BIG CANYON HABITAT RESTORATION & WATER QUALITY IMPROVEMENT PROJECT

Initial Study and Mitigated Negative Declaration

Prepared for
City of Newport Beach
Public Works Department

February 2016

ESA

City of Newport Beach
100 Civic Center Drive
Newport Beach, California 92660

NOTICE OF INTENT TO ADOPT PROPOSED MITIGATED NEGATIVE DECLARATION

In accordance with City of Newport Beach (City) policies regarding implementation of the California Environmental Quality Act, the City has conducted an Initial Study to determine whether the following project may have a significant adverse effect on the environment, and on the basis of that study hereby finds:

	The proposed project will not have a significant adverse effect on the environment; therefore, it does not require the preparation of an Environmental Impact Report.
X	Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because the Mitigation Measures described in the Initial Study have been incorporated as part of the project. An Environmental Impact Report is therefore not required.

The Initial Study provides the basis and reasons for this determination and is available in paper copy form at the City of Newport Beach Public Works Department Counter, several public libraries, and online at the City's website, as described below.

PROJECT:

Title: Big Canyon Habitat Restoration & Water Quality Improvement Project

Location: Within Big Canyon Nature Park, west and east of Jamboree Road and east of Upper Newport Bay in the City of Newport Beach

Description: The proposed project encompasses 6 acres and includes the following (1) restore historic riparian habitat by removing non-native vegetation and replace it with native plantings, (2) stabilize the creek and floodplain, (3) improve water quality in Big Canyon Creek and Newport Bay through the addition of a water quality treatment bioretention cell, extension of the Jamboree culvert, concrete stilling basin, and dosing station, and (4) enhance public access within the Big Canyon Nature Park. The project also includes maintenance of the proposed water quality features to ensure that the features are functioning as originally designed.

Project Proponent: City of Newport Beach

Address: 100 Civic Center Drive, Newport Beach, California 92660

Contact Person: Robert Stein Telephone Number: 949.644.3322

NOTICE:

The Initial Study is available for review by the general public. The Initial Study provides a detailed project description and evaluation of the potential environmental effects of the proposed project. The Initial Study can be accessed online at http://www.newportbeachca.gov/index.aspx?page=1347. Paper

copies are also available at the City of Newport Beach Public Works Department, 100 Civic Center Drive, Bay 2D, Newport Beach, California, 92660, and at the following locations:

Newport Beach Public Library Central Library 1000 Avocado Avenue Newport Beach, CA 92660	Newport Beach Public Library Mariners Branch 1300 Irvine Avenue Newport Beach, CA 92660
Newport Beach Public Library Balboa Branch 100 East Balboa Boulevard Newport Beach, CA 92660	Newport Beach Public Library Corona del Mar Branch 420 Marigold Avenue Corona del Mar, CA 92625

The City of Newport Beach requests your careful review and consideration of this notice, and invites any and all input and comments from interested Agencies, persons, and organizations regarding the Initial Study/Mitigated Negative Declaration. Please submit any comments in response to this notice no later than 30 days beginning on March 4, 2016 and ending the close of business on April 4, 2016. All comments or other responses to this notice should be submitted in writing to:

Robert Stein
Assistant City Engineer
City of Newport Beach, Public Works Department
100 Civic Center Drive
Newport Beach, California 92660
rstein@newportbeachca.gov
949.644.3322

The decision-making body will review the Initial Study and potentially other sources of information before considering the proposed project. The project site is not presented on any lists enumerated under Section 65962.5 of the Government Code, including, but not limited to lists of hazardous waste facilities, land designated as hazardous property, and hazardous waste disposal sites.

The City of Newport Beach City Council is expected to deliberate on the adoption of the Proposed MND and approval of the project at its April 26, 2016 Council Meeting which begins at 7:00 p.m. in the City Council Chambers at 100 Civic Center Drive, Newport Beach, California.

Signed: _____ Dated: March 2, 2016
Robert Stein, Assistant City Engineer

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Prepared for
City of Newport Beach
Public Works Department

February 2016

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CHAPTER 1
Introduction

The City of Newport Beach (City) has determined the proposed Big Canyon Creek Restoration and Water Quality Improvement Project (project) is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study addresses the indirect, direct, and cumulative environmental impacts associated with the proposed project. The proposed project includes the following (1) restore historic riparian habitat by removing non-native vegetation and replace it with native plantings, (2) stabilize the creek and floodplain, (3) improve water quality in Big Canyon Creek and Newport Bay, and (4) enhance public access within the Big Canyon Nature Park. The project also includes maintenance of the proposed water quality features to ensure that the features are functioning as originally designed.

1.1 Statutory Authority and Requirements

In accordance with the CEQA (Public Resources Code Sections 2100-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Newport Beach, acting in the capacity of Lead Agency, is required to undertake the preparation of an Initial Study to determine if the proposed project would have a significant environmental impact. If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency must find that the project would not have a significant effect on the environment and must prepare a Negative Declaration or Mitigated Negative Declaration for that project. Such determination can be made only if, "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Section 21080(c), Public Resources Code).

The environmental documentation is intended as an informal document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required. The environmental documentation and supporting analysis is subject to a public review period. During this review, public agency comments on the document should be addressed to the City of Newport Beach. Following review of any comments received, the City of Newport Beach will consider these comments as part of the project's environmental review and include them with the Initial Study documentation for consideration by the Planning Commission of the City of Newport Beach.

1.2 Purpose

The City of Newport Beach (City) has prepared this IS/MND to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the proposed Big Canyon Creek Restoration and Water Quality Improvement Project. This IS/MND includes project-level analysis of the potential effects associated with the project.

This IS/MND was prepared in compliance with Sections 15070 to 15075 of the California Environmental Quality Act (CEQA) Guidelines of 1970 (as amended) and California Code of Regulations, Title 14, Division, Chapter 3. In accordance with Section 15070, an MND shall be prepared if the Initial Study identifies potentially significant effects, but revisions in the project plans would avoid or mitigate the effects to a point where clearly no significant effects would occur. As the CEQA lead agency, the City has determined that an IS/MND shall be prepared for the proposed project.

