through "the Ranch" and to Aliso Beach, is nearer now than it has ever been. It is important that the AWMA roads (paved and unpaved) remain available as a public pedestrian and bicycle trail with the ultimate goal of connecting eventually to the sea.

In approving "The Ranch" hotel development (CDP A-5-LGB-14-0034, Laguna Beach Golf and Bungalow Village, LLC), the Commission imposed, consistent with the applicant's proposal, Special Condition No. 5, requiring recordation of an Offer to Dedicate an easement for a public pedestrian and cycling trail. SOCWA's AWMA Road extends up to this recorded offer of dedication of the public pedestrian and cycling trail. The privately owned Ranch hotel property was the most significant impediment to achieving the long sought 'trail to the sea.' Once that offer has been accepted, the AWMA Road can connect to it, significantly increasing the potential to provide the final link 'to the sea.' The only remaining missing link at that point would be the AWMA Road downstream of the Ranch hotel. However, that stretch of AWMA road is not a part of the proposed project and thus staff has not analyzed public access over that portion of the road as a part of its review of the proposed project..

Both of these roads (not inclusive of the AWMA road section below the Ranch hotel) will be used by the applicant during project construction. The unpaved road will be closed to public use during the entirety of project construction as it will provide access to the construction site as well as construction staging and storage. The pipeline will be placed within or adjacent to the unpaved road. In addition, the paved AWMA road will be used by the applicant for approximately three weeks during construction to allow SOCWA 18-wheeler tanker trucks to make an average seven round trips per day, five days per week as necessary to truck the sludge from the CTP to the RTP while the pipeline is offline. The AWMA road will remain available for public trail use on weekends and holidays during the construction period. The proposed temporary limits on public access during the construction period only, as described above, is appropriate as needed for public safety during the construction period.

As described earlier, there is rich habitat within the park in addition to the extensive trail network. Promotion of public access must be balanced with protection of the habitat. Use of the existing road (AWMA and unpaved) for public access would help to concentrate public use within existing developed trails/road, helping to protect the sensitive habitat. Both roads (paved AWMA and unpaved) extend from Alicia Parkway at the AWCWP's entrance (there is a public park parking lot there) down Aliso Canyon to the CTP, one on the east side of the creek and one on the west side of the creek.

The certified LCPs for the project site require the provision of maximum public access, that hiking, biking, and equestrian trails be provided that connect existing use areas, and the provision of a continuous pedestrian, bicycle, and equestrian connection through the Aliso Creek Corridor to Pacific Coast Highway. In addition, approval of the original CDP that allowed construction of the pipelines to be replaced, required that the applicant not interfere with trails or public access along the pipeline and access easements. In order to find the project consistent with these requirements of the certified LCPs for the project area, Special Condition 17 is imposed to assure public access is provided consistent with the requirements of the certified LCPs; and, to reinforce the previously imposed Special Condition 13 which prohibits the applicant from interfering with the public's use of AWMA road and the unpaved maintenance road or any public trails within AWCWP; and; so that existing impediments (gates, signage) be removed from the AWMA and unpaved maintenance roads. Only as conditioned, can the project be found to be in conformance with the Recreation and Visitor Serving and the Public Access and Trails policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

E. Cultural Resources

County of Orange Aliso Viejo Segment and City of Laguna Niguel LCP Policies

b. Cultural Resources

12)To require a literature search by a qualified archaeologist for valid archaeological surveys conducted in the Aliso Viejo LCP Segment. If such a search determines that no valid survey has been performed within the project area, such a survey will be performed.

13)To temporarily defer further grading of a resource area if archaeological resources are discovered during grading in order to determine the extent and the relative scientific value of the site; to determine prior to resumption of grading whether to preserve, salvage or destroy the site.

14)To require a report and test of impact areas if evidence is found that an archaeological resource is being or will be impacted by a project. To submit the report to the approving agency for the project, defining the scientific importance of the find and a recommendation as to its preservation or disposition.

15)To make an archaeological site disposition determination based on any required reports prior to project approval.

16)To retain archaeological sites to be preserved in a natural state or include them in a park site, permanent open space or other use which will assure preservation and availability for later study.

17)When the determination is made that a site is to be salvaged, the project developer and the archaeologist shall coordinate their activities so as to adequately salvage this site.

18)An archaeologist shall be retained to observe grading activities in areas where a survey, report or other information indicates the probable presence of archaeological resources.

19)A representative of the Juaneno Band of Indians shall be allowed to work closely with an archaeologist who is certified and approved by the County of Orange during archaeological work in the Aliso Viejo LCP area.

20)Recovered archaeological resources are the property of the landowner, who shall be encouraged to donate the specimens to an appropriate museum or educational institution after study and evaluation.

30)Retain and protect significant areas of archaeological, paleontological or historical value for education and scientific purposes.

AWCWP Resource Management Plan 2009 states:

“Some of the cultural resources within AWCWP have been or are in danger of being destroyed by human or natural disturbances. As a result, all archaeological/cultural sites within the AWCWP are considered highly significant, with site preservation as a priority. Whenever possible, the preservation of archaeological sites is an objective of the AWCWP by maintaining park resources in an undisturbed condition. The locations of cultural resources are a major factor in the placement of both park facilities and their improvements. For cultural resources the specific fundamental objective is the identification of the best way to manage, protect, and enhance park resources while still providing educational opportunities to the public, as well as a safe recreational environment.”

An Archaeological Investigation along the proposed pipeline alignment was conducted to assess the potential for adverse impacts to cultural/archaeological resources due to the proposed pipeline replacement project (*Extended Phase 1 Archaeological Investigations*, SOCWA Export Sludge Force Main, Dudek, October 2012). The Archaeological Investigation states:

“Because Aliso Creek would have provided fresh water, as well as animals and plants for hunting and gathering subsistence activities, the area along the creek would have been a good location for prehistoric occupation, as indicated by the presence of 26 previously recorded archaeological sites within ½ mile of the proposed export sludge force main alignment. Therefore, the eastern bank of Aliso Creek, where the proposed export sludge

force main will be constructed, is considered to have a potentially high sensitivity for prehistoric cultural materials and there is limited potential that unknown, potentially significant cultural materials will be encountered during installation of the proposed export sludge force main, resulting in potential impacts to cultural resources.”

The Native American Heritage Commission (NAHC) identified eight Native Americans as having cultural ties to the project area. A letter requesting comments on the proposed project was sent to each of the eight identified Native Americans. One of the eight Native Americans consulted on preparation of the 2012 Archaeological Investigation.

In addition, as part of the Archaeological Investigation, an archaeological site records and literature search was conducted by South Central Coastal Information Center (SCCIC) to identify all recorded investigations and archaeological sites within ½ mile of the proposed pipeline alignment. The SCCIC identified 44 previous cultural resource surveys and 26 archaeological sites identified within ½ mile of the project alignment. Two of these sites were evaluated by the Archaeological Investigation prepared for the proposed project. Six geoprobe borings were excavated at one of the sites, and two geoprobe borings were excavated at the second site. No cultural materials were recovered from within any of the eight geoprobes. The Archaeological Investigation recognizes that there is some uncertainty regarding the size, shape and location of the two sites evaluated.

In one area of known cultural significance, rather than digging a trench in which to place the new pipeline, impacts to the area will be avoided by the use of jack and bore pipeline placement method (described previously in Section A Project Description, Location and Background, sub-heading Pipeline Replacement). In this area, the pipeline is proposed to connect to the existing parallel, four-inch force main pipelines via the jack and bore (sometimes called auger boring) method. Along this 660-foot segment of pipeline project, the existing, force main pipelines will remain in service. This trenchless construction method will eliminate the need to cut a continuous open trench and will avoid trenching in the known culturally significant area.

The Archaeological Investigation concludes that there is only limited potential that the proposed development would encounter significant cultural materials. The Archaeological Investigation further states:

“The quality of information from archaeological site deposits is related to the intactness or integrity of the soil in which the materials are found. Therefore, intactness is a critical factor in establishing the significance of the archaeological deposits.”

Based upon the information contained in the Archaeological Investigation, which included review of previous investigations, a Construction Monitoring Treatment Plan (CMTP) was prepared for the proposed project (Dudek, February 2016). This Plan presents measures to be implemented intended to assure protection of cultural resources in the project vicinity. In addition to the jack and bore construction method described above, protection measures identified in the CMTP include: monitoring by a qualified archaeologist and appropriate Native American of the area within 100 feet of three identified archaeological sites; and, a pre-construction workshop for construction personnel, conducted by a qualified archaeologist and appropriate Native American, to discuss the potential for discovering unanticipated cultural

resources; and a procedure to be followed should unanticipated cultural resources be discovered during construction activities, including a significance testing procedure, and a procedure to follow should the finds be determined to be significant.

Although there is a history of farming and grazing in the general project vicinity, development within Aliso Canyon has been extremely minimal, especially in comparison to the rest of coastal southern California. As recognized in the Archaeological Investigation prepared for the proposed project, the subject site and surrounding area “is considered to have a potentially high sensitivity for prehistoric cultural materials”. In addition, as referenced above, the certified LCPs for the project site and the AWCWP RMP consider that all archaeological/cultural sites within the AWCWP are highly significant. Moreover, the Commission has previously allowed development in areas identified by project archaeological consultants as too disturbed to contain significant archaeological materials, only to discover, too late, that significant resources were present after all, but lost due to development approved under the assurance that no resources would be present. Despite these indications of the cultural significance of the project area, only limited segments of earthwork within the pipeline alignment are proposed to be monitored. In addition, the proposed CMTP does not require any monitoring of the area of the proposed creek bank stabilization, even though potentially cultural resources may be present there. The Native American who consulted on the Archaeological Investigation recommended, due to the significance of the site, that the entire length of the pipeline project be monitored, but monitoring is only proposed along limited portions of the proposed pipeline alignment.

The proposed CMTP requires a pre-construction workshop, conducted by a qualified archaeologist and appropriate Native American, for all construction personnel to discuss the potential for discovering unanticipated cultural resources. However, it is not clear what construction personnel are then required to do with the information gleaned at the pre-construction workshop. It should be clarified whether construction personnel would be required to stop work and bring the find to the attention of both the archaeological and Native American monitors, who could then make a recommendation regarding the find.

The CMTP requires notification of required monitors a minimum of two days in advance of any earthwork requiring monitoring. However, this may well be insufficient lead time. Potential archeological and Native American monitors may have other commitments that must be attended to prior to being available on-site for the duration of project earthwork. In addition, Native American monitoring may require review and/or input from the local Native American group(s). Meetings to make decisions related to monitoring may only occur at scheduled intervals, such as monthly. The scheduling of earthwork required to be monitored by both archaeological and Native American monitors should not create an undue burden upon the monitors. This would be lessened or avoided with additional lead-time in notifying monitors prior to commencement of earthwork. The requirement to notify the required monitors sufficiently in advance of commencement of earthwork is necessary to assure adequate time for the monitors to prepare.

In addition, the proposed CMTP would allow work to begin after finding cultural deposits without significance testing if the discovery is “limited in size (horizontal and vertical) and informational value and lacks features or artifacts.” However, in order to dismiss a find as insignificant, more input is needed, including significance testing. For example, while a find may be considered insignificant to an archaeologist, it may be considered significant to the Native

American community. In addition, it should be clear that if Native American human remains are discovered, in addition to State requirements such as but not limited to, notification to NAHC and the Most Likely Descendent (MLD), consideration shall be given to allowing the remains to remain in place, undisturbed.

For these reasons, the proposed Construction Monitoring Treatment Plan (CMTP) is inadequate as submitted and must be revised in order to be found consistent with the certified LCPs for the project area. The CMTP must be revised to address the issues identified above, including:

1. to require monitoring along the entire length of the proposed pipeline alignment as well as in the area of creek bank stabilization by both a qualified archaeologist and appropriate Native American(s) as determined by the NAHC;
2. to recognize that either or both the archaeological or Native American monitor(s) shall have the power to stop work within 100 feet of a discovery (the CMTP requires only 50 feet);
3. that significance of a find need not necessarily require that the find be in intact soil and/or shall not necessarily be based upon the stated criteria;
4. that work may not proceed within 100 feet of a find unless and until the required Significance Testing Plan has been submitted to and reviewed by the Executive Director of the Coastal Commission, and the Executive Director has provided a written response to proceed or required additional steps to be performed, unless the Executive Director agrees, based upon available information, that Significance Testing is not required;
5. that notification of commencement of construction to the required monitors shall be a minimum of 30 days prior to commencement of the work to be monitored;
6. that the preferred alternative is to leave any cultural resources intact and that any decision regarding disposition shall be in consultation with the appropriate Native Americans;
7. the revised CMTP and, if the need arises, the Supplementary Archaeological Plan, shall be peer reviewed, and developed in conjunction with the appropriate Native Americans prior to submittal for review by the Executive Director;
8. requests for input from appropriate Native Americans shall be verified by means such as return receipt postage and shall include follow-up phone calls.

The Commission recognizes the need for the replacement pipelines and the required revisions to the CMTP are not intended to preclude construction of the replacement pipeline. The Commission also recognizes that the site is located within a Wilderness Park owned and managed by a public entity and that, as such, protection of sensitive resources are more likely than in an area proposed for private or more intense development. Rather, the required revisions to the CMTP are intended to assure that impacts to any cultural resources are avoided to the extent feasible, and that any impacts that are unavoidable are minimized to the maximum extent feasible. If significant cultural resources are discovered within the proposed alignment of the pipeline, it may be appropriate to consider redirecting the pipeline and/or to apply the jack and bore method proposed in one area of known cultural resources. Other options may be appropriate to consider, depending upon what is revealed during the required monitoring.

Therefore, the Commission imposes Special Condition 22, which identifies specific measures which must be implemented with the proposed development and requires submittal of a revised

Construction Monitoring Treatment Plan. Only as conditioned, can the project be found to be in conformance with the Cultural Resources policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

F. Creek Bank Stabilization

County of Orange Aliso Viejo Segment and City of Laguna Niguel LCP Policies

c. Environmental Hazards

39)To restrict development in designated floodplains, creeks, streams and other riparian areas, retaining their natural features so as to protect and enhance their value to the general public.

40)Analyze Aliso Creek floodplain information to ensure proper design and location of structures in Aliso Canyon.

41)Provide structural remedial projects only where necessary to reduce frequency of flooding in developed areas to 100 years, and to limit excessive erosion and sediment transport from development areas.

Creek bank stabilization along approximately one hundred feet on the east side of Aliso Creek is proposed in the form of a three rock groins and rock slope protection including a rock windrow at its base (Exhibit 7). The proposed stabilization work would occur from approximately Station 72 to approximately Station 75 on the project plans (Exhibit 2 Project Plans, pages 13, 31, 32, and 33). More specifically, proposed rock slope protection consists of placement of approximately 448 cubic yards of 18” rock (269 cubic yards for rock slope protection and 179 cubic yards for rock windrow); 438 cubic yards of compacted backfill, 718 square yards of geotextile/coir fabric, and replanting the backfilled channel bank with native riparian vegetation. The three rock groins (approximately 20 feet by 5 feet) of 24” to 36” rock, 108 cubic yards in total, are proposed to redirect flows away from the bank and to allow sediment capture upstream of the groins. The creek bank stabilization is proposed to protect both existing pipelines (an effluent transmission pipeline and a gravity sewer pipeline), as well as the proposed replacement pipeline.

A number of alternatives to the proposed project were considered by the applicant. Among the alternatives considered were: a new pipeline alignment along the western side of the creek; provide for treatment of solid waste at the Coastal Treatment Plant (CTP); and, truck the sludge along the existing AWMA road rather than transport it via pipeline. These alternatives were rejected for the following reasons: the western route would pass through a higher number of sensitive cultural sites than the proposed alternative; the CTP is too small to treat the solid waste and is not able to recover methane; and, continuous trucking of the sludge would require a minimum of seven truck trips a day, and, in addition to likely adverse impacts to habitat, would create adverse impacts on the public’s use and enjoyment of park trails. The proposed alternative roughly follows the route of the existing pipelines, and will avoid placement in the creek, avoids impacts to known sensitive cultural resources, and minimizes adverse impacts to sensitive habitat. However, whichever alternative is chosen, some creek bank stabilization would be required.

Risk to the proposed force main pipeline alignment due to Aliso Creek erosion was evaluated in a document titled *Lower Aliso Creek Erosion Assessment*, prepared by Tetra Tech, dated April 2012. The assessment considered potential creek bank erosion due to fluvial, geotechnical, bend migration factors, and the combined erosion risk of all three. It also considered erosion potential from concentrated runoff and tributaries that cross the pipeline alignment, and the continued effectiveness of existing bank protection. Based on the results of this assessment, a bank energy index was calculated. To better interpret the bank energy index, factors affecting resistance to erosion were considered (bank materials, clay in the toe of the bank, woody vegetation along the toe of the bank, and depositional berms along the banks). In addition, slope stability modeling was carried out to evaluate the influences of various types of soils and stratification, slope geometry, and groundwater conditions on stable slope geometry using limit equilibrium for desired factors of safety.

Based upon the analyses conducted, the high-rated combined erosion risk indicates that some portions of the proposed pipeline alignment have the most likely potential to be impacted by bank erosion over the 50-year life of the project. Based on this assessment, the applicant has proposed the project's creek bank protection measures because it is particularly vulnerable to creek bank erosion. The creek bank erosion risk assessment, and the related recommended stabilization project, are not based on an evaluation of a specific storm event (e.g. the 100-year event). Rather the assessment was based on identifying immediately vulnerable locations along the creek and determining the alternative that provides interim protection, resulting in the fewest permanent adverse impacts.

The proposed creek bank protection is intended to address the risk to the pipeline over its anticipated 50 year design life, but only for lower level of erosion due to storm events likely to recur with a two-year to five-year frequency. This lower level storm event protection is proposed because the US Army Corps of Engineers and the County of Orange are currently conducting feasibility and alternative analysis for an ecosystem restoration project that would extend from the Coastal Treatment Plant upstream past the inland coastal zone boundary. That future project would include streambed stabilization. The potential, future federal project is being relied on for longer term, permanent creek stabilization.

Alternatives to the proposed creek bank stabilization project include: no bank protection; full bank protection⁵; and minor bank protection. The no bank protection alternative, based on the results of the 2012 Erosion Assessment (Tetra Tech), would subject the existing access roads, existing pipelines (including the existing force mains, gravity sewer pipeline, and the effluent transmission main), and any future alternative pipeline alignment to some level of risk. Therefore, the no bank protection alternative was dismissed due to the need to protect existing and proposed critical infrastructure and to protect health and safety by preventing pipeline failure at the most vulnerable location. Alternatives considered under the full bank protection include: 1) rip rap bank protection with launchable toe, 2) soil cement bank protection, and 3) a combination of sheet piles and rip rap protection. These alternatives were dismissed due to the significant amount of earthwork required, the potential environmental impacts that would accrue, and due to the excessive cost.