CHAPTER 2
Project Description

2.1 Introduction

The Big Canyon Restoration and Water Quality Improvement Project (proposed project) is located on a 6-acre site in the eastern portion of the 60-acre Big Canyon Nature Park at the downstream end of the Big Canyon Watershed in the City of Newport Beach (City), Orange County, California (**Figure 1**). The Big Canyon Watershed covers approximately two square miles located on the east side of Upper Newport Bay. Big Canyon Creek winds through the Big Canyon Nature Park in a general southeast to northwest direction and then discharges into Upper Newport Bay.

Big Canyon is the only natural, undeveloped portion of the Big Canyon watershed and the only significant remaining natural canyon on the east side of Newport Bay. The upper 45-acre parcel is owned by the City of Newport Beach. The lower 15-acre portion of the Nature Park is owned the California Department of Fish and Wildlife and is a part of the Upper Newport Bay State Ecological Reserve.

2.1.1 Project Background

The City has contemplated restoration efforts within Big Canyon for over a decade. Currently, the City has funding for the restoration efforts that are part of Phases IA and IB (proposed project). Potential future restoration efforts could also be proposed as a separate project, if future funding is available. The proposed project is currently being planned in coordination with a Resource and Recreation Management Plan (RRMP) being prepared by the Irvine Ranch Conservancy under contract with the City of Newport Beach for the Big Canyon Nature Park. The RRMP provides a framework for restoration and recreational improvements in the Nature Park that will be consistent with the requirements of the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP) for the Central and Coastal sub-region of Orange County in the event the City elects to incorporate the Nature Park into the NCCP. Potential future restoration efforts within Big Canyon would also be coordinated with the RRMP.

SOURCE: City of Newport Beach, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 1

Regional Location Map

The potential future restoration efforts could provide benefits to Big Canyon in addition to those associated with the proposed project. These benefits could include water quality improvements in Big Canyon Creek, restoration of natural creek channels impacted by hydromodification, restoration of riparian and inland alkaline non-tidal marsh habitat, removal of non-native vegetation and replacement with native plantings, remediation of selenium-laden sediment within former freshwater ponds, creation of new transitional habitat to allow for future adaption of coastal estuarine habitat due to sea-level rise, reduction of favorable mosquito breeding habitat, and improvements and protection of public access within the natural areas of the Big Canyon Nature Park, including coastal areas that will be subject to future inundation due to sea-level rise.

If funding is available, the City anticipates the preparation of a feasibility analysis to develop the least impactful and most cost-effective approach to the freshwater ponds for the future restoration efforts. These future efforts could include the protection of the biological resources within the creek and downstream estuary by addressing the sediment and reeds within these ponds and restoring the area of the future efforts. This potential future area currently contains invasive pepper trees, and the City contemplates removal of them so that the area could be restored to a transitional habitat to allow for adaptation of the coastal estuary due to sea-level rise. Based on projected sea-level rise, this area of invasive pepper trees could be inundated in about 50 years.

Phases IA and IB, the current project, include the implementation of a creek and riparian habitat restoration, habitat creation and enhancement, stormwater treatment wetland, dry-weather flow diversions, culvert improvements, and trail planning in the upper portion of the Big Canyon Nature Park. Implementation is scheduled for 2016–17.

2.1.2 Purpose and Need for Project

The Big Canyon Restoration Project – Phases IA and IB will: (1) restore historic riparian habitat by removing non-native vegetation and replace it with native plantings, (2) stabilize the creek and floodplain, (3) improve water quality in Big Canyon Creek and Newport Bay, and (4) enhance public access within the Big Canyon Nature Park. Restoration and water quality improvements in Phase I will proceed potential future restoration efforts in the remaining downstream areas of the watershed.

2.1.2.1 Restore Historic Riparian Habitat

Big Canyon Creek has been documented as suitable for habitat restoration and enhancement due to channel incision, loss of floodplain access, unstable banks, poor water quality, and more than anything invasive species. Large portions of the riparian habitat are dominated by non-native invasive species. This in turn has impacted the habitat quality of the riparian habitat in and along Big Canyon Creek within the project area as well as in the downstream reaches of the Nature Park.

2.1.2.2 Creek and Flood Plain Stabilization

Urbanization in the Big Canyon watershed has resulted in increased peak and sustained peak storm flows that have resulted in hydraulic modification of the Big Canyon Creek within the

project limits. Downstream of the Jamboree Road culvert, Big Canyon Creek has responded to hydromodification by incising into its historic channel bed and eroding channel banks in the upper reach of the creek. Channel incision has reduced floodplain connectivity in the adjacent riparian community that requires periodic inundation to support native biological species and habitat conditions. Continued erosion and channel cutting will result in unstable embankments. Flooding has also occurred historically at the site and has resulted in damage to Back Bay Drive.

Without the proposed creek and watershed restoration measures, the ongoing physical, chemical and biological processes will result in additional bank and bed erosion, continued loss of riparian habitat, reduced water quality in the creek and in Newport Bay, and loss of opportunities to provide effective educational and recreational elements that serve the wider Orange County.

In addition a mosquito vector habitat is created when wet weather flows from Jamboree Road discharge through a storm drain outfall to a scour pond in the creek's riparian corridor. This project addresses this mosquitos breeding habitat by eliminating the scour pond.

2.1.2.3 Water Quality Improvements

During wet weather, roadway-related pollutants (e.g., metals, sediment, oil and grease) enter Big Canyon Creek from thoroughfares such as Jamboree Road and impact creek water quality. The project includes measures to reduce metals and sediment loading into the creek and Bay from stormwater flows from Jamboree Road. Big Canyon Creek is listed as an impaired waterbody for selenium and a total maximum daily load (TMDL) has been established for the creek. The receiving water for Big Canyon Creek is Newport Bay, which is listed as an impaired waterbody for metals, toxics, nutrients, and bacteria. TMDLs have also been established to address these impairments.

Big Canyon Creek, which drains the Big Canyon Watershed, is one of the few perennial streams that discharge to Upper Newport Bay. Concentrations of selenium above water quality guidelines have been measured in dry weather flows in Big Canyon Creek. The City has developed and is implementing a selenium reduction program in the watershed that includes dry weather diversions and other measures to reduce the selenium concentrations in the creek and into Upper Newport Bay. This project includes additional measures to substantially reduce selenium loading in dry weather flows as part of the selenium reduction program.