⁵ Full bank protection is the maximum engineered approach within the area proposed for stabilization. It does not consider protecting the entire length of the creek from the CTP inland.

The proposed alternative is one of two minor bank protection alternatives considered. This alternative includes placing three (3) rock groins that will act to redirect creek flows along the channel bank away from the bank and allow for capture of sediment upstream of the groins resulting in the build-up of sediment at the lower bank. The groins would extend out from the channel bank approximately 20-feet across the berm to the edge of the low flow channel. The top-width of the groins would be approximately 5-feet. This alternative would provide full bank stabilization for the anticipated channel velocity of 8 feet per second for a 5-year event. The disturbance footprint under the proposed minor bank protection alternative is 0.15 acre and would require approximately 556 cubic yards of rock and 438 cubic yards of backfill (compared with 0.3 acre of disturbance footprint and 838 cubic yards of rock under the other minor bank alternative considered). Thus, the proposed creek bank stabilization will provide the necessary protection to the existing and proposed infrastructure by preventing additional erosion, will have the least amount of habitat disturbance, and the least amount of landform alteration. Therefore, the proposed alternative is the least environmentally damaging, feasible alternative to provide creek bank stabilization at the most highly vulnerable creek bank location.

The creek bank stabilization plans submitted with the amendment application are conceptual level in detail, which is typical at this stage of development. The Commission staff engineer is in agreement with the project engineering consultant that the short groins would be the least damaging alternative, if they are properly designed. The key issue will be with the spacing and length of the groins. If spaced too far apart or if they are too short, they would not provide protection for the full length of the bank. If the groins are too close together or too long, they can cause stagnant water. For these reasons, it is important to review the final design plans to assure the alternative implemented is most protective of the bank intended for protection, while also least damaging to habitat. Therefore, the Commission imposes Special Condition 21, which requires submittal of final design plans for the proposed creek bank stabilization. The special condition also requires that if the final design plans are substantially different from the approved conceptual plans, a subsequent amendment will be required unless the Executive Director determines that none is legally required. Only as conditioned, can the project be found to be in conformance with the Environmental Hazards policies of the certified Orange County Aliso Viejo segment LCP and the certified City of Laguna Niguel LCP.

G. Unpermitted Development

Unpermitted development and non-compliance with a previously issued coastal development permit has occurred at the project site subject to this Coastal Development Permit amendment application. The unpermitted development includes the construction of locked gates across the AWMA road and an unpaved access road in order to prevent public access and placement of signage discouraging and purportedly prohibiting public access. The locked gates and signage were not part of the project approved under CDP P-78-4365 and no subsequent CDPs or amendments have been approved allowing the gates and signage.

In addition, non-compliance with CDP P-78-4365 Special Condition No. 13 has also occurred on the site. Special Condition No. 13 requires that:

“The applicant shall submit a signed and notarized letter agreeing that the Aliso Water Management Agency will not interfere in any plans that may be made by the Aliso Viejo Company (or successors in interest), the County of Orange, and/or the Coastal

Commission (or its successor agency) for any trail or tramway or other public access way along Aliso Creek pipeline easements. AWMA shall allow access easements & accessways to cross and/or follow their pipeline easements, accessways, and treatment plant locations, if necessary, to implement public access through Aliso Canyon.”

As required by this special condition, the applicant, SOCWA, the legal successor to Aliso Water Management Agency, 1) may not interfere with plans for access along the Aliso Creek pipeline easements, and 2) must allow access easements and accessways to cross and follow their pipeline easements and accessways.

The AWMA road and the unpaved access road are both accessways for the plant, and overlaid with a SOCWA easement. The AWMA road is also shown on *Figure 11 Coastal Access* of the Aliso Viejo LCP as a regional hiking and riding trail and Orange County Parks designates the unpaved access road along the east side of Aliso Creek on its trail map as the East Aliso Creek Trail. Thus, pursuant to Special Condition No. 13 of CDP P-78-4365, the applicant may not restrict the use of these roads by the public. However, the applicant has interfered with both public access plans for the AWMA and unpaved access roads, and in addition, access on these roads, by installing unpermitted gates in order to prevent public access and signage discouraging public access on these roads and by prohibiting public use, including via installation of signs that purport to restrict public use of the AWMA and the unpaved access roads, at all times except on weekends and holidays on the AMWA road.

Any non-exempt development activity conducted in the Coastal Zone without a valid coastal development permit, or which does not substantially conform to a previously issued permit, such as the activities described above, constitute violations of the Coastal Act.

In part to ensure compliance with Special Condition No. 13 of CDP P-78-4365, and for the reasons described above in Section E, a special condition of the proposed amendment requires the permittee to 1) refrain from interfering or obstructing in any way public use of public accessways within Aliso and Wood Canyons Wilderness Park, including, but not limited to the AWMA road and the East Aliso Creek Trail, and to 2) maintain the AWMA road and East Aliso Creek Trail free of impediments to public access, including through removal of any existing impediments.

Although unpermitted development has taken place prior to submittal of this application, consideration of this application by the Commission has been based solely upon the policies of the certified LCPs for the project site. Commission review and action on this permit will result in removal of impediments to public access from the AMWA road and East Aliso Creek Trail and will help to ensure unfettered public access to these accessways going forward once the permit has been fully executed and the terms and conditions of the permit, and the terms and conditions of CDP P-78-4365, complied with by the permittee. Commission enforcement staff will consider options to address the loss of access that has occurred over time as a result of the unpermitted placement of the gates and signs and restriction of access noted herein.

H. Growth Inducing Development

Construction of public works facilities can raise concerns that the development may result in inducement to increased population growth in the project area. Concerns regarding such

development revolve around the possibility that new or expanded public works facilities, once implemented, may establish a basis of approval for as yet unconsidered residential, commercial or other future development, and that impacts from such development must be considered prior to the new or expanded public works facility. Thus allowing consideration as to whether such development is inappropriate, and if so, that it be modified or denied prior to construction of any public works facilities that would serve the development. This is termed “growth inducing development.” Although the certified LCPs for the project area do not specifically address this question, Section 30254 of the Coastal Act, although not a standard of review in the area of the proposed project, provides guidance on the question. Section 30254 requires that new or expanded public works facilities be limited to accommodate only those needs generated by approved and/or pre-existing development.

In this case the proposed project involves the replacement of existing, deteriorated, dual 4”, export sludge force main pipelines with a new 6” HDPE export sludge force main pipeline. Both the existing and replacement pipelines will convey secondary treated thickened waste (sludge) from the Coastal Treatment Plant to the Regional Treatment Plant for tertiary treatment. No increase in treatment capacity will result from the proposed pipeline replacement. The replacement is necessary to avoid pipeline failure along the existing route, which falls within the sensitive habitat, cultural resources, and public use areas within AWCWP. The replacement pipe is actually a smaller total diameter than the existing pipes (one six inch diameter pipeline versus two, 4-inch diameter pipelines). The replacement pipeline is not designed to accommodate future growth and will not increase the existing pipeline capacity, and thus is it not growth inducing.

I. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The South Orange County Wastewater Authority (SOCWA, the project applicant) is the lead agency for purposes of CEQA compliance. An Environmental Impact Report (EIR)⁶ was prepared for the proposed pipeline replacement project. An Addendum to that EIR was prepared to incorporate the creek bank stabilization aspect of the project. The proposed project has been conditioned in order to be found consistent with the habitat, cultural resources, and public access policies of the certified County of Orange Aliso Viejo segment Local Coastal Program and with the City of Laguna Niguel certified Local Coastal Program. Mitigation measures to minimize adverse include special conditions that require: 1) non-interference with public access in AWCWP and the removal of unpermitted gates and signage; 2) preparation of a revised Habitat Mitigation and Monitoring Plan; surveys for nesting birds during the bird nesting season, the presence of a biological monitor during construction activities, and that the perimeter of the construction site be demarcated, to assure protection of sensitive habitat; 3) preparation of a revised Construction Monitoring and Treatment Plan to assure protection of cultural resources;

⁶ Final Environmental Impact Report for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, prepared for SOCWA, prepared by Dudek, March 2013, SCH# 2011051010.

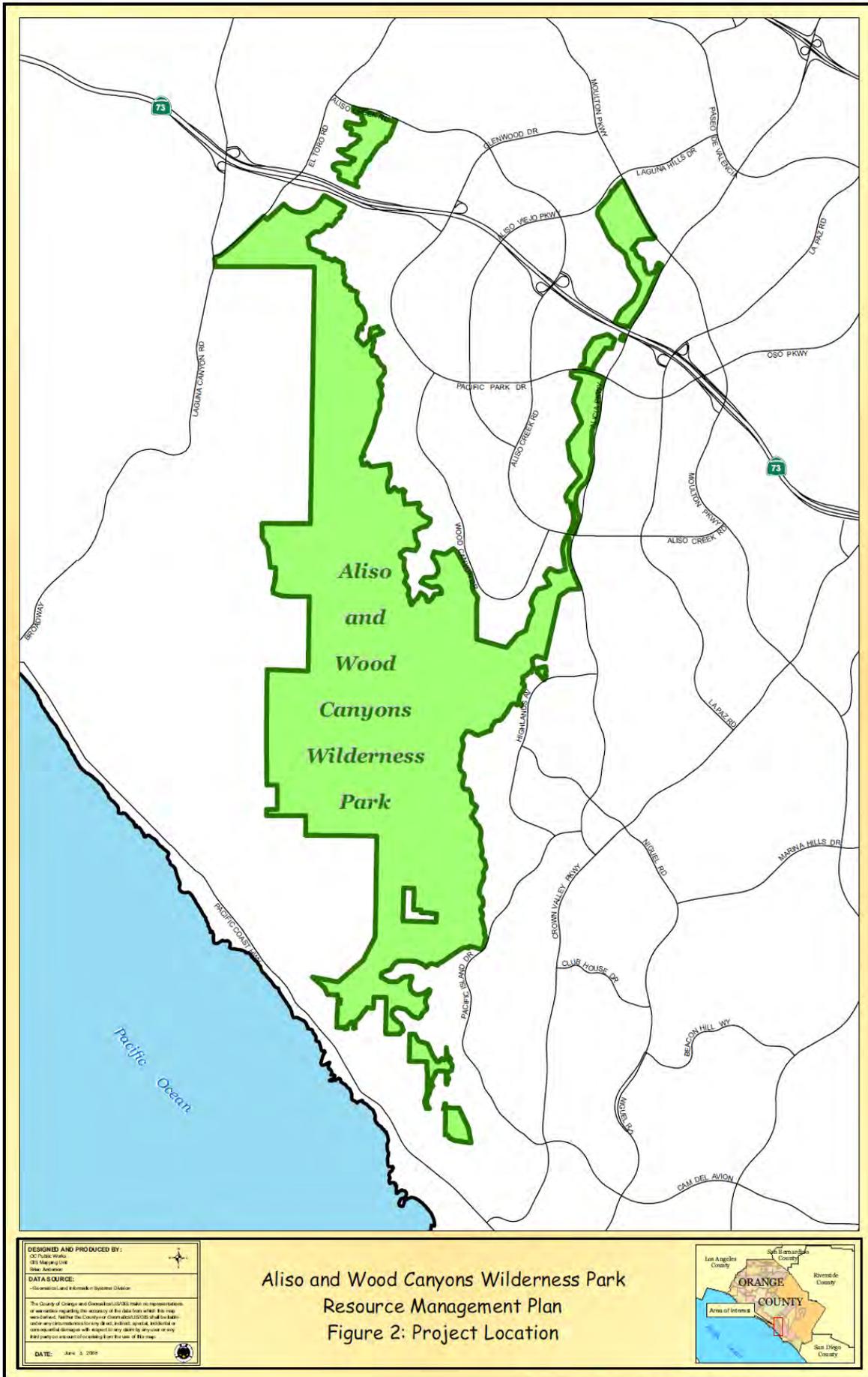
and, 4) submittal of final design plans for the proposed creek bank stabilization to consistency with the hazards policies of the LCPs.

As conditioned, there are no feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

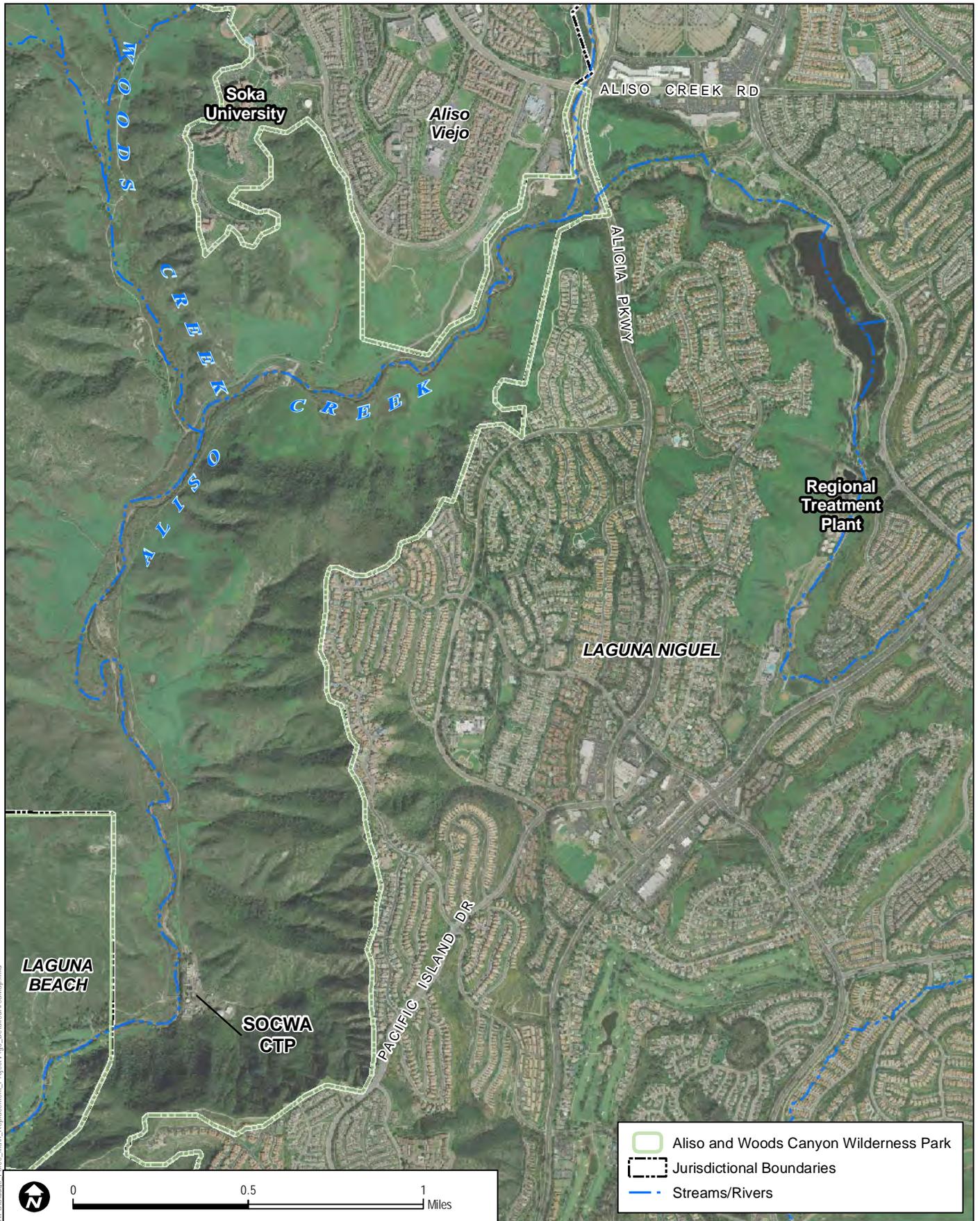
APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

1. Coastal Development Permit P-78-4365 (Aliso Water Management Agency)
2. Orange County Aliso Viejo Segment Certified Local Coastal Program
3. City of Laguna Niguel Certified Local Coastal Program
4. Aliso and Wood Canyons Wilderness Park Resource Management Plan OCParks, August 2009
5. Draft Biological Technical Report for the Coastal Treatment Plant Export Sludge Force Main Project, Dudek, October 2012
6. California Dept. of Fish & Wildlife Streambed Alteration Agreement No. 1600-2015-0015-R5
7. Final Environmental Impact Report for the Coastal Treatment Plant Export Sludge Force Main Project (SCH# 2011051010, Dudek, March 2013)
8. Addendum to Final EIR for the Coastal Treatment Plant Export Sludge Force Main Project, Dudek, January 2015
9. Habitat Mitigation and Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, prepared by Dudek, dated August 2015
10. Coastal Development Permit A-5-LGB-14-0034 (Laguna Beach Golf & Bungalow Village, LLC)
11. Lower Aliso Creek Erosion Assessment, Tetra Tech, April 2012
12. Field Report and Alternatives, Tetra Tech, August 26, 2014
13. Buried Utility Protection along Aliso Creek Phase 1, Technical Memorandum, Site 4 – Stabilization South of ACWHEP Structure, Tetra Tech, June 2014
14. Tetra Tech Letter to Brian Peck (SOCWA), dated 2/23/16



F:\PROJECTS\Brian\Request\LSA Maps\RMP Final Revisions\Figure2_Project_Location.mxd



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DUDEK	
6938	
MAY 2011	

**Figure 3
Detailed Area Map**

COASTAL TREATMENT PLANT EXPORT SLUDGE FORCE MAIN REPLACEMENT PROJECT



— Proposed Alignment

DUDEK

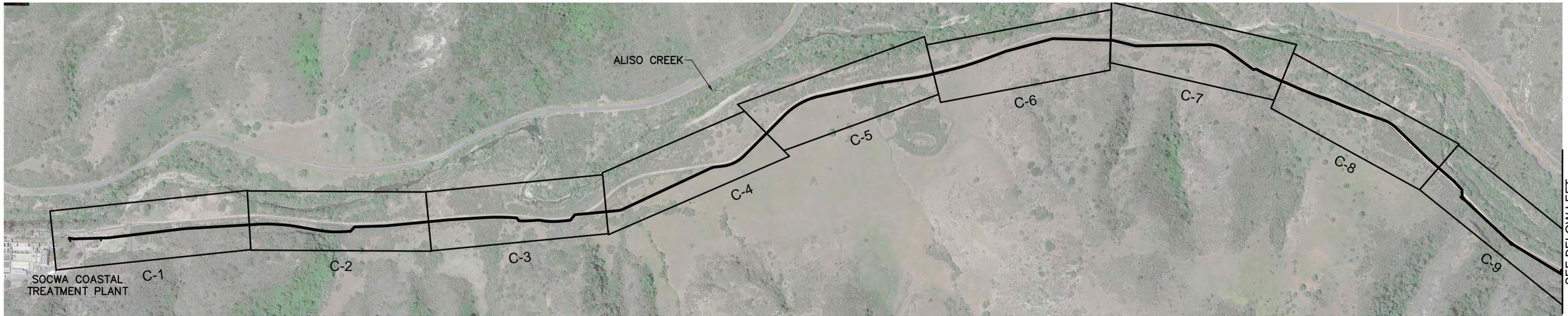
SOURCE: USGS 7.5-Minute Series San Juan Capistrano Quadrangle.

**Figure 1-2
Vicinity Map**

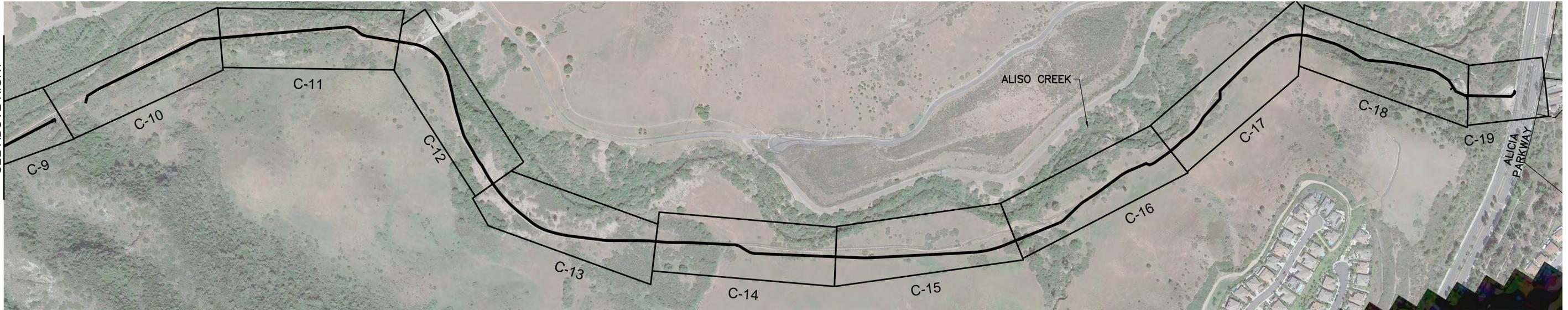
6938

COASTAL TREATMENT PLANT EXPORT SLUDGE FORCE MAIN REPLACEMENT PROJECT

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KEY MAP
SCALE: 1" = 250'



KEY MAP
SCALE: 1" = 250'



KEY MAP
SCALE: 1" = 150'

Exhibit 2 Page 2 of 8
5-15-1670-A1

DUDEK
Dudek & Associates, Inc.
605 Third Street Encinitas, CA 92024
760.942.5147 Fax 760.632.0164



SUBMITTED: _____ PROJECT MANAGER DATE: _____
 APPROVED: _____ DUDEK ENGINEERS DATE: _____
 APPROVED: _____ DATE: _____
 DATE: OCTOBER 27, 2014 DESIGNED: KP
 DRAWN: KK, PC
 CHECKED: MM
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 IF NOT 2" - SCALE ACCORDINGLY
 FILE NO.: 6731_SH04_G-4

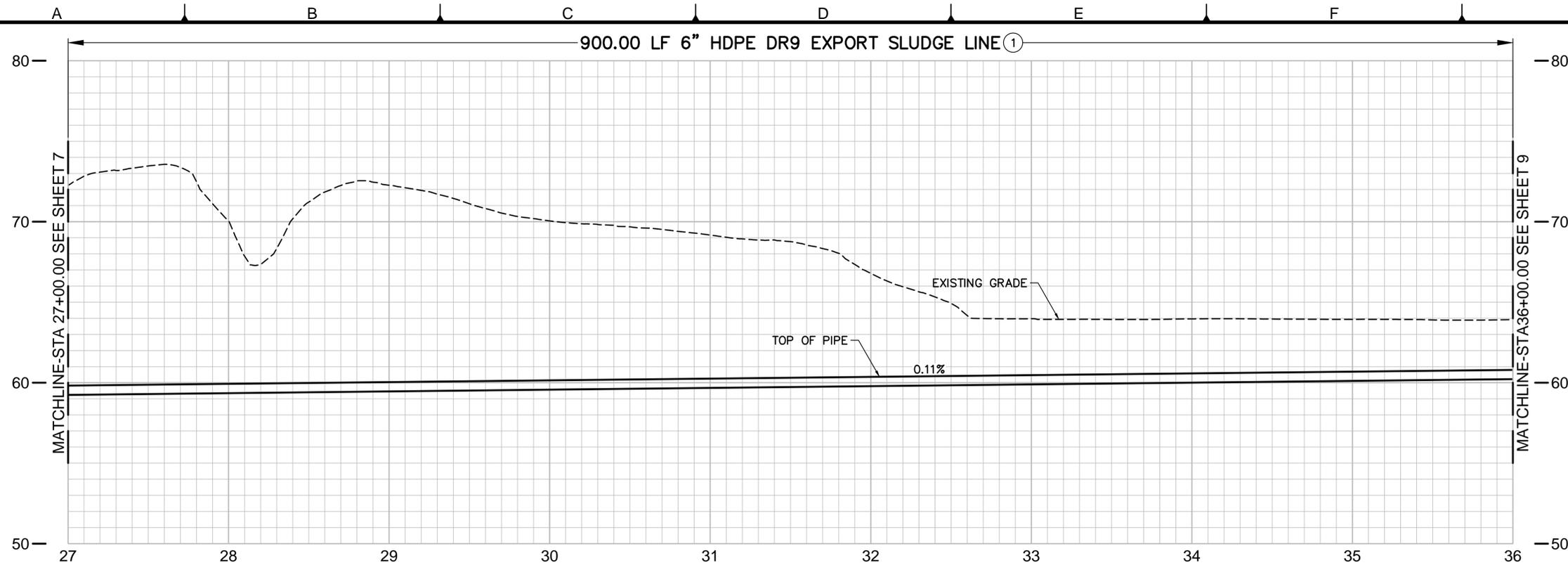
REVISIONS			
NO.	BY	DATE	REMARKS

SOCWA
South Orange County Wastewater Authority
34156 Del Obispo Street, Dana Point, CA 92629

EXPORT SLUDGE FM FINAL DESIGN
KEY MAP

PROJECT NO.
7301.0001
DRAWING NO.
G-4
SHEET NO.
4 OF 33

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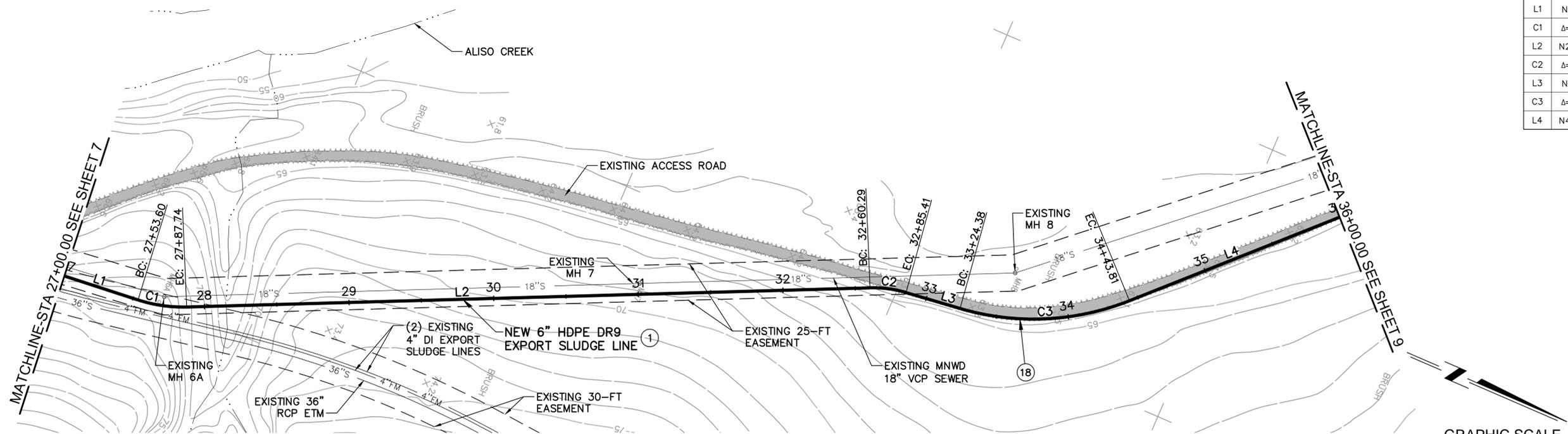


PROFILE
SCALE: 1"=40' HORIZ
1"=4' VERT

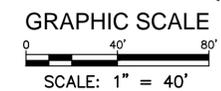
- LEGEND:**
- ① TRENCH BACKFILL IN ACCORDANCE WITH DTL 1, DWG D-1.
 - ⑱ CONTRACTOR SHALL COORDINATE WITH OWNER-PROVIDED CULTURAL RESOURCES MONITOR FOR CULTURAL PROBING PRIOR TO EXCAVATION ACTIVITIES.

Exhibit 2 Page 3 of 8
5-15-1670-A1

6" FM LINE DATA TABLE			
NO.	Δ/BEARING	RADIUS	LENGTH
L1	N5°24'30"W	-	53.60'
C1	Δ=19°33'20"	100.00'	34.13'
L2	N24°57'50"W	-	472.56'
C2	Δ=17°59'20"	80.00'	25.12'
L3	N6°58'30"W	-	38.97'
C3	Δ=38°01'00"	180.00'	119.43'
L4	N44°59'30"W	-	156.19'



PLAN
SCALE: 1"=40'



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605 Third Street Encinitas, CA 92024
760.942.5147 Fax 760.632.0164



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APPROVED: _____ DATE: _____

DATE: OCTOBER 27, 2014
6731 SH05 C-1
FILE NO.: to SH23 C-19

DESIGNED: KP
DRAWN: KK, PC
CHECKED: MM

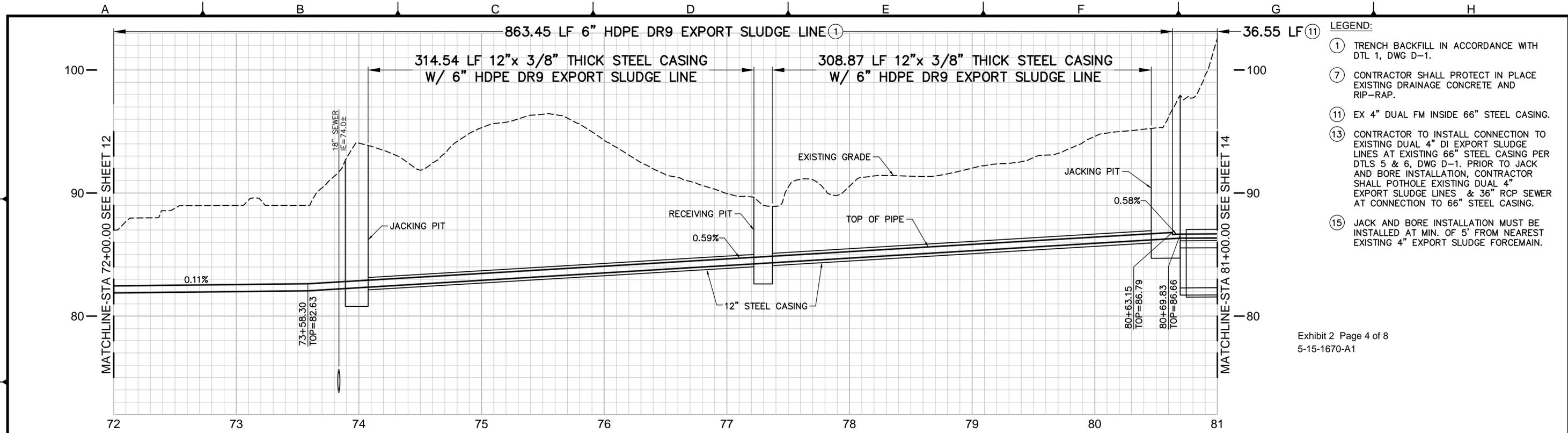
REVISIONS			
NO.	BY	DATE	REMARKS

SOCWA
South Orange County Wastewater Authority
34156 Del Obispo Street, Dana Point, CA 92629

EXPORT SLUDGE FM FINAL DESIGN
FM PLAN AND PROFILE
STA 27+00 TO 36+00

PROJECT NO.
7301.0001
DRAWING NO.
C-4
SHEET NO.
8 OF 33

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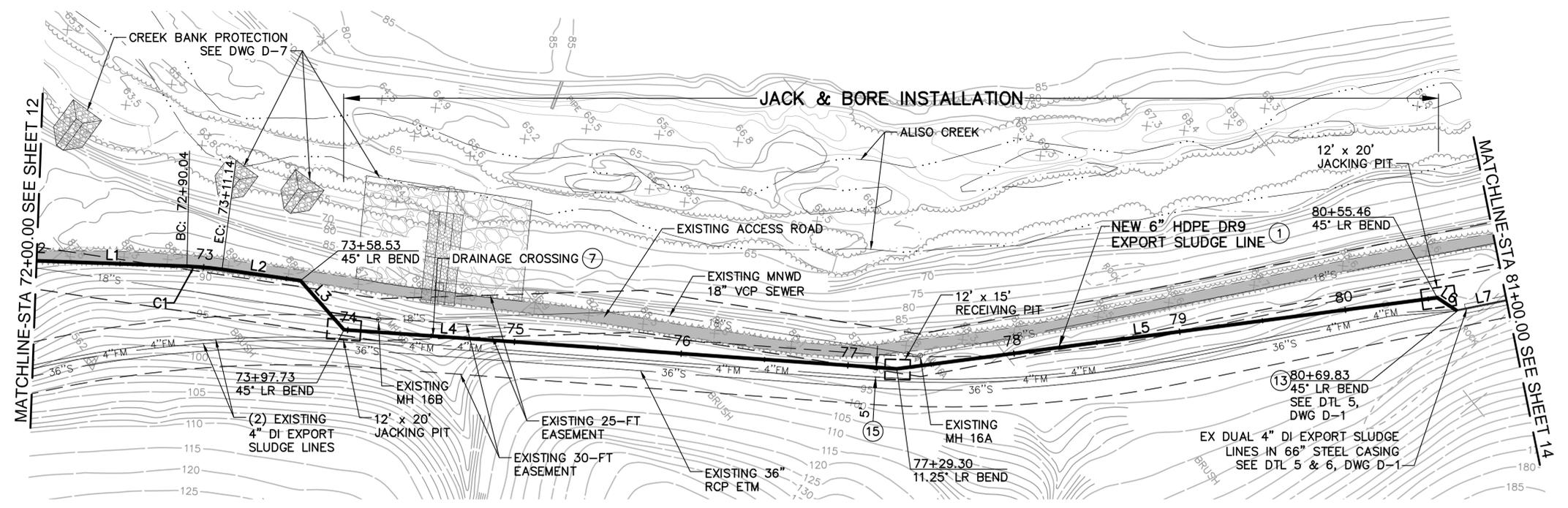


PROFILE
SCALE: 1"=40' HORIZ
1"=4' VERT

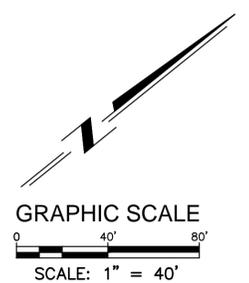
- LEGEND:**
- ① TRENCH BACKFILL IN ACCORDANCE WITH DTL 1, DWG D-1.
 - ⑦ CONTRACTOR SHALL PROTECT IN PLACE EXISTING DRAINAGE CONCRETE AND RIP-RAP.
 - ⑪ EX 4" DUAL FM INSIDE 66" STEEL CASING.
 - ⑬ CONTRACTOR TO INSTALL CONNECTION TO EXISTING DUAL 4" DI EXPORT SLUDGE LINES AT EXISTING 66" STEEL CASING PER DTL 5 & 6, DWG D-1. PRIOR TO JACK AND BORE INSTALLATION, CONTRACTOR SHALL POTHOLE EXISTING DUAL 4" EXPORT SLUDGE LINES & 36" RCP SEWER AT CONNECTION TO 66" STEEL CASING.
 - ⑮ JACK AND BORE INSTALLATION MUST BE INSTALLED AT MIN. OF 5' FROM NEAREST EXISTING 4" EXPORT SLUDGE FORCEMAIN.