To address these issues, the proposed project would construct a bioretention cell water quality treatment wetland that would treat wet weather flows and would also minimize the storm drain-associated vector habitat in Big Canyon Creek. Additional water quality measures include the construction of a dry weather flow diversion that re-routes flows of low selenium concentration around identified sources of high selenium and return these better quality flows back into the creek downstream. Seeps that are sources of high selenium will be passively collected and diverted to the sanitary sewer.

Without the proposed water quality measures as part of Phase IA and IB of the Big Canyon Restoration Project, impacts to water quality and biological beneficial uses will continue. The

success of the planned restoration efforts as part of this phase and potential future downstream phases depends on addressing the existing water quality issues. These measures are needed for the long-term sustainability of the restoration of Big Canyon.

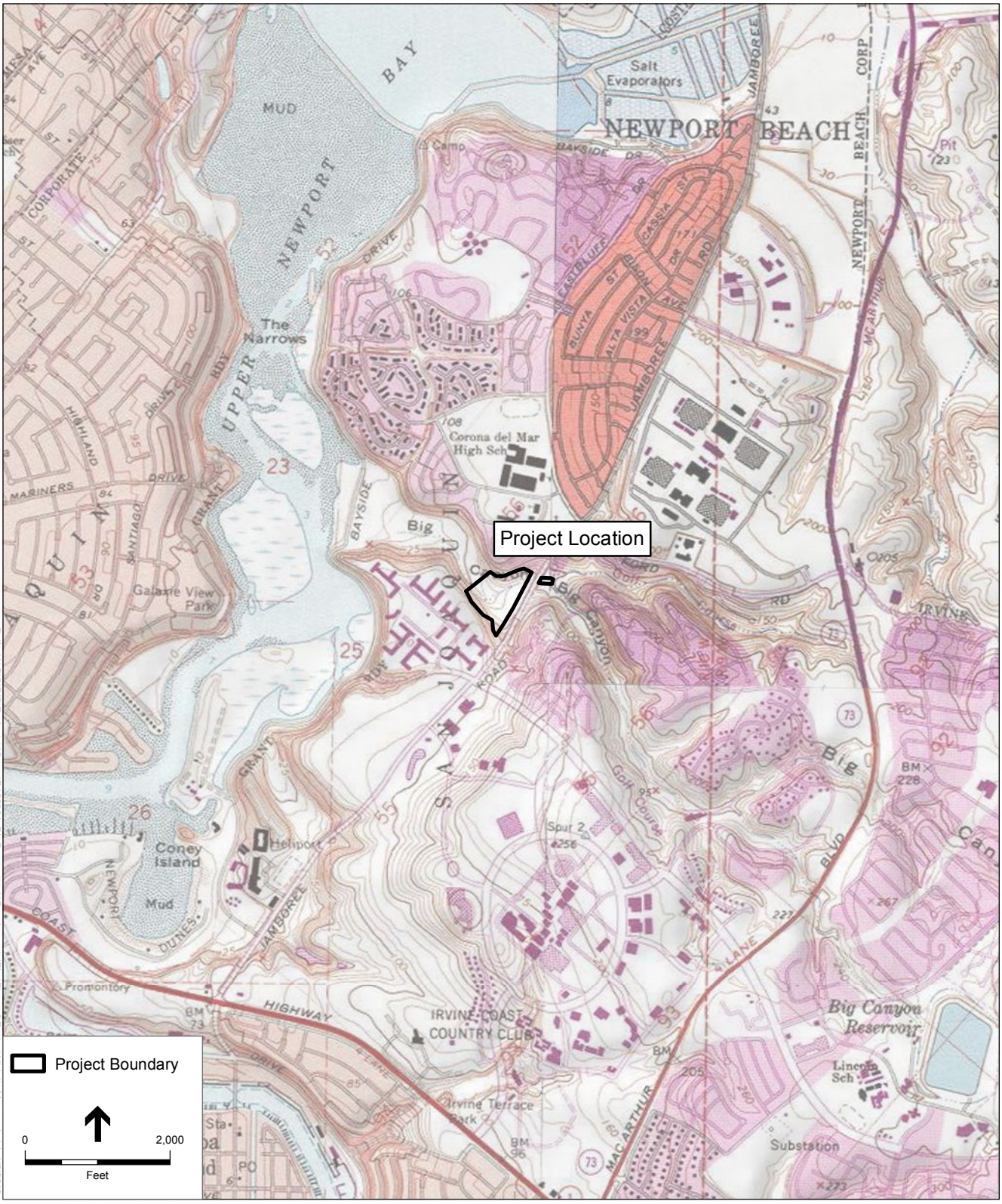
2.1.2.4 Public Access Enhancements

Big Canyon Nature Park is used by residents and visitors for passive recreation. This is an important destination for thousands of children participating in the Orange County Department of Education *Inside the Outdoors* program. *Inside the Outdoors* provides watershed educational activities for grade school children throughout the county including disadvantage communities. As the largest undeveloped canyon adjacent to Newport Bay, it has the potential to become an integral part of the Upper Newport Bay State Ecological Preserve and to provide unique opportunities for the public to learn about the diversity of biological resources and environmental protection within a short walking distance. At present, the upper portions of the Nature Park are not attractive and rarely visited by the public. Along with habitat restoration, trail improvement and information signage will provide an enhanced experience of the different ecotones in a coastal watershed.

2.2 Project Location and Setting

The proposed project is located within the City of Newport Beach, on a 6-acre site in the eastern portion of the 60-acre Big Canyon Nature Park. As shown in Figure 1, the project site is east of Upper Newport Bay, west and east of Jamboree Road and includes Big Canyon Creek. Primary regional access to the project site is provided by State Route 73, which runs north-south approximately 2 miles north of the project site, and State Route 1, which runs north-south approximately 1.25 miles south of the project site. Sub-regional access is provided via Jamboree Road, Ford Road, and San Joaquin Hills Road. The project site is bounded by residential developments on the bluffs to the north and south. Land uses within the project vicinity include residential, recreational open space, golf courses, and commercial developments (**Figure 2**).

Located on the east side of Upper Newport Bay, Big Canyon Creek winds through the Big Canyon Nature Park in a general southeast to northwest direction and then discharges into Upper Newport Bay. The Big Canyon watershed is roughly 1,300 acres extending roughly 3 miles east from Back Bay Drive into the San Joaquin Hills. Big Canyon is the only natural, undeveloped portion of the Big Canyon watershed and the only significant remaining natural canyon on the east side of Newport Bay. This 45-acre parcel contains native and non-native habitat and an array of hiking trails, and is owned by the City of Newport Beach (**Figure 3**). Directly downstream of the Project Area, the lower 15-acre portion of the Nature Park is owned by the California Department of Fish and Wildlife (CDFW) and is a part of the Upper Newport Bay State Ecological Reserve. Big Canyon Nature Park is located in the Upper Newport Bay State Marine Conservation Area (SMCA) and is part of Southern California's coastal estuarine environment. Newport Bay discharges adjacent to the Newport Coast Area of Special Biological Significance (ASBS).



Path: D:\GIS\GIS\Projects\13xxxx\D130934_BigCanyon\task\Supplemental\Pkg\Figure 2 Project Vicinity Map.mxd, jyl 1/5/2016

SOURCE: USGS 7.5' Topo Quad Newport Beach, 1977

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 2

Project Vicinity Map

SOURCE: City of Newport Beach, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 3

Project Aerial Map

The Project Area is characterized topographically by steeply sloping bluffs and a narrow, moderately-sloped floodplain; slopes range in elevation from 20 to 75 feet above mean sea level and the canyon creek ranges in elevation from below mean sea level to 25 feet above mean sea level. A perennial stream identified as Big Canyon Creek is present within the Project Area and supports degraded riparian habitat.

The Project Area supports six plant communities, as well as disturbed and developed areas (**Figure 4**, Vegetation Communities). These plant communities include southern riparian forest, freshwater march, alkali meadow, Diegan sage scrub, non-native grassland, and ornamental habitat—of these, southern riparian forest, freshwater march, alkali meadow, and Diegan sage scrub habitats are considered to be sensitive plant communities. Sensitive habitats are those considered to support unique vegetation communities and/or special-status plant and/or wildlife species, or function as corridors for wildlife movement.

The southern riparian forest habitat is heavily impacted by the invasion and establishment of invasive trees and understory vegetation. A total of 194 species of invasive and non-native grasses, forbs, and trees have been identified within the Big Canyon Nature Park (Dudek 2015).

The Big Canyon Project Area is bound on three sides by development. On the east side of Jamboree, the Project Area is bound by the golf course to the east and south, and a condominium complex to the north. On the west side of Jamboree Road, residential development is located at the north and south side of the Project Area. To the west, the Big Canyon Nature Park extends to Upper Newport Bay State Ecological Reserve.

SOURCE: ESA, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 4

Vegetation Communities Map

2.3 Project Overview and Design

The proposed project has several objectives including:

- Restore and Enhance Riparian Habitat
- Improve Water Quality
- Reduce Flood/Erosion/Sedimentation Damage
- Encourage Public Participation and Provide Education
- Provide Recreational Opportunities

In order to meet these objectives, the proposed project includes the following elements:

- **Creek Restoration and Riparian Habitat Creation & Enhancement –** The project proposes to conduct creek restoration activities that will include floodplain restoration, streambank stabilization, and habitat restoration. Floodplain restoration and streambank stabilization activities will result in increased flood flow attenuation, stabilization of the north bank of the main channel, and creation of an active braided riparian floodplain. The north creek bank at the inlet will be stabilized using natural bioengineering techniques. Riparian habitat will be restored directly downstream of the floodplain restoration area through the removal of invasive trees, soil modification to reduce plant-limiting sodium levels, and replacement with native riparian species.
- **Riparian Habitat Creation Activities –** Riparian habitat creation activities will also be conducted directly to the southwest of the proposed bioretention cell. This area will be graded down to allow for riparian trees to access existing groundwater. Riparian habitat enhancement will include removal of upstream and adjacent sources of Brazilian peppertree both east of Jamboree Road and north of the creek.
- **Stormwater Water Quality Treatment Bioretention Cell** – The project includes the construction of a water quality treatment bioretention cell that will treat wet-weather flows from Jamboree Road and reduce the storm drain-associated vector habitat in Big Canyon Creek. The basin will be vegetated with coastal sage scrub on the outer banks and vegetated with native riparian forbs, grasses, and shrubs in the inner basin. These species will have the ability to sequester toxins and tolerate flooded conditions for limited periods of time. The basin will be periodically maintained per an approved Operation and Maintenance Plan.
- **Dry Weather Water Quality Selenium Reduction Measures** – A dry weather flow diversion that re-routes flows of lower selenium concentration around identified sources of high selenium and return these better quality flows back into the creek will be constructed as part of this project. Dry weather flows will be diverted from an underground culvert on the east side of Jamboree Road and routed through an above ground pipe along the south bank of the creek and through the storm drain culvert under Jamboree Road. The pipe will discharge on the west side of Jamboree Road into the

floodplain that will be graded as part of this project. Seeps that are sources of high selenium will be passively collected and diverted to the sanitary sewer.

- **Infrastructure Improvements** – The Project will also be constructed in coordination with infrastructure improvements by the Orange County Sanitation District (OCSD). The improvements are shown on Figure 3 and include the extension and improvement of the existing access road along the toe of slope along the west side of Jamboree Road. The access road improvements will be used access and maintain the sanitary sewer manhole located to the north of the existing culvert outfall. The construction of the access road to and over the existing culvert under Jamboree Road requires the extension of the culvert as shown on Figure 3. A concrete stilling pool will be located at the end of the culvert extension to dissipate hydraulic energy as the stormwater transitions from flow in the culvert and discharges to the regraded floodplain. This stilling pool will be periodically maintained to remove sediment and vegetation. Water from the stilling pool will exit via a rip rap energy dissipater. OCSD will also install a permanent dosing station and access area located to the south of the proposed habitat creation area.
- **Community Access Improvements and Educational Opportunities** – The extended access road will provide an official trail where the public can learn about and enjoy the native habitats. In addition, an 8-foot-wide bicycle path connector will be installed to provide access directly from Jamboree Road. In addition, the maintenance road at the top of the bioretention cell will also be used as a side viewing trail with interpretive signs installed. Visitors using this trail will cross from the south to the north side of the creek via the OCSD constructed turnaround area over the culvert, and follow a footpath on the north side of the creek. The footpath on the north side of the creek will continue within the coastal sage scrub habitat, following existing ad hoc trails that will be expanded to approximately 42-inches wide. Trails allow for educational opportunities regarding water quality and creek restoration activities, and through the installation of signage and as-needed fencing, will keep the public out of sensitive habitats.