Exhibit 2 Page 4 of 8
5-15-1670-A1

6" FM LINE DATA TABLE			
NO.	Δ/BEARING	RADIUS	LENGTH
L1	N40°55'20"E	-	90.04'
C1	Δ=6°02'50"	200.00'	21.10'
L2	N46°58'10"E	-	47.39'
L3	N87°11'10"E	-	39.21'
L4	N42°51'30"E	-	331.56'
L5	N31°20'00"E	-	326.16'
L6	N72°21'50"E	-	14.37'
L7	N27°21'50"E	-	30.17'



PLAN
SCALE: 1"=40'



DUDEK
Dudek & Associates, Inc.
605 Third Street Encinitas, CA 92024
760.942.5147 Fax 760.632.0164



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 APPROVED: _____ DUDEK ENGINEERS DATE: _____
 APPROVED: _____ DATE: _____

DATE: OCTOBER 27, 2014
 Exp. 3/31/14
 CIVIL
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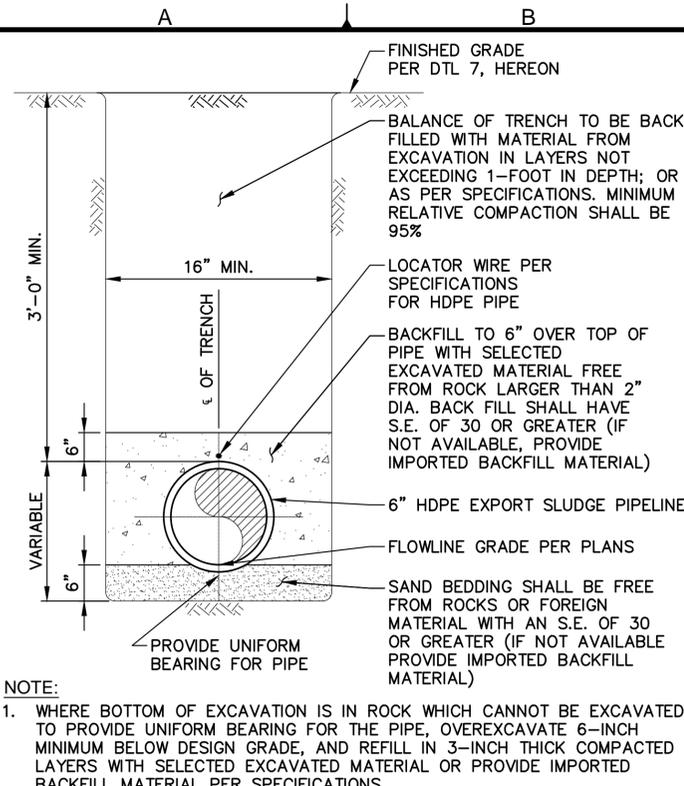
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 DRAWN: KK, PC
 CHECKED: MM

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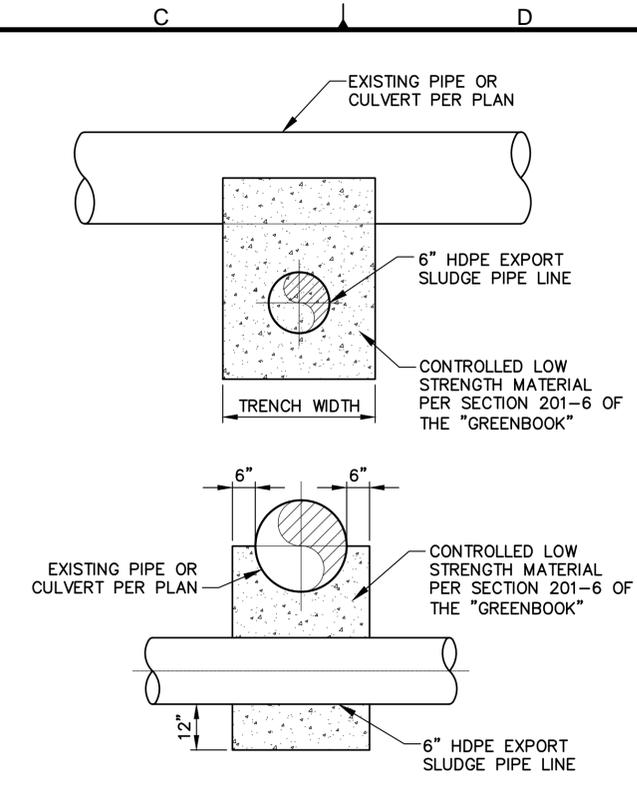
REVISIONS			
NO.	BY	DATE	REMARKS

SO CWA
South Orange County Wastewater Authority
34156 Del Obispo Street, Dana Point, CA 92629

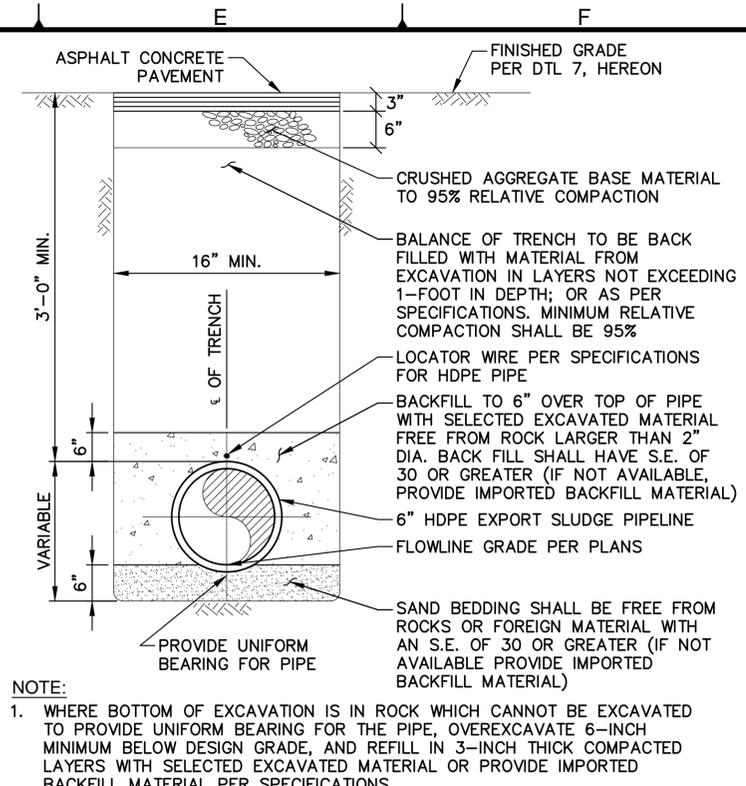
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 EXPORT SLUDGE FM FINAL DESIGN
 DRAWING NO. C-9
 SHEET NO. 13 OF 33
FM PLAN AND PROFILE
STA 72+00 TO 81+00



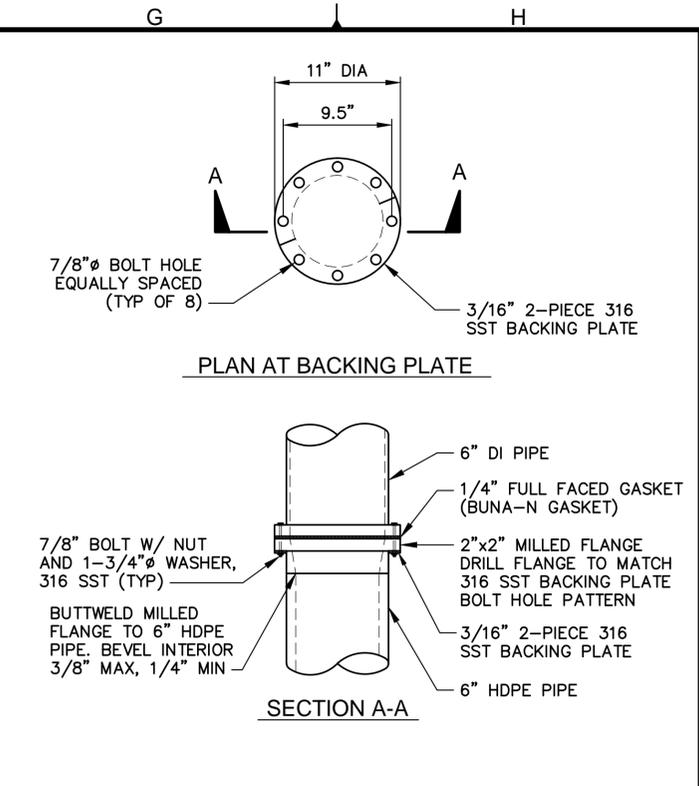
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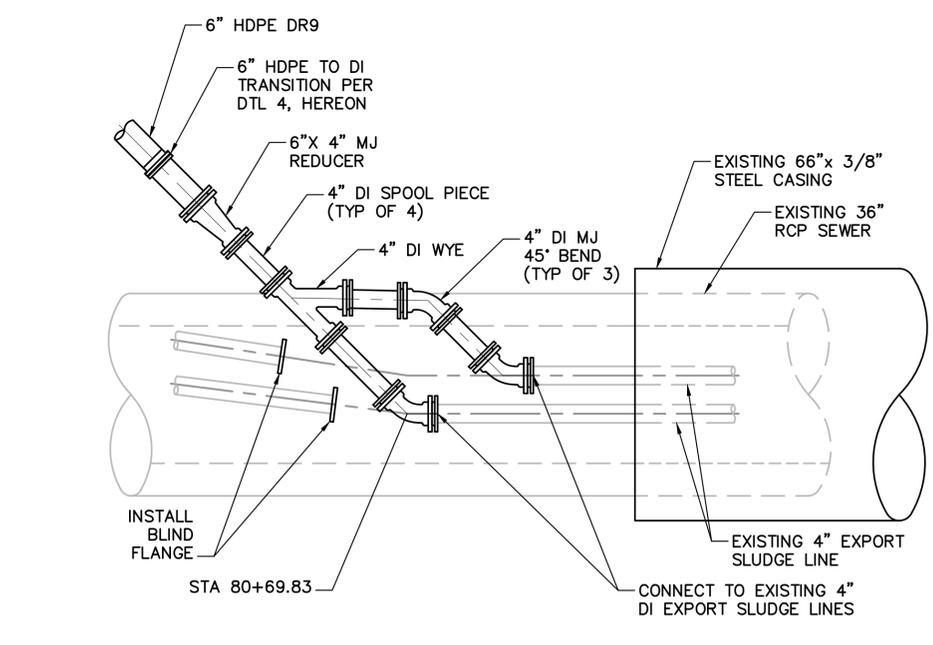
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TRENCH DETAIL AT ASPHALT
NOT TO SCALE

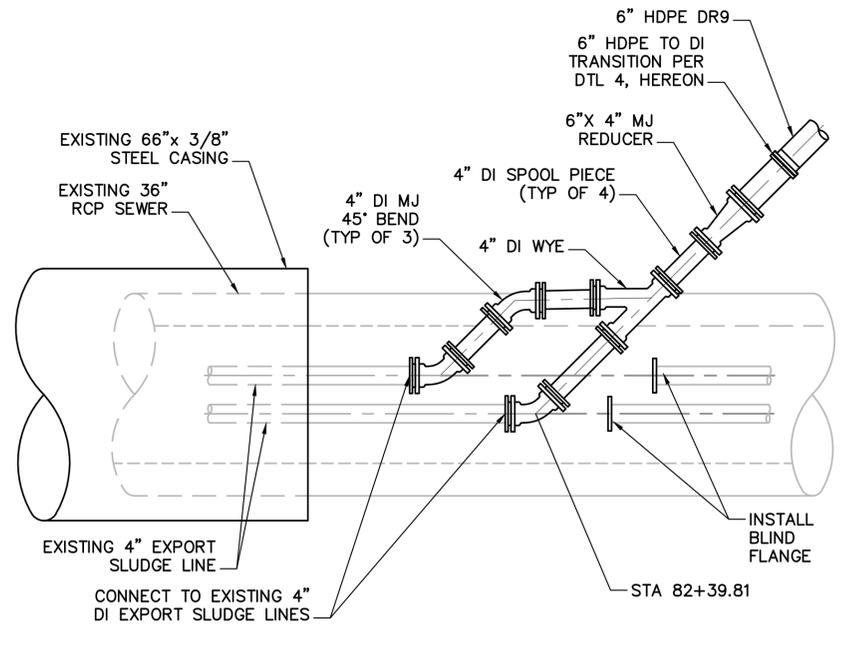


HDPE TO DI TRANSITION DETAIL
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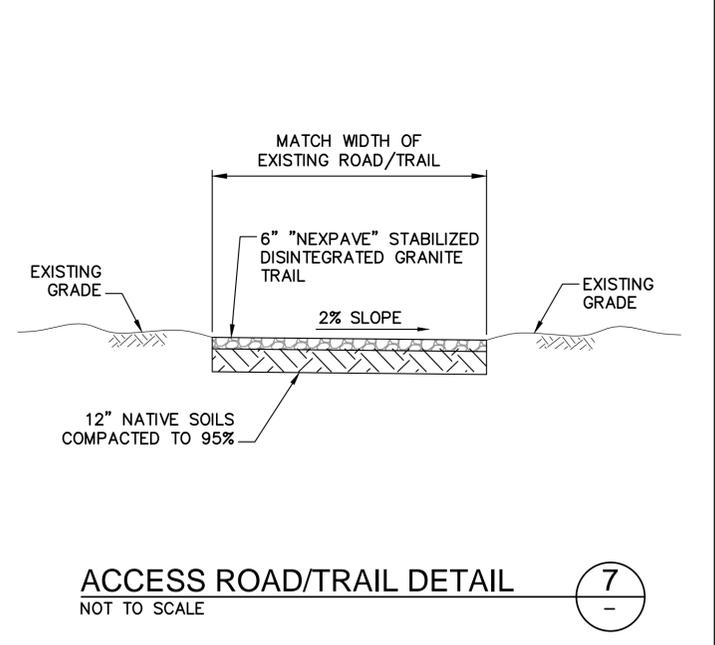
NOTE:
1. CONTRACTOR TO POTHOLE EXISTING DUAL 4" DI FORCEMAIN PRIOR TO WORK IN THIS LOCATION. CONTRACTOR SHALL NOTIFY SOCWA OF ANY CONFLICT.

STA 80+69.83 CONNECTION DETAIL
SCALE: 1/2" = 1'-0"



NOTE:
1. CONTRACTOR TO POTHOLE EXISTING DUAL 4" DI FORCEMAIN PRIOR TO WORK IN THIS LOCATION. CONTRACTOR SHALL NOTIFY SOCWA OF ANY CONFLICT.

STA 82+39.81 CONNECTION DETAIL
SCALE: 1/2" = 1'-0"



ACCESS ROAD/TRAIL DETAIL
NOT TO SCALE

DUDEK
Dudek & Associates, Inc.
605 Third Street Encinitas, CA 92024
760.942.5147 Fax 760.632.0164

REGISTERED PROFESSIONAL ENGINEER
DANIEL S. MICHAEL, M.E. P.E.
No. 42586
Exp. 3/31/14
CIVIL
STATE OF CALIFORNIA

SUBMITTED: _____	PROJECT MANAGER	DATE: _____
APPROVED: _____	DUDEK ENGINEERS	DATE: _____
APPROVED: _____	DATE: _____	DATE: _____
DATE: OCTOBER 27, 2014	DESIGNED: KP	
FILE NO.: 6731 SH25 D-1	DRAWN: KK, PC	
	CHECKED: MM	

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NO.	BY	DATE	REMARKS

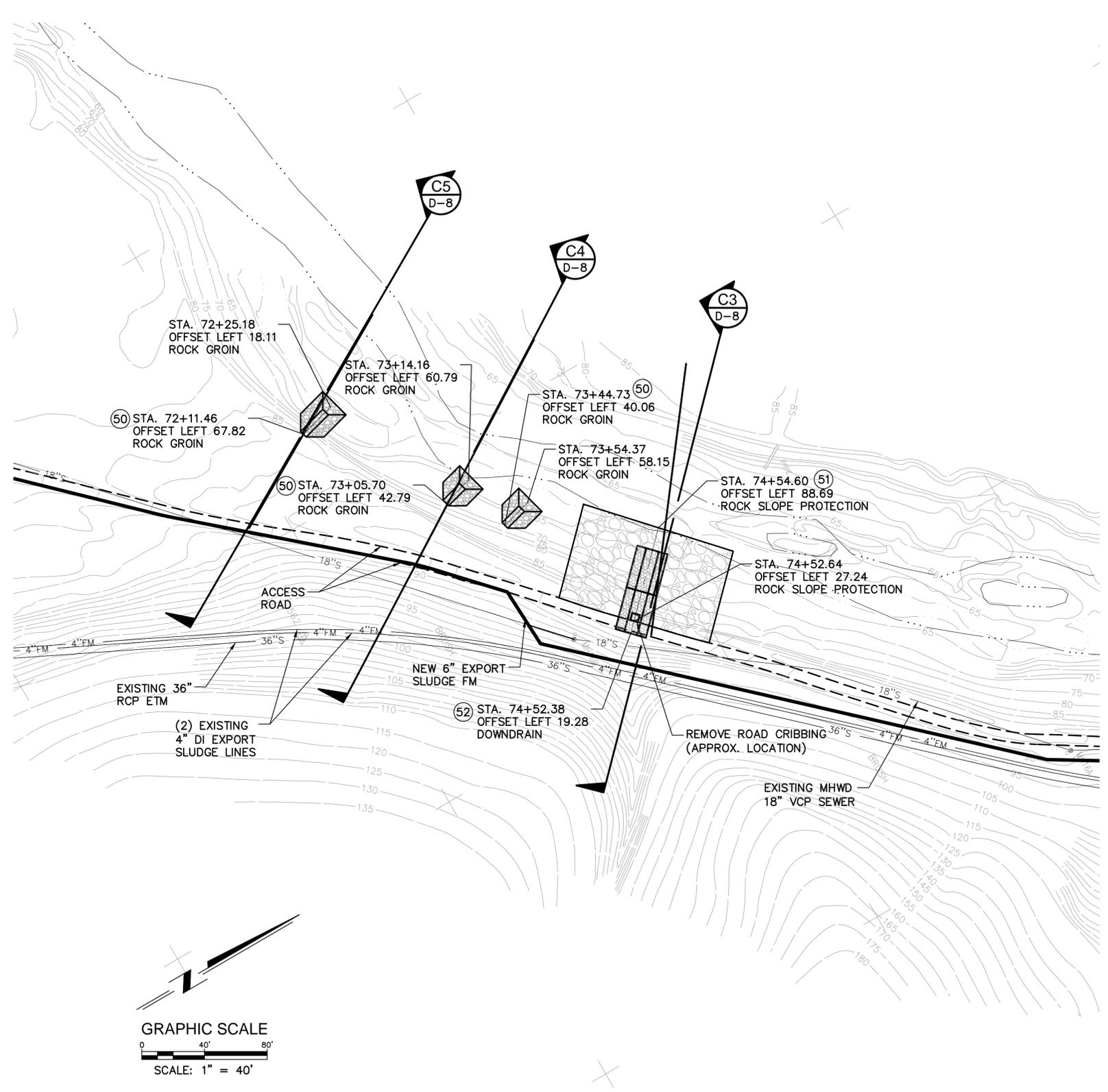
SOCWA
South Orange County Wastewater Authority
34156 Del Obispo Street, Dana Point, CA 92629

PROJECT NO. 7301.0001
DRAWING NO. D-1
SHEET NO. 25 OF 33

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Exhibit 2 Page 5 of 8
5-15-1670-A1

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- LEGEND:**
- (50) ROCK GROIN PER DETAIL A, DWG D-8
 - (51) ROCK SLOPE PROTECTION TO BE PLACED ON THE SLOPES, DWG D-8 AND D-9
 - (52) DOWNDRAIN DTL 1, DWG D-9

- SW GENERAL NOTES:**
- 1 CONTRACTOR TO FIELD VERIFY ALL UTILITIES AND OBSTRUCTIONS PRIOR TO MOBILIZING WORK.
 - 2 STATIONS AND OFFSETS AS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR. IF THERE ARE ANY DISCREPANCIES CONTRACTOR IS TO NOTIFY SOCWA IMMEDIATELY.
 - 3 TOPOGRAPHY ACCURACY MAY BE LIMITED DUE TO HEAVY VEGETATION. CONTRACTOR TO FIELD FIT THE IMPROVEMENTS AS SHOWN ON THE PLANS. IF FIELD CONDITIONS ARE SIGNIFICANTLY DIFFERENT, CONTRACTOR TO NOTIFY SOCWA IMMEDIATELY.
 - 4 CONTRACTOR TO PROTECT ALL UTILITIES.
 - 5 CONTRACTOR MAY NOT STORE MATERIAL OR EQUIPMENT IN THE CREEK BED.

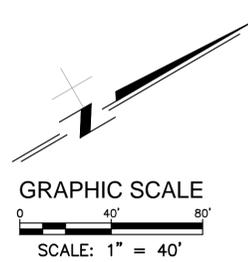


Exhibit 2 Page 6 of 8
 5-15-1670-A1

Tetra Tech
 17885 VON KARMAN AVE., SUITE 500 IRVINE, CA 92614
 (949) 809-5000

REGISTERED PROFESSIONAL ENGINEER
 THE STATE OF CALIFORNIA
 No. 59152
 Exp. 6/30/15
 CIVIL

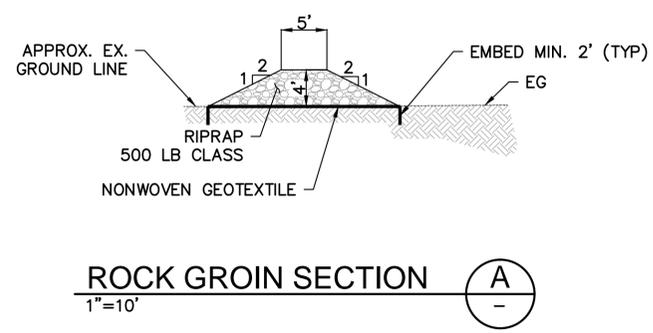
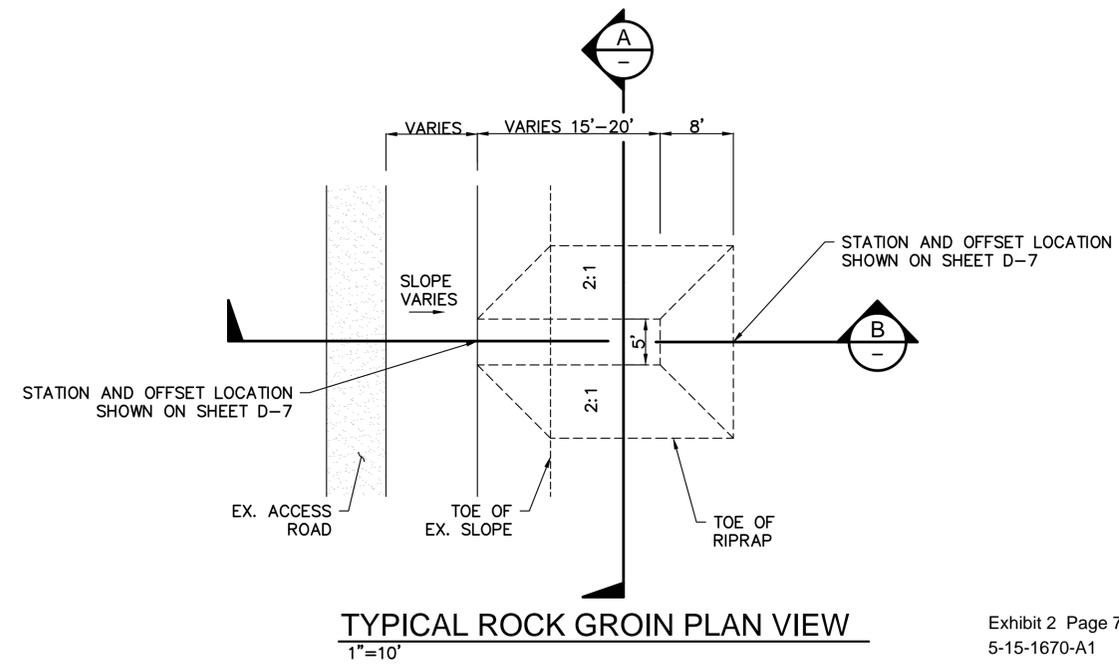
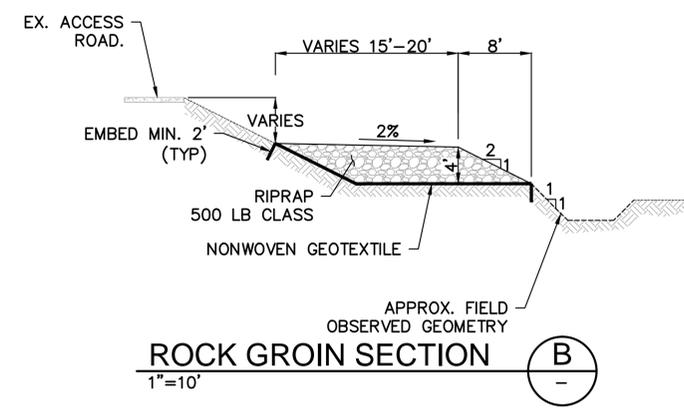
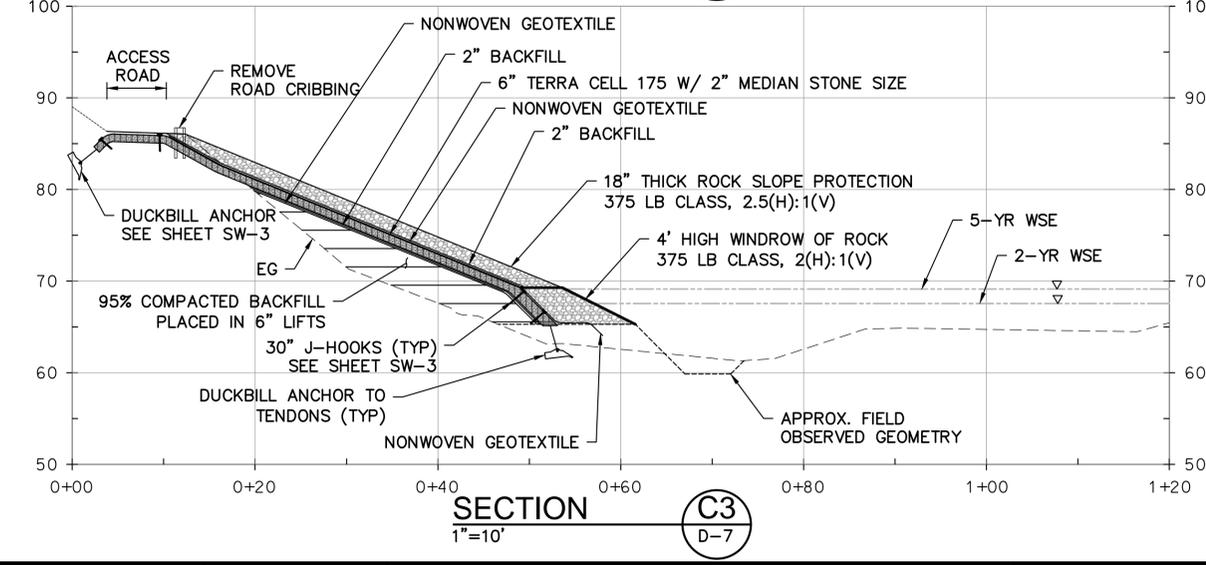
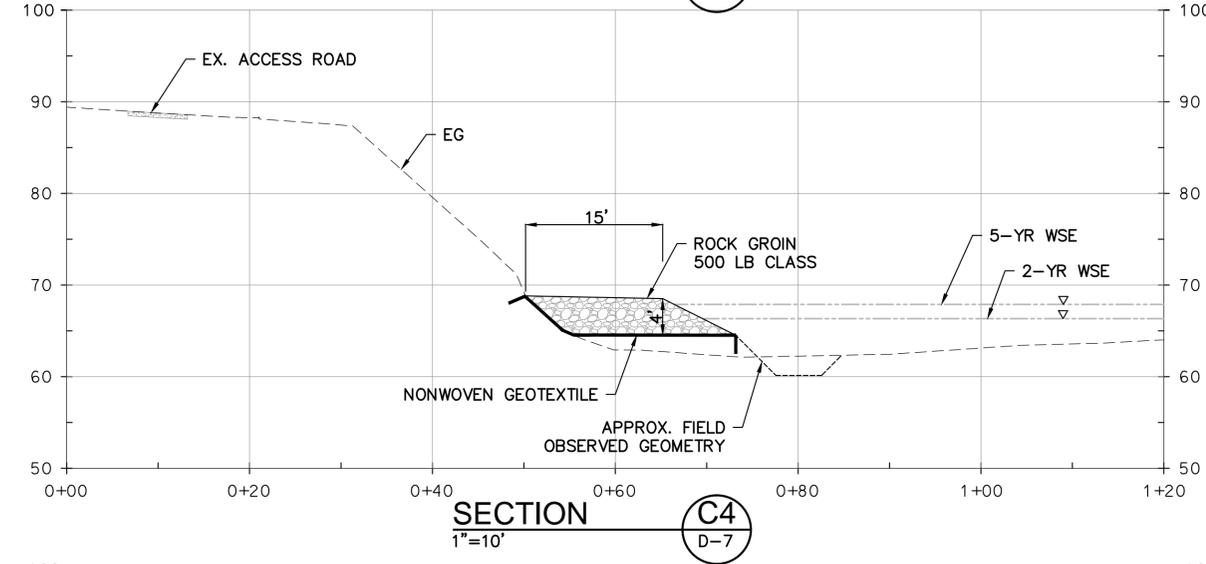
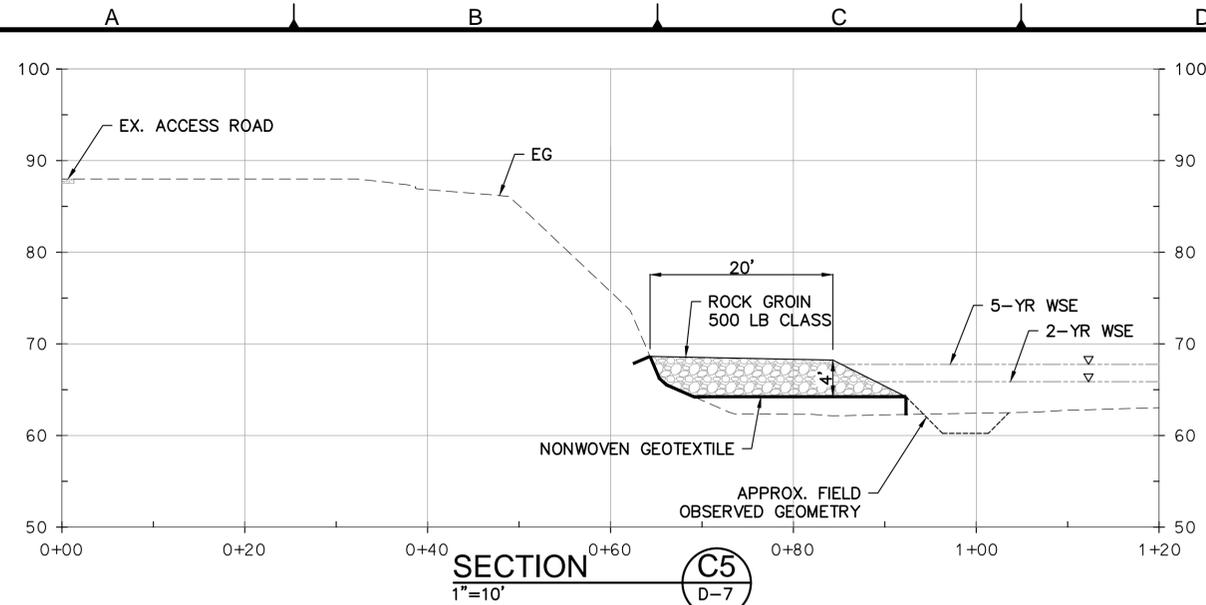
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APPROVED: _____	DUPEK ENGINEERS	DATE: _____
APPROVED: _____		DATE: _____
DATE: OCTOBER 27, 2014	DESIGNED: AG	
FILE NO.: 6731 SH31 D-7	DRAWN: KJ	
	CHECKED: IP	

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SOCWA
 South Orange County Wastewater Authority
 34156 Del Obispo Street, Dana Point, CA 92629

EXPORT SLUDGE FM FINAL DESIGN
CREEK BANK PROTECTION
 PLAN VIEW

PROJECT NO. 7301.0001
DRAWING NO. D-7
SHEET NO. 31 OF 33



- MATERIAL REQUIREMENTS:**
- 1 MATERIAL FOR ROCK SLOPE PROTECTION AND WINDROW ROCK SHALL MEET GREENBOOK STANDARD 200-1 FOR 375 LB CLASS.
 - 2 MATERIAL FOR ROCK GROIN SHALL MEET GREENBOOK STANDARD 200-1 FOR 500 LB CLASS.
 - 3 MATERIAL FOR NONWOVEN GEOTEXTILE SHALL MEET TENCATE MIRAFI N-SERIES REQUIREMENTS.
 - 4 AREA TO BE CLEARED AND GRUBBED PRIOR TO COMPACTED BACKFILL PLACEMENT PER GREENBOOK STANDARD 300-1. MATERIAL FOR COMPACTED BACKFILL AND BACKFILL PROCEDURES SHALL MEET GREENBOOK STANDARD 300-4 FOR UNCLASSIFIED FILL.
 - 5 MATERIAL AND INSTALLATION FOR DOWNDRAIN SHALL MEET TERRA CELL (ENVIROGRID) MANUFACTURES REQUIREMENTS.

Exhibit 2 Page 7 of 8
5-15-1670-A1

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APPROVED: _____	DUDEK ENGINEERS	DATE: _____
APPROVED: _____		DATE: _____
DATE: OCTOBER 27, 2014	DESIGNED: AG	
FILE NO.: 6731_SH32_D-8	DRAWN: KJ	
	CHECKED: IP	

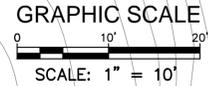
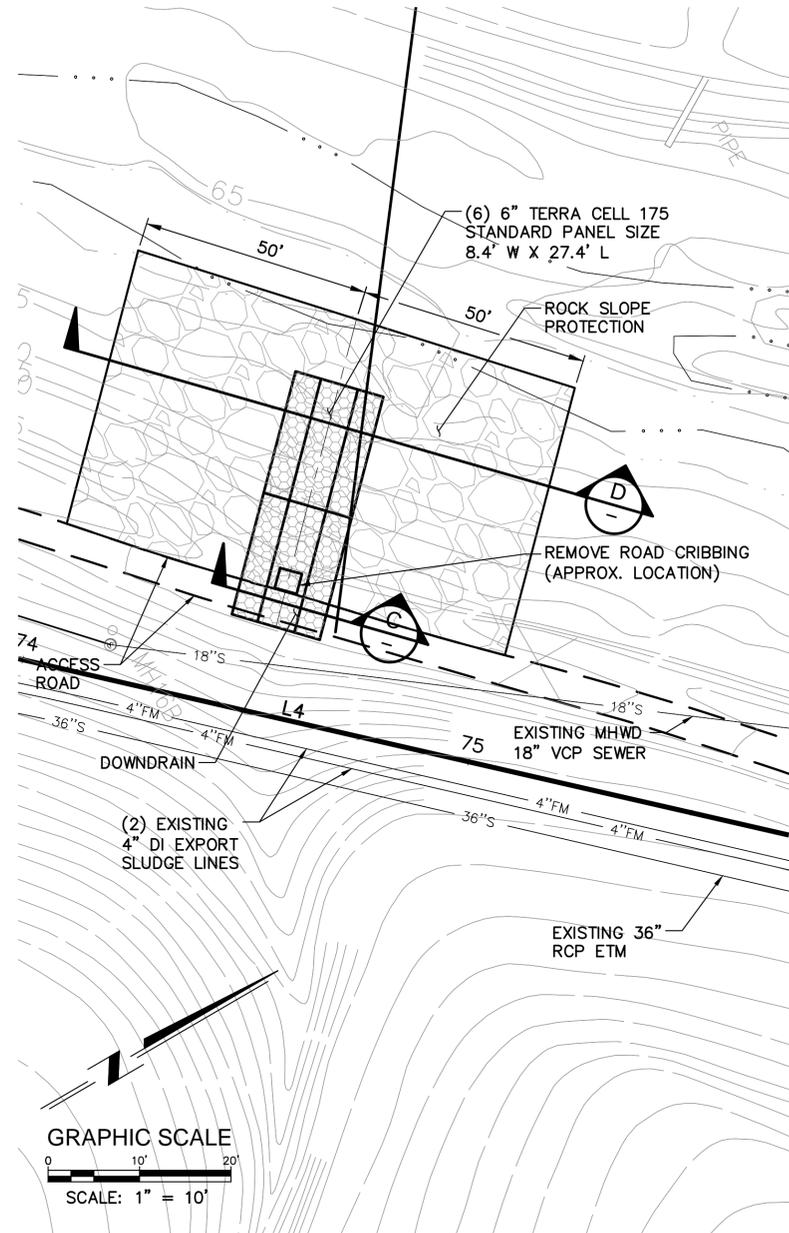
REVISIONS			
NO.	BY	DATE	REMARKS



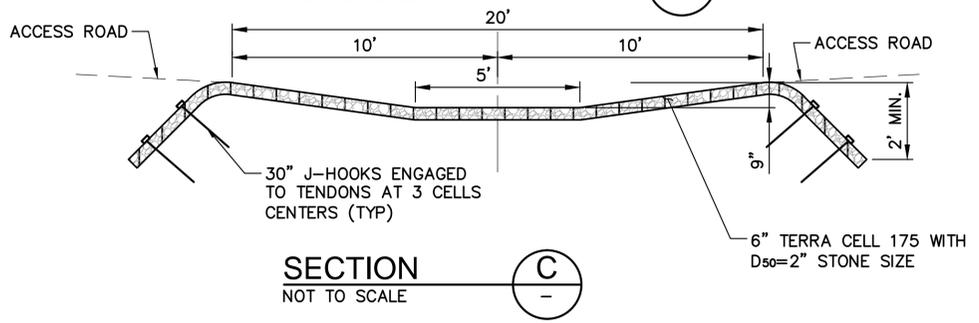
EXPORT SLUDGE FM FINAL DESIGN
**CREEK BANK PROTECTION
CROSS SECTIONS AND DETAILS**