2.4 Project Components

As shown in **Figure 5**, the proposed project consists of habitat restoration, creation and enhancement of riparian habitat, water quality improvements, and infrastructure and trail improvements.

2.4.1 Creek Restoration, Creation and Riparian Habitat Enhancement

This project consists of creek restoration and riparian habitat creation and enhancement activities including stream bank stabilization, floodplain restoration, habitat creation, and restoration of riparian habitat through invasive plant removal, soil remediation and revegetation.

2.4.1.1 Floodplain Restoration & Streambank Stabilization

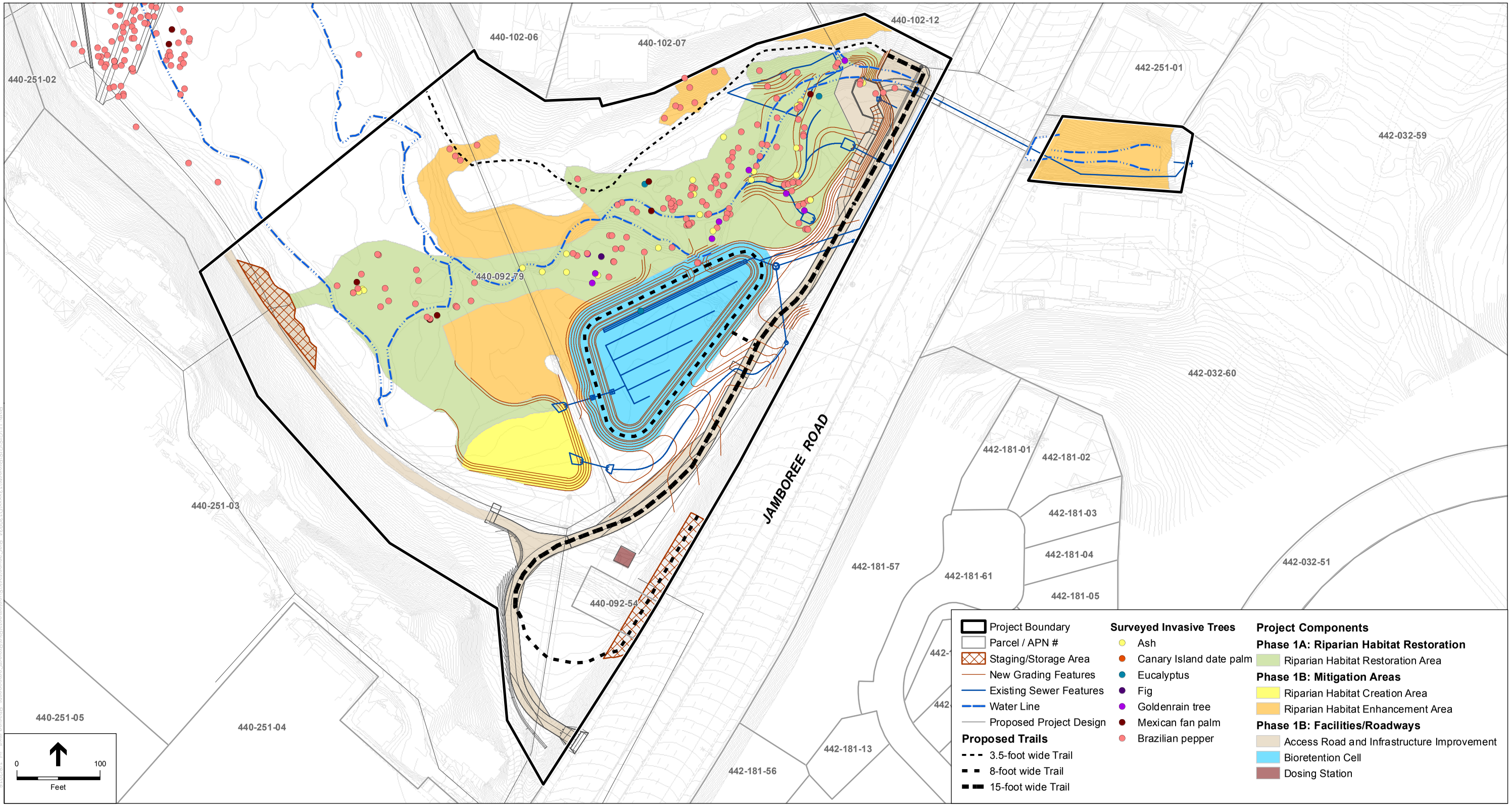
Directly downstream of the new culvert placement and stilling basin where Big Canyon Creek flows into the Project Area, the project will create and restore the creek's active floodplain **(Figure 6**, Riparian Habitat Restoration Areas). The main channel is currently incised and is confined to the incised narrow creek bed. The existing area to the south of the creek would be lowered by approximately 6 feet to create a floodplain 2 to 3 feet above the low-flow channel to allow for frequent inundation during high-flow events.

The 150 feet of channel and floodplain downstream of the stilling basin will be restored to eliminate unstable eroding banks and a disconnected floodplain. A bankfull channel has been sized using Dunne and Leopold's (1978) regional hydraulic geometry for California creek dimensions, cross-checked against the downstream stable section as a reference reach. For a watershed of 1.7 square miles (as delineated using the USGS StreamStats web application), this produces a bankfull width of 19 feet and a bankfull depth of 1.8 feet (rounded to 20 feet and 2 feet, respectively), very similar to the downstream channel width and depth in the more stable area. For the restored reach, the existing channel invert elevation was retained. The channel will be realigned away from the eroding and undercut north bank into the center of the floodplain, and a new floodplain will be created on both banks. The floodplain and channel will be sized so that flows exceeding the 2-year recurrence event start to inundate the floodplain.