PROJECT NO. 7301.0001
DRAWING NO. D-8
SHEET NO. 32 OF 33

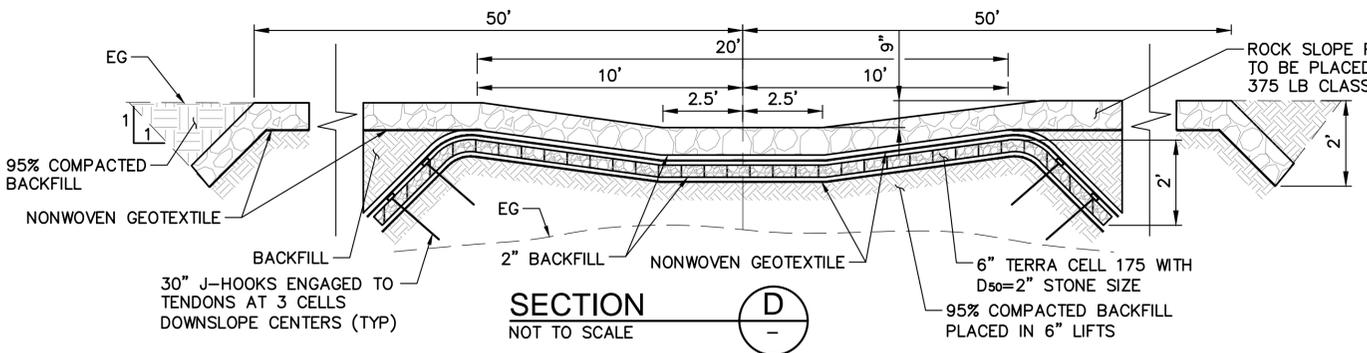
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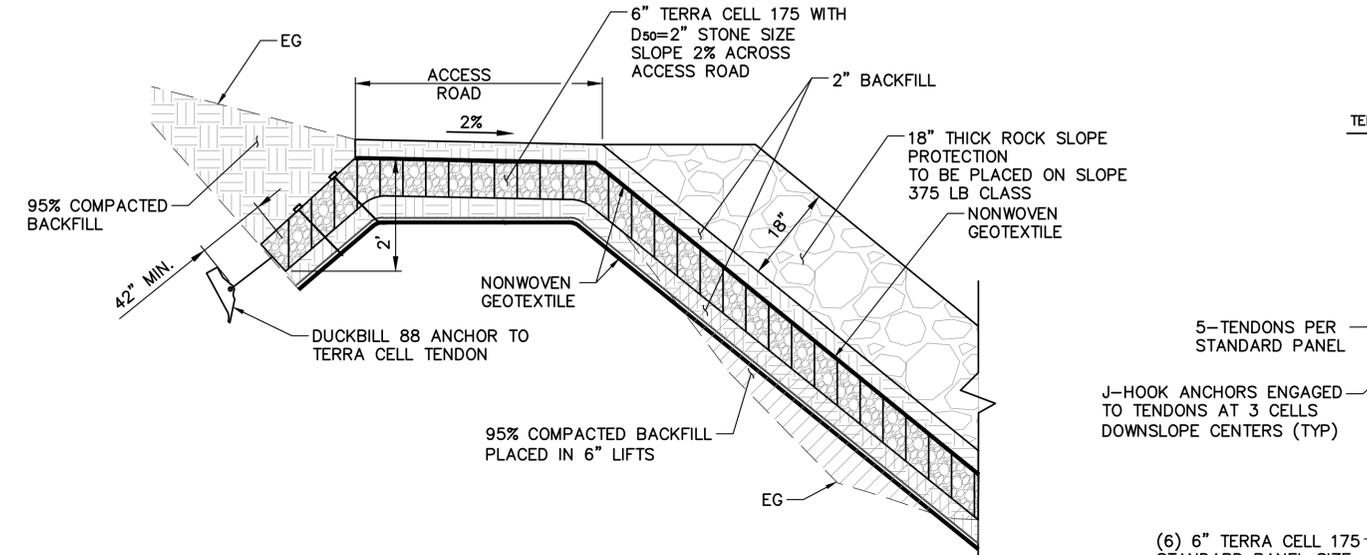
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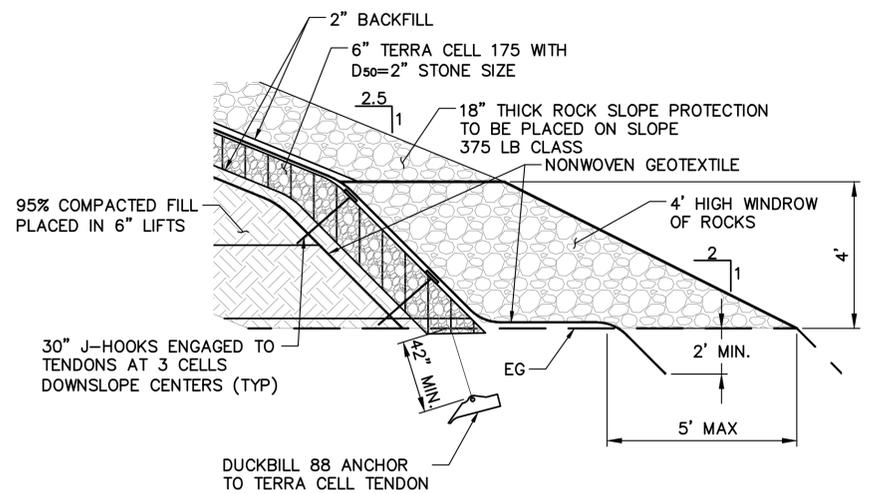
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SECTION D
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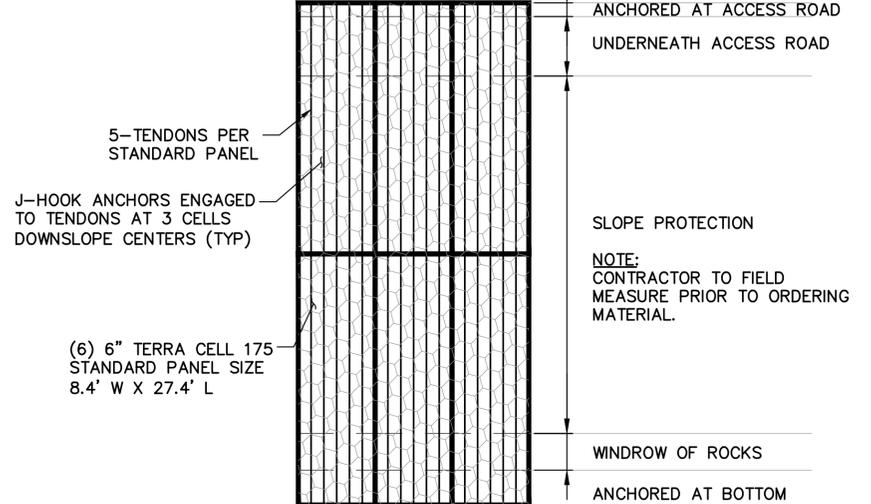
ACCESS ROAD ANCHORING DETAIL
NOT TO SCALE



WINDROW OF ROCKS ANCHORING DETAIL
NOT TO SCALE

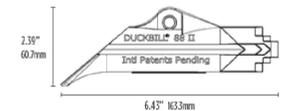
- MATERIAL REQUIREMENTS:**
- 1 MATERIAL FOR ROCK SLOPE PROTECTION AND WINDROW ROCK SHALL MEET GREENBOOK STANDARD 200-1 FOR 375 LB CLASS.
 - 2 MATERIAL FOR ROCK GROIN SHALL MEET GREENBOOK STANDARD 200-1 FOR 500 LB CLASS.
 - 3 MATERIAL FOR NONWOVEN GEOTEXTILE SHALL MEET TENCATE MIRAFI N-SERIES REQUIREMENTS.
 - 4 AREA TO BE CLEARED AND GRUBBED PRIOR TO COMPACTED BACKFILL PLACEMENT PER GREENBOOK STANDARD 300-1. MATERIAL FOR COMPACTED BACKFILL AND BACKFILL PROCEDURES SHALL MEET GREENBOOK STANDARD 300-4 FOR UNCLASSIFIED FILL.
 - 5 MATERIAL AND INSTALLATION FOR DOWNDRAIN SHALL MEET TERRA CELL (ENVIROGRID) MANUFACTURES REQUIREMENTS.

TERRA CELL 175 MAY BE ORDERED FROM MR. GREG OSENDORF AT (760) 431-2452.



TERRA CELL 175 LAYOUT PLAN VIEW
NOT TO SCALE

- TENDON
- FORM TWO LOOPS
- FOLD LOOPS TOGETHER
- INSERT HDPE CLIP
- POSITION AND TIGHTEN



DUCKBILL 88 ANCHOR
NOT TO SCALE

CLOVE HITCH KNOT
NOT TO SCALE

Exhibit 2 Page 8 of 8
5-15-1670-A1

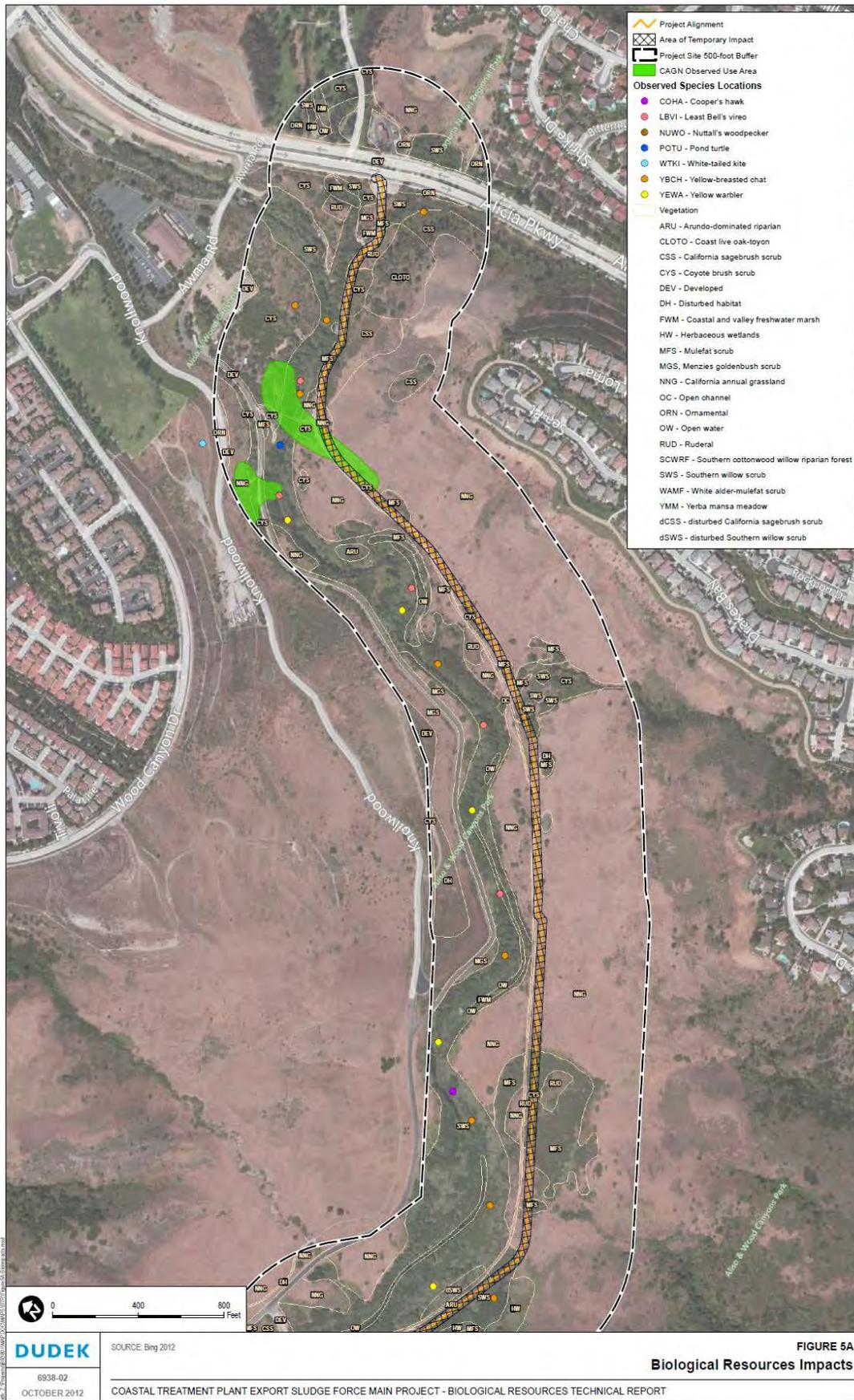


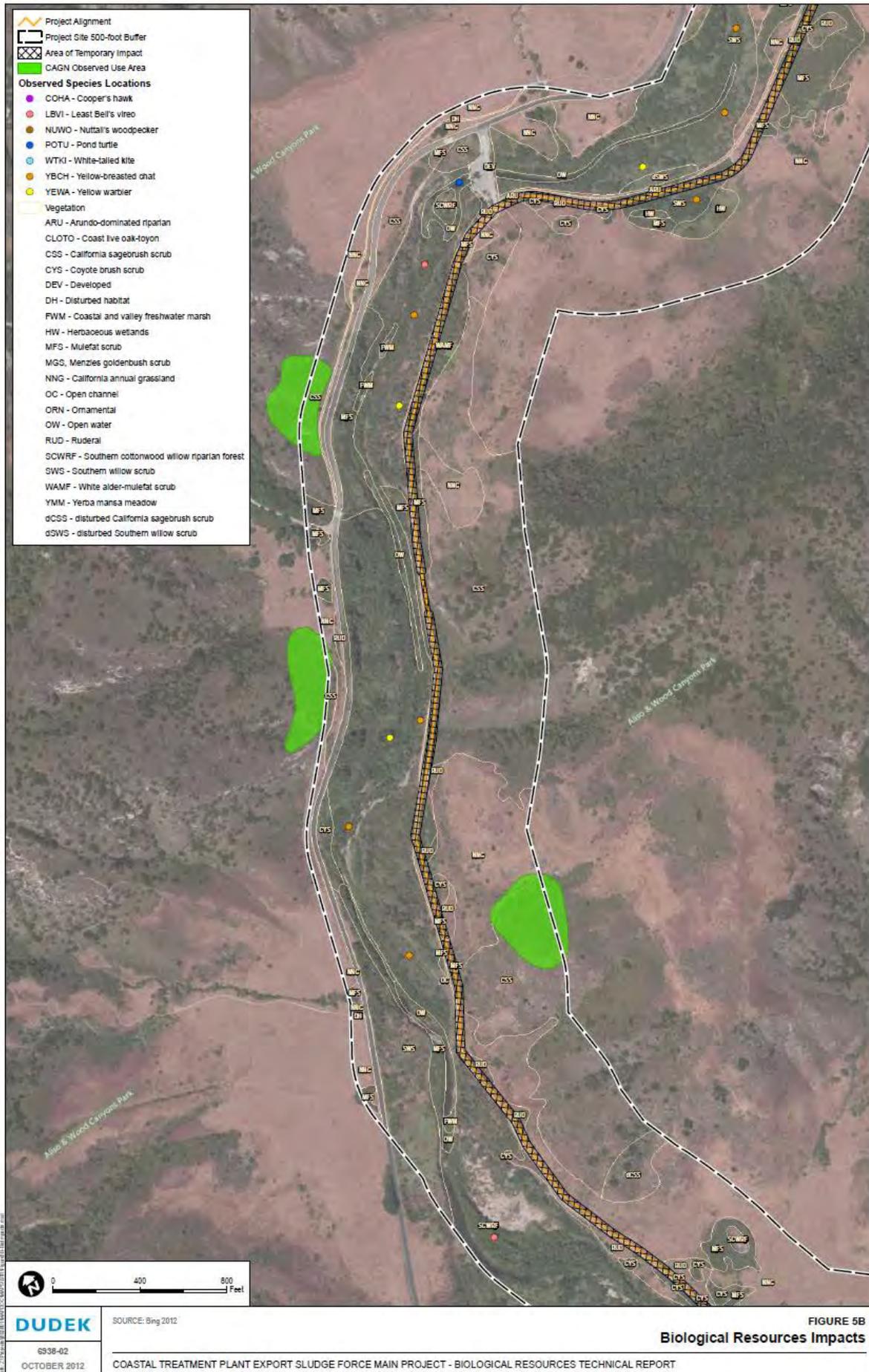
SUBMITTED: _____	PROJECT MANAGER	DATE: _____
APPROVED: _____	DUDEK ENGINEERS	DATE: _____
APPROVED: _____		DATE: _____
LINE IS 2 INCHES AT FULL SIZE IF NOT 2" - SCALE ACCORDINGLY	DATE: OCTOBER 27, 2014	DESIGNED: AG
	FILE NO.: 6731_SH33_D-9	DRAWN: KJ
		CHECKED: IP

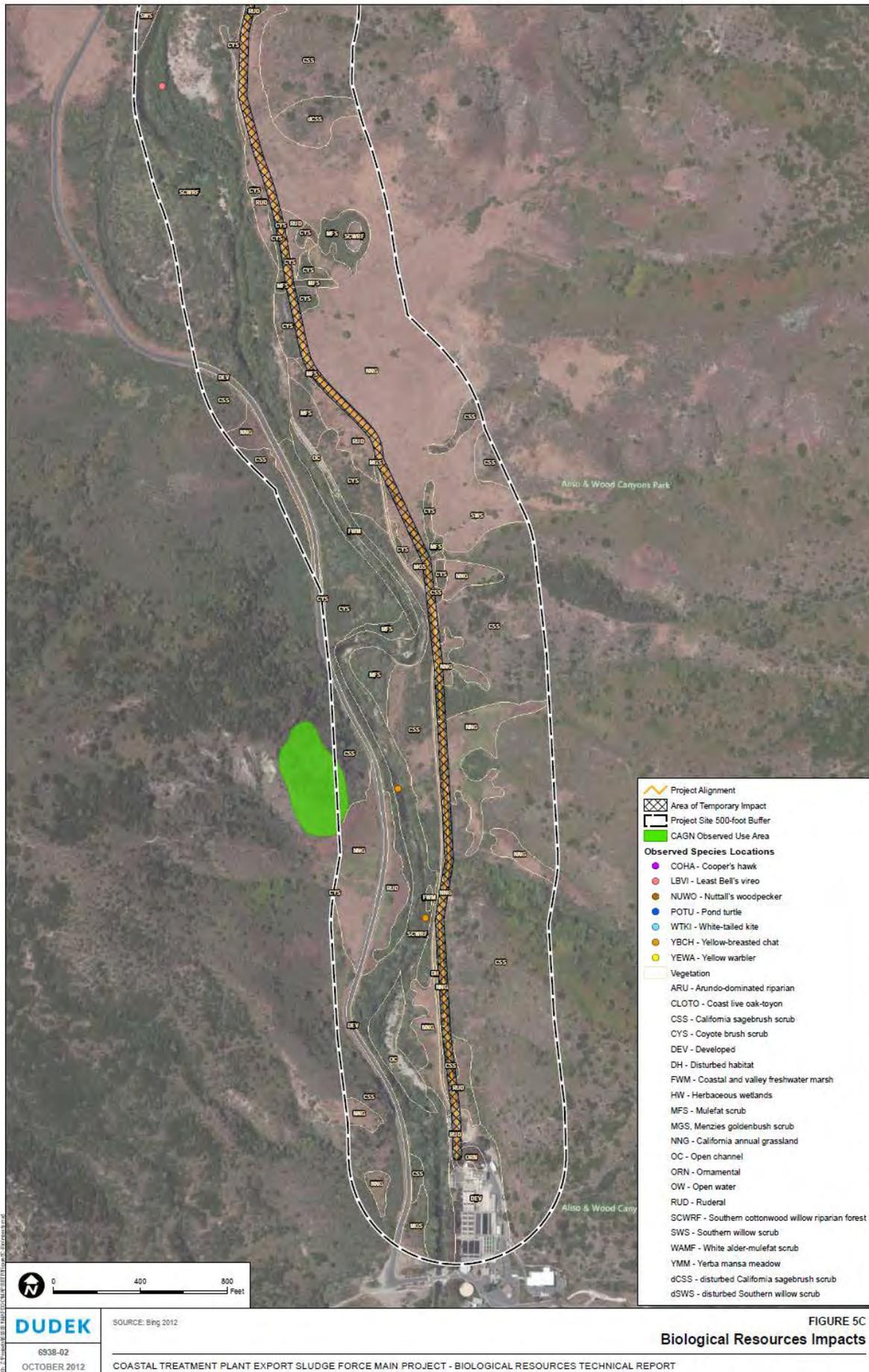
REVISIONS			
NO.	BY	DATE	REMARKS



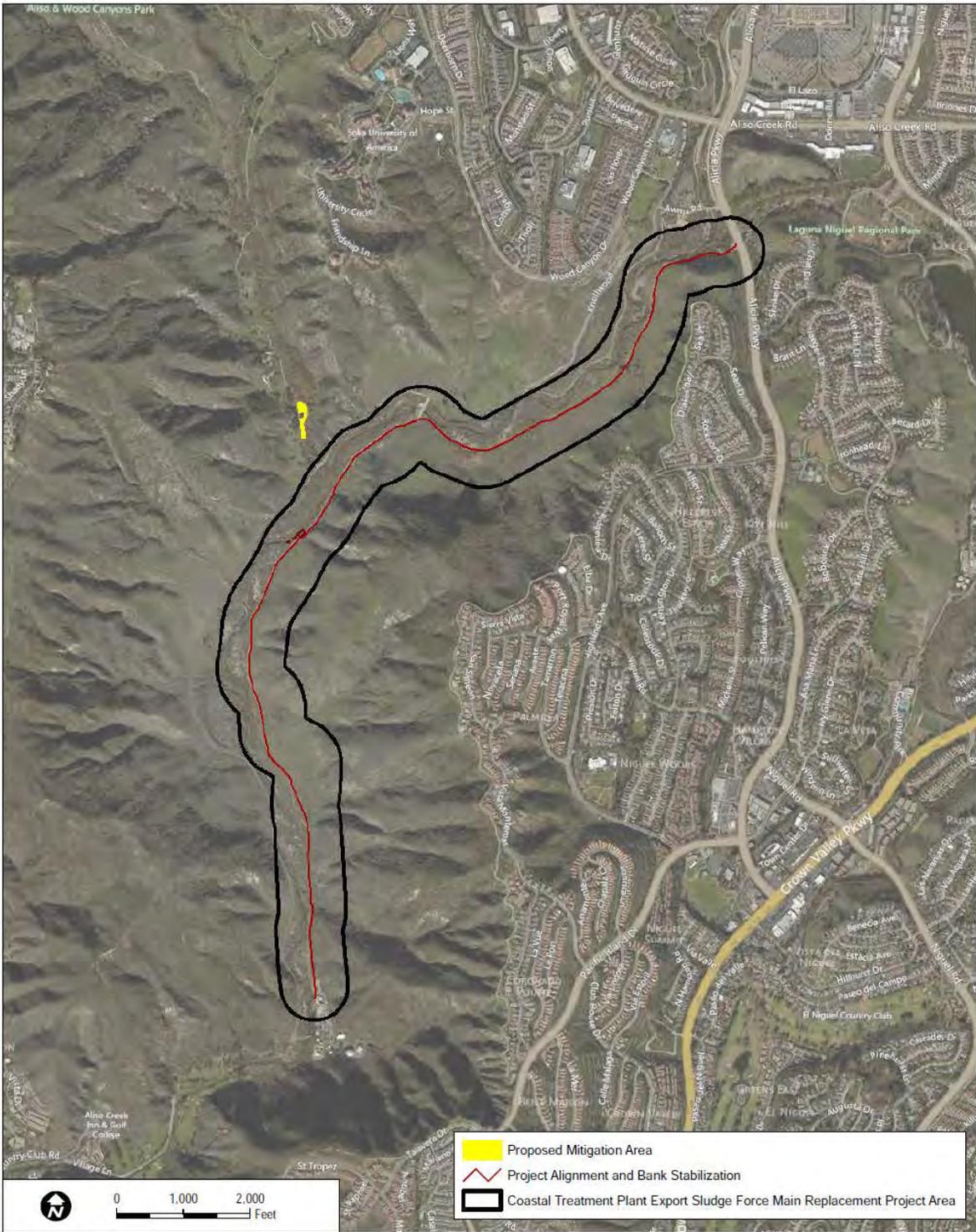
EXPORT SLUDGE FM FINAL DESIGN	PROJECT NO. 7301.0001
DOWNDRAIN AND DETAILS	DRAWING NO. D-9
	SHEET NO. 33 OF 33



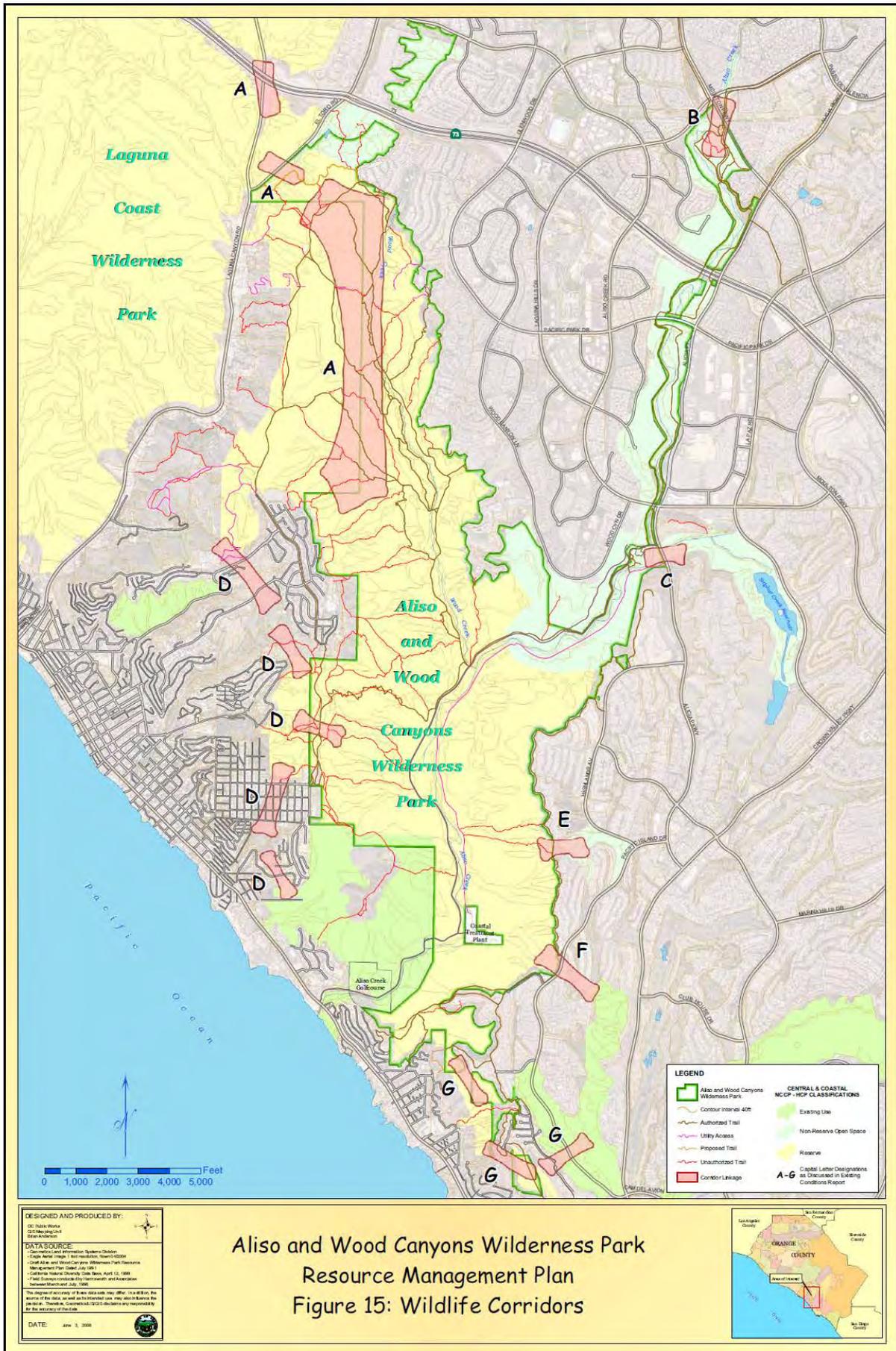


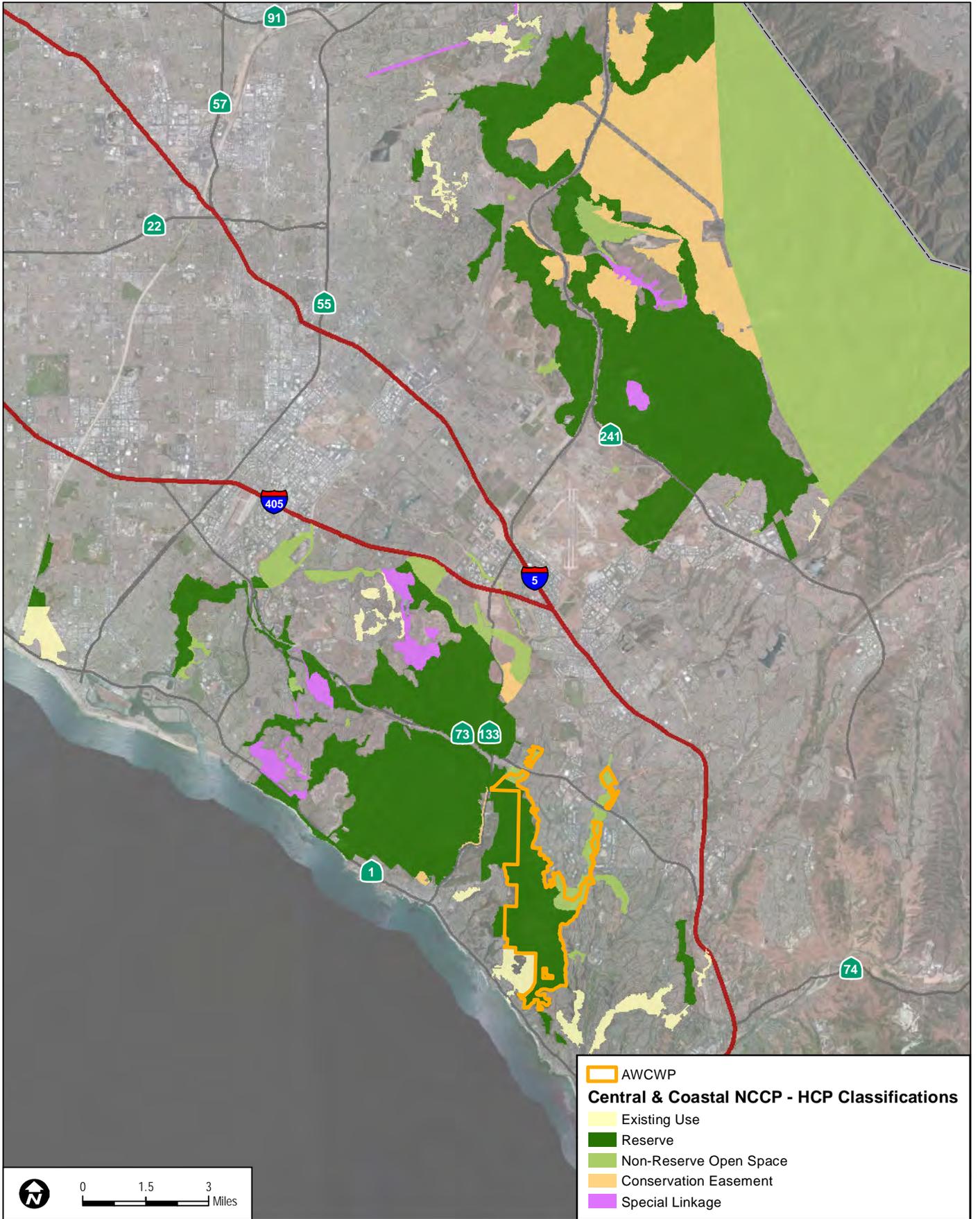


Document Path: Z:\Projects\1673101\MAPDOC\MAPS\HMMPI\HMMPI\Fig4-FM Project Site.mxd

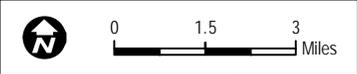


DUDEK SOURCE: Bing Maps 2014 **FIGURE 4**
Coastal Treatment Plant Export Sludge Force Main Replacement Project
6731 Habitat Mitigation And Monitoring Plan for the Coastal Treatment Plant Export Sludge Force Main Replacement Project





AWCWP
Central & Coastal NCCP - HCP Classifications
 Existing Use
 Reserve
 Non-Reserve Open Space
 Conservation Easement
 Special Linkage