On the south bank (river left, looking downstream) a 20-foot-wide floodplain will be created by cutting into the existing over-steepened bank and upland terraces currently dominated by non-native grasses as well as degraded riparian habitat. There will be a net reduction in fill within the floodway, and an increase in both conveyance and frequently activated floodplain.

On the north bank (river right, looking downstream) the floodplain will be stabilized by adding vegetated soil lifts. Encapsulated vegetated soil lifts planted with willows and other native vegetation will be used to construct and protect the banks, and to provide erosion control. The vegetated soil lifts will be constructed in 1-foot-thick lifts containing the native alluvial soil from the site and amendments, with each lift encapsulated in coir fiber that will biodegrade over the first 2–3 years, once the incorporated native riparian vegetation has established. Each lift will be separated from the next by a layer of locally sourced native live willow stems that will grow following installation.

For the cut banks (river left) willow brush mats will be placed over the cut bank and secured with biodegradable coir fabric, then secured with biodegradable rope and wooden stakes. Both cut and filled banks will be reinforced with biotechnical materials up to the 100-year water surface elevation. This will serve to stabilize the grade and act as a planting medium for the growth of riparian vegetation.



SOURCE: Burns & McDonnell; Dudek; ESA

Big Canyon Habitat Restoration and Water Quality Improvement Project. 130934

Figure 5

Project Components and Phasing

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SOURCE: ESA, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project . D130934

Figure 6

Riparian Habitat Restoration Area

2.4.1.2 Riparian Restoration & Soil Modification

Directly downstream of the floodplain restoration area, the riparian habitat will be restored to its full functioning system (see Figure 6 and **Figure 7,** Habitat Mitigation Areas). Under current conditions, invasive trees and an extensive understory of non-native forbs and grasses have been documented. Bermuda grass (*Cynodon dactylon*), periwinkle (*Vinca major*), pampas grass (*Cortaderia selloana*), and English ivy (*Hedera helix*) are just a few of the highly invasive grasses and forbs found under the existing canopy. These invasives are better able to compete under the high-saline soil conditions that are found within Big Canyon. Brazilian peppertree is the most prevalent invasive tree species found in the canyon. The origins of this seed source can be traced to two sources: (1) east of Jamboree Road, Brazilian peppertree has established on the slopes of the Big Canyon drainage and adjacent upland area, with the seed source directly flowing into the canyon; and (2) the west side of Jamboree Road directly to the north of the creek also has this species growing on the slopes.

The trees, forbs, and grasses will be aggressively removed as part of this project. Mature trees will be removed during mass grading and isolated individuals will be killed in place without soil disturbance.

Soil testing results have indicated extremely high levels of sodium, boron, and sulfur in the soils. Brazilian pepper tree's high tolerance for these extreme levels of normally plant-inhibiting levels indicates the reason this species is so successful in Big Canyon. Following invasive removal, the soil will be amended to levels where native riparian vegetation can persist. The soil amendment regiment will be incorporated directly into the top layers of soil following plant removal. Details of the soil modifications will be included in the Habitat Restoration Plan prepared for this project. Following soil modification, all areas will be actively planted, seeded, and maintained, with topically applied soil treatments continuing through plant establishment, as prescribed.

2.4.1.3 Wetland/Riparian Habitat Creation

Additional riparian habitat will be created to the southwest of the proposed bioretention cell. This will result in the expansion of contiguous riparian habitat, and will serve as part of the required mitigation as replacement for some of the habitat lost as a result of implementation of other components of this project (see Figure 7). This area has been previously disturbed and consists of early successional forbs and grasses, providing low habitat value. Groundwater has been measured in this area with a temporary piezometer at 5–7 feet below the existing ground surface. The area will be graded to lower current ground elevations to access this permanent water source to an elevation of approximately 39 feet mean sea level. A reduction of the elevation within the creation area and in the existing riparian area to the west of the creek will bring the ground level closer to the groundwater table, thereby allowing for establishment of riparian vegetation that will be planted following grading and soil preparation activities. The discharge of the stormwater treatment wetland will also be routed to this area to provide for periodic inundation during storm events. The areas will also be subject to flooding during larger storm events, but will not pond water or create a vector issue.

SOURCE: ESA, ESRI

Big Canyon Wetland Treatment and Creek Restoration Project . D130934

Figure 7

Habitat Mitigation Areas for Impacts to Jurisdictional Resources

2.4.2 Water Quality Improvements

The project includes measures to treat storm flows and dry-weather flows that will result in improved water quality for habitat and wildlife in Big Canyon.

2.4.2.1 Stormwater Treatment System (Primary Stormwater Treatment Structure, Bioretention Cell)

The purpose of the stormwater treatment system is to reduce transportation-related constituent concentrations currently discharged to Big Canyon Creek during storm events and to attenuate stormwater peak-flow discharge rates from the contributing Jamboree Road drainage area.

The transportation-related pollutants are currently conveyed to the receiving waters in Big Canyon Creek from a variety of sources, including vehicles, road maintenance, maintenance facility runoff, and landscaping maintenance. Vehicles are known to produce a variety of pollutants that can have a negative impact on water quality in the receiving waters to which they drain.

Metals such as copper and zinc can build up on road surfaces through brake and tire wear; other metals such as cadmium, chromium and sometimes lead can be deposited on road surfaces from paint on vehicles and streets. Metals often bind to sediments, trash, and debris on road surfaces; these can be carried into waterways during storm events. In addition to pollutants associated with vehicles, landscaped areas associated with or adjacent to streets (e.g., median, parkway, and residential landscaping) can be sources of pollutants such as pesticides, nutrients (particularly nitrate and phosphorus), and fecal-indicator bacteria (all of which are known to be associated with urban landscaping, which is found throughout the 11.1-acre Jamboree Road drainage area). These pollutants can be transported to receiving waters during storm events. Finally, in addition to direct deposition to the road surface, street surfaces and adjacent walkways and landscaped areas can be impacted from vehicle emissions through atmospheric deposition of pollutants such as the dissolved fraction of metals and organics (e.g., polynuclear aromatic hydrocarbons (PAHs).

According to national and regional best management practices (BMPs) manuals (e.g., the California Stormwater Quality Association BMP handbook), the technology proposed in the stormwater treatment system has been shown to be effective in treating a variety of pollutants associated with transportation runoff, including trash, sediment (and attached pollutants), nutrients and organics such as PAHs and pesticides, and fecal-indicator bacteria. The stormwater treatment system would consist of a primary stormwater treatment structure and a bioretention cell, as described below.

Primary Stormwater Treatment Structure

A primary treatment structure would be constructed to receive runoff from existing stormwater inlets serving Jamboree Road. The contributing drainage area draining to the primary stormwater treatment structure is approximately 11.1 acres. The purpose of this structure is to trap, contain, and pretreat trash, total suspended solids (TSS), and free oils prior to conveyance to the bioretention cell. Located adjacent to Jamboree Road, the primary stormwater treatment structure

would be approximately 40 square feet in size and include three chambers. The first chamber would be designed to collect dense solids and trash (floatables); the second would collect sediment and finer solids; and the third would provide storage and delivery of dissolved phase constituents to the bioretention cell. Manhole access ports would be installed for periodic removal of trash and sediment from the three chambers.

Bioretention Cell

The bioretention cell is an underground, modified constructed wetland that would be designed specifically to treat the suite of transportation-related pollutants found in urban watersheds. The bioretention cell would be constructed to treat stormwater flows that discharge from the primary stormwater treatment structure. The surface area of the bioretention cell would be approximately 0.47 acres in size when measured at the top of the bioretention cell berm (see Figure 5). The bioretention cell would be designed to capture and treat the stormwater that discharges from Jamboree Road. It will treat approximately 0.75 inches of stormwater in a 24-hour period. The bioretention cell will attenuate and reduce the peak discharge rate to Big Canyon Creek during storm events.

The bioretention cell will consist of (from top to bottom) layers of soil, sand, and gravel, underlain by an impermeable liner. The top of the cell will be planted with native vegetation. The soil layer would be approximately 2 to 3 feet thick and would be underlain by a 6-inch sand filter bed located between the bioretention soil and drainage gravel layer situated in the bottom of the bioretention cell. The bottom 12-inch gravel drainage layer will form the base layer of the bioretention cell and will be underlain by a geotextile cushion. The entire bioretention cell will be underlain by a 60-MIL high-density polyethylene (HDPE) liner.

The bioretention cell would be divided into two subcells, hydraulically separated from one another by an impermeable barrier, to enable the comparison of water quality effluent between the cells. One subcell would be designed to be free draining and the second subcell would be designed such that approximately 12 inches of treated water would remain on the liner and within the gravel drainage layer.

Stormwater will flow via gravity from the primary stormwater treatment structure to the top of the subcells through a series of perforated and solid inflow PVC pipes. Pollutants would be removed from stormwater as it flows down through the treatment media. Treated water would flow from the bottom of the bioretention cell through a series of PVC pipes into a newly created wetland habitat area located to the south of the bioretention cell (see Figure 5). The wetland habitat area will be graded to allow for infiltration to groundwater and for surface flow return to Big Canyon Creek.

Table 2-1 summarizes the anticipated pollutant reductions from stormwater (wet weather) anticipated from the primary stormwater treatment structure and bioretention cell.

TABLE 2-1
ANTICIPATED REDUCTION OF POLLUTANTS FROM STORMWATER (WET WEATHER) BY THE PROPOSED BIORETENTION CELL

Pollutant of Concern	Estimated Percent Reduction
Total Suspended Solids[1]	80%
Zinc[1]	69%
Copper[1]	44%
Lead[1]	52%
Cadmium[2]	52%
Fecal Coliform[2]	75%
Nitrate[1]	35%
Total Phosphorus[1]	55%

[1] National Pollutant Removal Performance Database, 2000
[2] Structural BMP Specifications from the Massachusetts Stormwater Handbook, 2010 for constructed wetlands and infiltration basin.

The interior of the bioretention cell will be periodically maintained, per the approved Operation and Maintenance Plan. This may include the cleanout of vegetation or replacement of soil to ensure continued water quality improvement.

2.4.2.2 Selenium Reduction Measures in Dry Weather Flows (Dry Weather and Seeps / Collection and Diversions)

Dry Weather Flow Diversion

The purpose of the dry weather flow diversion is to limit the contact between dry weather flows with low selenium concentrations with groundwater seepage flows that contain much higher selenium concentrations. Monitoring investigations conducted by the City in 2015 determined that seepage flows with high selenium concentrations occur in the creek on the east side of Jamboree Road between the proposed diversion and the entrance to the existing culvert. High selenium seeps also occur on the west side of Jamboree Road just downstream of the mouth of the existing culvert (City of Newport Beach 2015, unpublished data). The proposed project proposes to passively collect these high selenium concentration seeps and direct them to the sanitary sewer. The estimated seepage flows are anticipated to be less than 10% of the total current dry weather flows in Big Canyon Creek. Therefore, approximately 90% of the current dry weather flows will be returned to the creek. Diverting the high selenium seepage flows will substantially reduce in-stream selenium concentrations in the downstream creek flowing through the restoration area. No significant impact is expected to the riparian habitat within the section of the creek between the diversion and the returned cleaner dry weather flows as groundwater seepage will sustain the willow vegetation and planned invasive removal and revegetation will further enhance this section of the creek to the east of the culvert under Jamboree Road.

Dry weather flows with lower selenium concentrations will be diverted in a new diversion structure located on the Big Canyon Golf Course. The diversion structure will divert about 0.5 cfs and allow higher flows to pass through the diversion structure. The diversion flow line will include a valve that will enable the diverted flows to be reduced and adjusted if necessary. The diversion line will flow via gravity and will be installed along the existing southern slope of the ditch north of the golf course maintenance yard. No grading and soil disturbance is anticipated. The diversion line will be at grade on the surface of the slope and will be anchored to the slope using an anchorage system. The anchor system will be installed along the existing disturbed top of slope adjacent to the golf course maintenance yard fence. The diversion line will transition from the slope into the east side of the Jamboree Road existing culvert. The diversion line will be installed inside the existing Jamboree Road culvert and inside the new culvert extension. The diversion line will discharge dry weather flows into the restored floodplain as shown in Figure 5, to provide surface water to that area.