DUDEK

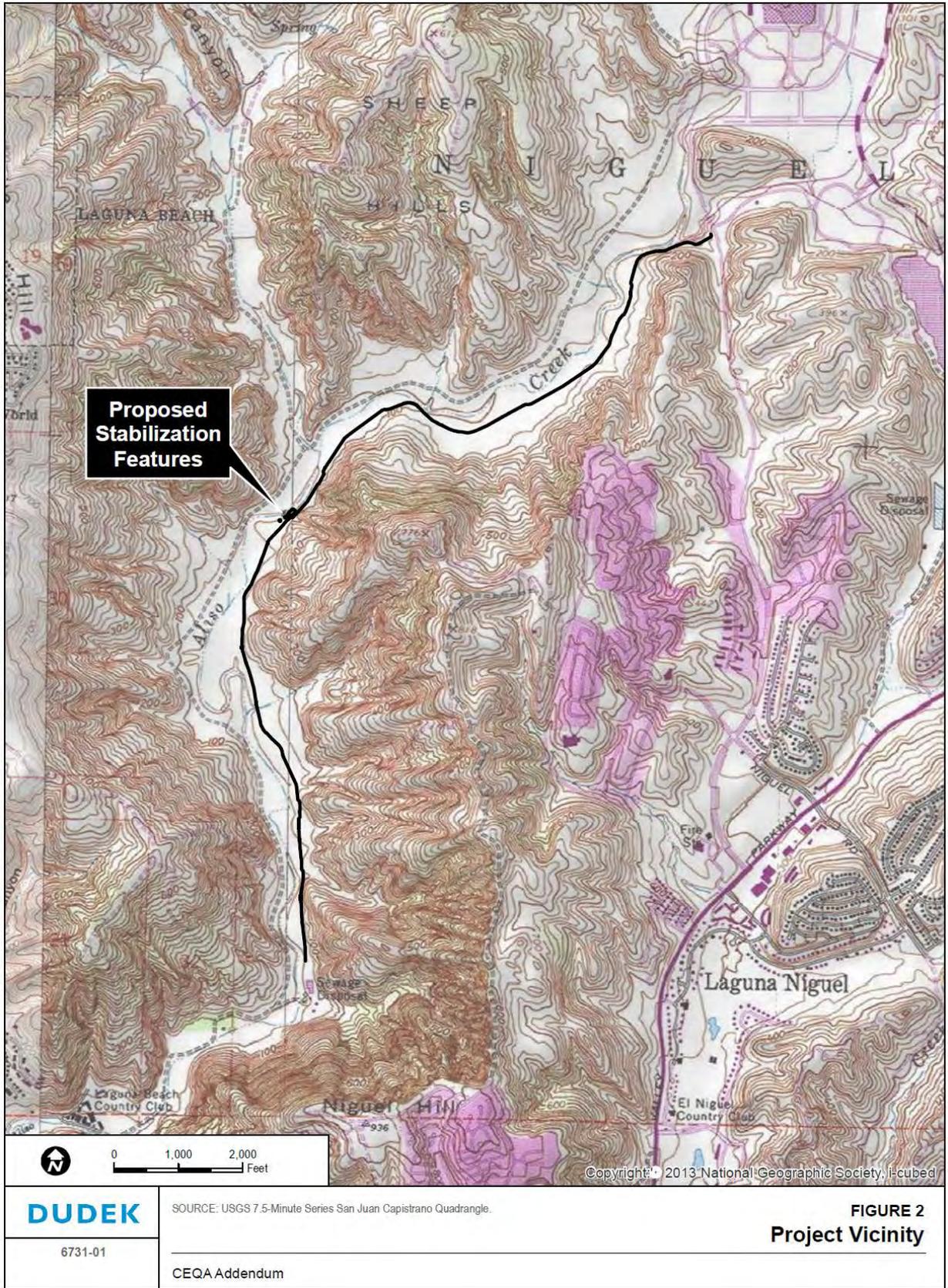
6938

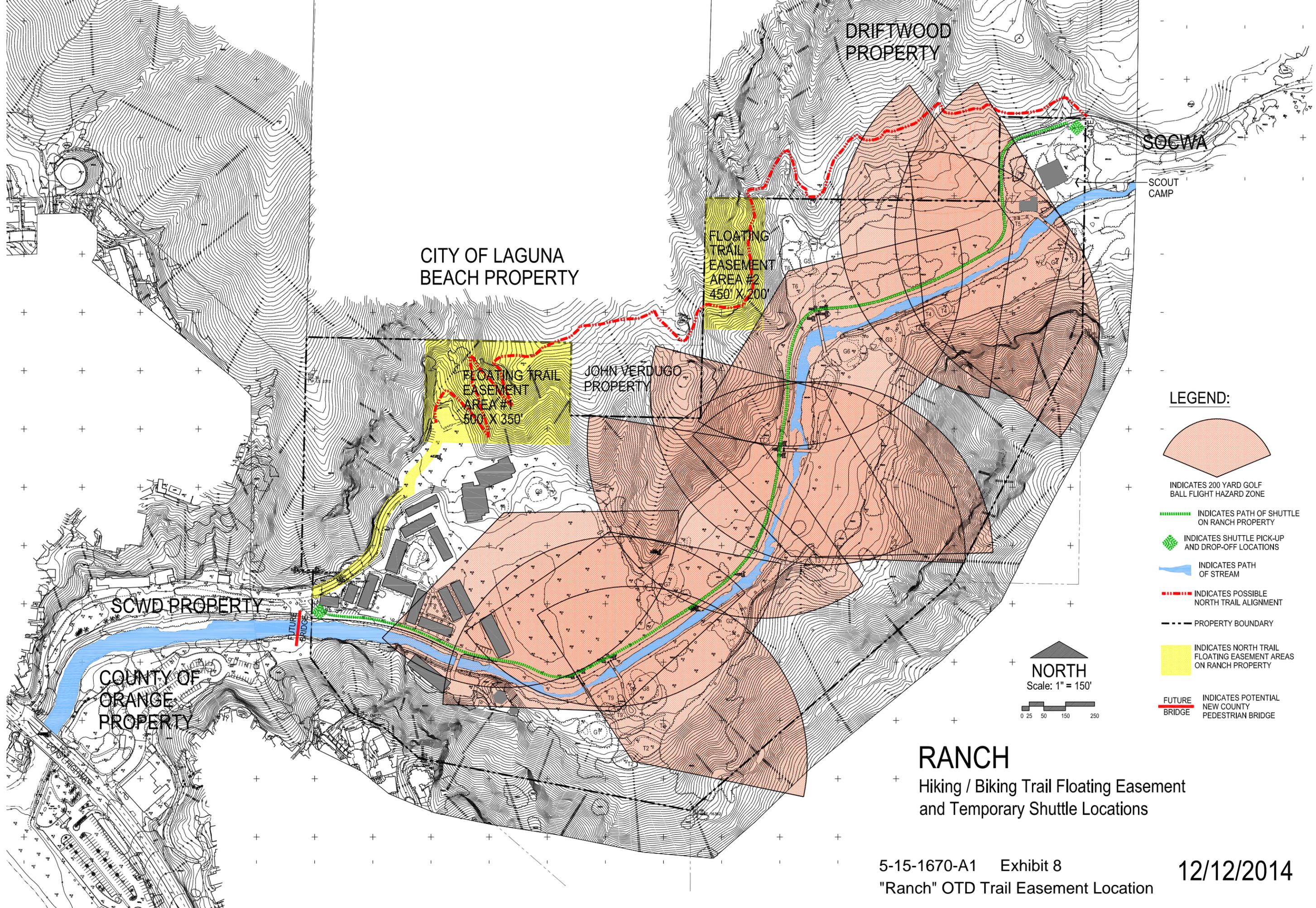
SOURCE: Bing Maps, Orange County

Figure 2-2

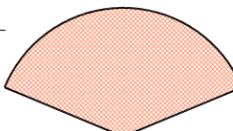
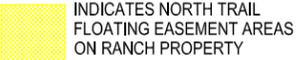
Nature Reserve of Orange County

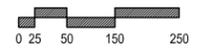
COASTAL TREATMENT PLANT EXPORT SLUDGE FORCE MAIN REPLACEMENT PROJECT



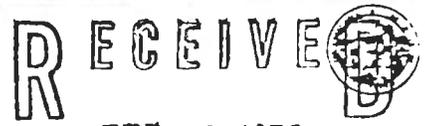


RANCH
 Hiking / Biking Trail Floating Easement
 and Temporary Shuttle Locations

- LEGEND:**
-  INDICATES 200 YARD GOLF BALL FLIGHT HAZARD ZONE
 -  INDICATES PATH OF SHUTTLE ON RANCH PROPERTY
 -  INDICATES SHUTTLE PICK-UP AND DROP-OFF LOCATIONS
 -  INDICATES PATH OF STREAM
 -  INDICATES POSSIBLE NORTH TRAIL ALIGNMENT
 -  PROPERTY BOUNDARY
 -  INDICATES NORTH TRAIL FLOATING EASEMENT AREAS ON RANCH PROPERTY
 -  FUTURE BRIDGE INDICATES POTENTIAL NEW COUNTY PEDESTRIAN BRIDGE

NORTH
 Scale: 1" = 150'


CALIFORNIA COASTAL COMMISSION
SOUTH COAST REGIONAL COMMISSION
666 E. OCEAN BOULEVARD, SUITE 3107
P.O. BOX 1450
LONG BEACH, CALIFORNIA 90801
(213) 590-5071 (714) 846 0648



COASTAL DEVELOPMENT PERMIT

ALISO WATER
MANAGEMENT AGENCY

Application Number: P-11-17-78-4365

Name of Applicant: Aliso Water Management Agency (AWMA)

2061 Business Center Drive Suite 204, Irvine, CA 92715

Permit Type: Emergency
 Standard
 Administrative

Development Location: South Laguna and Aliso Creek Canyon

Development Description: Improvements to the existing 2.5 million gallon per day (MGD) South Coast County Water District (SCCWD) Sewage Treatment Plant to upgrade treatment. Construction of new 4.2 MGD sewage treatment plant immediately adjacent to the SCCWD plant to treat sewage from City of Laguna Beach and Emerald Bay Service District; sewage to be transported to plant via the previously approved North Coast Interceptor (PE-75-779 and 77-1404). Also included are construction of roughly 2.5 miles of a 5 mile force main (that portion within the Coastal Zone) to transport sludge from the Coastal Plant (new plant and SCCWD plant) to the regional sludge facility at the Moulton-Niguel Water District Plant (outside of the Zone) and an effluent transmission line from the Moulton Niguel Plant to the Coastal Plant and eventually to the ocean outfall (P-76-5073 and P-77-1404). The two pipelines will be placed in a common trench. An access road will also be constructed, generally following an existing ranch road on the westerly side of the creek.

I. The proposed development is subject to the following conditions imposed pursuant to the California Coastal Act of 1976:

See attached Page 5 for conditions.

Condition/s Met On Feb 9, 1979 By eb eb

II. The South Coast Commission finds that:

See attached Page for findings.

III. Whereas, at a public hearing, held on January 8, 1979 at Huntington Beach by a 9 to 0 vote permit application number P-11-17-78-4365 is approved.

IV. This permit may not be assigned to another person except as provided in Section 13170, Coastal Commission Rules and Regulations.

V. This permit shall not become effective until a COPY of this permit has been returned to the Regional Commission, upon which copy all permittees or agent(s) authorized in the permit application have acknowledged that they have received a copy of the permit and have accepted its contents.

VI. Work authorized by this permit must commence within two years from the date of the Regional Commission vote upon the application. Any extension of time of said commencement date must be applied for prior to expiration of the permit.

VII. Issued on behalf of the South Coast Regional Commission on February 14, 1979.



M. J. Carpenter
Executive Director

I, JOHN V. Foley, permittee/agent, hereby acknowledge receipt of Permit Number P-11-17-78-4365 and have accepted its contents.

2/26/79
(date)


(signature) CW

1. The applicant (AWMA) is proposing to construct improvements to the existing SCCWD, South Laguna Treatment Plant, construct a new 4.2 million gallon per day treatment plant adjacent to the SCCWD plant, construct roughly 2.5 miles of sludge force main from the treatment plant to the regional solids handling facility at the Moulton-Niguel Treatment Plant (located outside of the zone), and roughly 2.5 miles of effluent transmission pipeline (in the same trench as the sludge main) bringing treated wastewater to the new treatment plant and, eventually, to the ocean outfall. An access road will also be constructed. The pipelines and road generally follow Aliso Creek.

2. AWMA has previously applied for and received several other permits for projects related to this one. They are highly interrelated and are essentially portions of the same whole. Previous permits include: (1) A-146-75 (PE-75-779) for the construction of the North Coast Interceptor Sewer and Pump Stations, bringing raw sewage from Emerald Bay and Laguna Beach to the to-be-constructed treatment plant (this application); (2) A-61-76 ---- (P-76-6073) for the Ocean Outfall that serves all of the AWMA member agencies; and (3) P-77-1404 for the portions of the North Coast Interceptor and the Ocean Outfall projects that had previously been outside of the 1000-yard permit zone. The first two permits were issued by the State Commission with Conditions (attached); the third was issued by the Regional Commission with conditions (attached).

3. Under Sections 30412, 30414, and 30604(d) of the Coastal Act the power of the Commission to address air and water quality impacts and impacts outside of the Coastal Zone has been substantially reduced from what it had been prior to 1977. Therefore, the only issues relating to resources and areas in the zone may be addressed.

4. Sections 30230, 30231, and 30240 of the Coastal Act address the importance of protecting significant habitat areas within the Coastal Zone. Studies of the creek area have indicated that it may provide valuable habitat resources for a number of important fish, bird, and plant species including the Lagoon Goby, Belding's Savannah Sparrow, California Least Tern, and "Dudleya Stolonifera", as well as providing a good example of the Coastal Sage Scrub/Chapparal Community. The habitat of the area should be subjected to a minimum of permanent alteration, therefore preserving habitat values, consistent with Section 30230, 30231, and 30240 of the Coastal Act.

5. A number of valuable archaeological and paleontological sites have been identified within or adjacent to areas to be impacted by the proposed construction. A number of mitigation measures are proposed in the EIR. Enforcement of those mitigation measures would bring the project into conformance with the requirements of Section 30244 of the Coastal Act.

6. Sections 30250 and 30254 of the Coastal Act address the location of new development and the extension of utilities to serve new development. The proposed project would serve a number of existing developed areas (Emerald Bay, Laguna Beach, South Laguna) as well as eventually being expanded to serve any development that may occur on the Irvine Coastal Shelf. The provision of capacity to serve the Irvine area should not be approved until such time as the future plans for the area have been approved through the certification of the LCP and implementing ordinances. To do otherwise would be in conflict with Sections 30250(a) and 30254 of the Coastal Act.

7. Sections 30210, 30212, and 30223 of the Coastal Act address the provisions of public access and recreational opportunities in the Coastal Zone. The Aliso Creek Canyon provides one of the last remaining undeveloped corridors from inland Orange County to the Coast. There has been considerable discussion of a hiking and equestrian trail and/or a tram system through the canyon. Although AWMA cannot grant right-of-ways for these access ways, as they are constructing on easements they can agree not to interfere in any future plans that may cross their easements.

8. As conditioned, the proposed development is in conformity with the provisions of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with said chapter.

9. As conditioned, there are feasible alternatives and mitigation measures as provided in the CEQA, available for imposition by this Commission under the power granted to it which would substantially lessen any adverse impact that the development, as finally proposed may have on the environment.

Conditions:

1. Any construction in the bed of Aliso Creek shall proceed in the time frame which will not significantly impact spawning conditions of the Lagoon Goby. Construction practices shall ensure that the Aliso Creek estuary is not degraded by siltation or fast flowing water. To this intent, adequate desilting basins, if necessary, shall be provided for all construction operations at all times.

2. Vegetation including trees, shrubs, and grasses, in the area involved in road and pipeline construction that is removed or destroyed or otherwise substantially damaged during the construction of the facilities shall be replanted by the applicant. Particular attention shall be paid to preserving and replacing in a viable condition, the chaparral and coastal sage scrub habitats impacted by the projects. These actions shall be accomplished to the satisfaction of a qualified biologist satisfactory to the Commission.

3. The applicants shall provide to the Commission a botanical and wildlife survey prior to construction, of the populations of Dudleya Stolonifera, Belding's Savannah Sparrow, and the California Least Tern in Aliso Canyon to the mean high tide. This study shall be done by a qualified biologist satisfactory to the Commission.

4. Those Dudleya Stolonifera flowering succulent found to be within the path of the pipeline or road construction shall be balled and replanted upon completion of construction.

5. The applicant shall design and construct the facilities in such a manner as not to significantly increase the rate of erosion of the area considered in Condition two or to create or increase flood control problems in Aliso Creek and its flood plain.

6. The applicant shall design and construct the facilities in a manner so as not to expose the facilities to damage from the waters of Aliso Creek.

documents containing provisions to accomplish compliance with Conditions 1-6 above. The applicant shall amend such documents to the extent necessary, if any, to reasonably provide for accomplishment if provisions as specified are determined by said Commission to be inadequate."

8. The applicant shall submit a signed and notarized statement stating the mitigation measures for paleontological resource preservation outlined on pages 50-51 of the EIR amendment submitted with this application and agreeing to abide by those mitigation measures.

9. The applicant shall submit a copy of the archaeological Resource Assessment being prepared by Scientific Resource Surveys, Inc. to this Commission.

10. An archaeologist who is a member of the archaeologist society and at the immediate site of all grading and trenching including construction of access roads, and staging areas, within the acquired right-of-way and easement. The archaeologist's decision as to mitigation level required to protect archaeological resources from construction, shall be final pursuant to State Historical Office and National Register of Historic Places guidelines. Mitigation measures for the identified archaeological sites should include:

- (a) Ora-582: Preserve the site by tunneling under. These activities must be conducted with an archaeologist present during the construction in the area of the archaeological deposit.
- (b) Ora-19, 125, and 403: Test findings reveal that significant archaeological remains exist on or under the present road and the proposed road alignment. Construct the road across the archaeological deposits so that no disturbance occurs to the resource. Accomplish this by capping the present surface with non cultural materials through the site areas (See Plate II07 and below). This preservation method is to include the installation of a pipe culvert through the erosion channels which now exist on each of the archaeological sites without sub-surface disturbance. An archaeologist must monitor this installation.

11. The approved size of the new treatment plant shall not exceed a maximum capacity of 4.2 million gallons per day until such time as the Local Coastal Program (LCP) and implementing measures for the Irvine Coastal Area have been certified by the Coastal Commission.

12. The applicant shall submit a signed and notarized letter agreeing to continue to abide by the Conditions placed on A-146-75 and A-61-76, as amended by the State Commission.

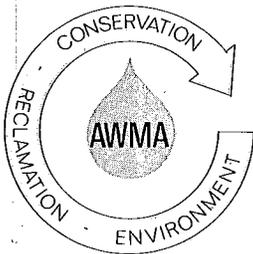
13. The applicant shall submit a signed and notarized letter agreeing that the Aliso Water Management Agency will not interfere in any plans that may be made by the Aliso Viejo Company (or successors in interest), the County of Orange, and/or the Coastal Commission (or its successor agency) for any trail or tramway or other public access way along Aliso Creek pipeline easements. AWMA shall allow access easements & accessways to cross and/or follow their pipeline easements, accessways, and treatment plant locations, if necessary, to implement public access through Aliso Canyon.

14. The applicant shall require that the contractor awarded the contract for the construction of the facilities shall provide a faithful performance bond in the amount of 10 per cent of the estimated amount of the contract price.

15. If the applicant does not diligently commence construction of the facilities within two years of the approval date by this Commission, this permit will automatically expire.

16. This permit does not commit this Commission to approving any other developments or to planning decisions based on population figures referred to herein or to be served by facilities approved under this application.

* * *



**ALISO WATER
MANAGEMENT
AGENCY**

2061 Business Center Drive
Suite 211
Irvine, California 92715
(714) 752-2461

John V. Foley
General Manager

January 15, 1979



Ms. Eileen Baumgardner
CALIFORNIA COASTAL COMMISSION
P.O. Box 1450
666 E. Ocean Blvd.
Long Beach, CA. 90801

Subject: Affidavit of Certification of Compliance With
Conditions 8, 12 & 13 of California Coastal
Commission, South Coast Regional Commission,
Permit No. 78-4365

Dear Ms. Baumgardner:

This letter constitutes our certifications of compliance with
Conditions 8, 12 & 13 of the above-mentioned Permit No. 78-4365
as indicated below:

- A. Condition 8
Mitigation measures for paleontological resource preserva-
tion outlined on Pages 50-51 of the Amendment,
Environmental Impact Report, Construction of Regional
Wastewater Facilities for Aliso Water Management Agency,
March 1978, are hereby agreed to. (Attached as Exhibit A).
- B. Condition 12
The applicant agrees to continue to abide by the conditions
contained in Permits A-146-75 and A-61-76 as amended by the
State Commission.
- C. Condition 13
The applicant agrees not to interfere in any plans that may
be made by the Aliso Viejo Company (or successor interest),
the County of Orange, and/or the Coastal Commission (or its
successor agency) for any trail or tramway or other public
accessway along Aliso Creek that may follow wholly or in
part, or cross the Agency's access road or pipeline ease-
ments. AWMA shall allow access easements and accessways
to cross and/or follow its pipeline easements, accessways,
and treatment plant locations, if necessary to implement
public access through Aliso Canyon.

5-15-1670-A1

Exhibit 11 Page 1 of 2

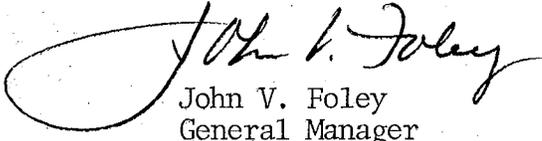
Ms. Eileen Baumgardner
CALIFORNIA COASTAL COMMISSION
Page Two

January 15, 1979

D. With regard to the other conditions of the permit, we have incorporated the requirements into the contract documents or where not appropriate, will be accepted as a part of the acceptance of the permit.

Sincerely,

ALISO WATER MANAGEMENT AGENCY



John V. Foley
General Manager

JVF:ct

Attachment

Subscribed and sworn to before me
this th 15 day of *Jan.*, 19 *79*
Virginia L. Lyle
Notary Public in and for said State