Numerous studies and assessments on selenium loads and sources in Big Canyon Creek have been conducted. Reeder (2011) provided a comprehensive assessment of the geology, hydrology, and water quality related to selenium sources in the watershed from studies conducted as early as the 1970s through 2011. Since then, additional studies have been conducted in the watershed on flow rates (Weston 2013), water balance in the upper watershed (DBS&A 2015), and specific selenium source identification assessments in the lower portion of the watershed (City of Newport Beach, unpublished data). Based on long-term monitoring conducted in 2012 (Weston 2013), the approximate base dry weather flow rate of Big Canyon Creek at Jamboree Road is 0.420 cfs. The proposed dry weather flow diversion upstream of Jamboree Road is not anticipated to impact the natural creek function. It will divert low selenium water around a stream reach of approximately 170 feet just upstream of Jamboree Road (Figure 5) where high selenium groundwater seeps have been identified (City of Newport Beach, unpublished data). Groundwater originating in this reach is estimated to contribute less than ten percent of the dry weather baseline flow in the creek, which will be diverted to sanitary sewer. The wet weather function of the creek will not be affected by the dry weather flow diversion.

To support the design of the culvert extension and stilling basin, wet weather design discharge rates were determined. The Big Canyon Watershed drains approximately 1,062 acres. The modeled 100-year flow rate is approximately 2,510 cfs. The 10-year flow rate is 1,680 cfs and the 2-year flow rate 1,260 cfs.

The diversion line may be extended to the bio-infiltration cell (if slopes allow) to enable irrigation of native vegetation on the surface of the bioretention cell during the plant establishment period and for persistence of the vegetation.

Seep Water Flow Collection and Diversion

Seeps containing high concentrations of selenium have been observed along the north and south banks along a 170-foot reach of the creek on the east side of Jamboree Road near the existing culvert (City of Newport Beach, unpublished data). The seep flows will drain through the existing culvert and the new culvert extension and collect in a low point in the bottom the stilling basin

floor. As the seep water collects and pools, it will then spill over into vertical open topped risers or similar system and drain into the OCSD sewer. The design will enable sediment to settle out and collect in the stilling basin floor while allowing the seep water to discharge to the sewer. The seep water diversion system will be designed such that the system can be shut off prior to precipitation events. The seep water diversion system will be designed such that the pooled water in the stilling basin floor is limited in extent to minimize mosquito vector habitat.

Seepage containing high concentrations of selenium is also indicated based on water quality results, immediately downstream of the existing culvert on the west side of Jamboree Road. In order to address this source of high selenium in this area that corresponds to the new culvert extension and stilling pool, seeps will be passively collected and diverted via gravity to the OCSD sewer. Seepage that would otherwise discharge into the creek will be intercepted and collected from the gravel layer that forms the bedding material for the new concrete box culvert extension and the bedding material for the bottom of the concrete stilling basin. Perforated HDPE collection pipes will be installed in the gravel bedding material to convey water to a flow metering structure prior to discharge to the OCSD sanitary sewer. The seepage flow into the sewer is anticipated to be intermittent and the flow is rate anticipated to be low (in the 0-10 gpm range) due to the relatively low permeability of the soil in this area. The seepage collection lines include a valve to enable the collected flow to the OCSD sanitary sewer to be controlled. If the flow rate is higher than anticipated, the flow will likely be reduced through coordination with OCSD.

2.4.3 Infrastructure Improvements

2.4.3.1 Orange County Sanitation District Access Road and Dosing Facility

The Project will also be constructed in coordination with infrastructure improvements requested by the Orange County Sanitation District (OCSD) that include the extension and improvement of the existing access road along the toe of slope along the west side of Jamboree Road and the construction a dosing station for odor control.

A 12-foot wide gravel roadway would be constructed to facilitate access to three OCSD manholes including a manhole located to the north of the existing culvert outfall. To provide access to this manhole, the existing culvert beneath Jamboree Road will be extended approximately 75 feet and an access roadway will be constructed on top of the culvert. The new gravel road would parallel Jamboree Road and connect to the existing gravel access road on the south end of the site. The gravel access road will also serve as pedestrian trail which is consistent with existing gravel roads in Big Canyon to serve the dual purpose of manhole access and pedestrian trails.

The culvert extension will include a concrete stilling basin at the end of the culvert extension. The purpose of the stilling basin is to dissipate hydraulic energy during wet weather storm flow events. The stilling basin will be constructed with reinforced concrete and will include a concrete access ramp to enable access for maintenance. Maintenance activities will include sediment and debris removal from the stilling basin during dry weather.

An automatic chemical-dosing station would be constructed near the beginning of the access road extension. The dosing station consists of a 12-foot high tower, 8-foot diameter that would be constructed on a 20-foot by 20-foot pad, and a gravel access road as needed to access the station. Native plants will be planted around the facility. The station would be maintained on a monthly basis.

A vehicle access path that doubles as the hiking trail would be constructed as a part of the proposed project to provide maintenance access to the infrastructure improvement components.

2.4.3.2 Community Access Improvements and Educational Opportunities

Public access to the project site and surrounding environs is currently provided by existing hiking paths in Big Canyon Nature Park. The project includes providing improved and new trails for public access both on the north and south side of the creek. This new trail will allow for educational opportunities regarding water quality and creek restoration activities while keeping trails out of sensitive habitats and restored and enhanced riparian corridors.

Preliminary public access and walkway signage and locations has been developed from previous efforts and will be incorporated in this project. The proposed OCSD access road will serve to connect the existing gravel path over the creek to connect with an improved trail on the north side of the creek. In addition, a bicycle path connector has been incorporated into this design to allow for direct access from Jamboree Road. Interpretive elements include key features such as a viewing area on the bio retention cell maintenance road, and informational signage. This plan is consistent with on-going efforts planned for the Big Canyon Watershed in consultation with the City, environmental organizations including the Newport Bay Conservancy and Irvine Ranch Conservancy, and the appropriate regulatory agencies.

2.5 Construction Activities and Schedule

Project construction is expected to begin in Fall 2016 and will include the infrastructure components of the project, habitat restoration, and habitat mitigation implementation. Construction will be complete by March 31, 2017 to avoid impacts during the nesting season. Planting of all restoration and mitigation areas will take place once grading has been completed (see **Table 2-2**).

Construction activities would commence with the installation of construction stormwater pollution prevention BMPs in accordance with the project Stormwater Pollution Prevention Plan (SWPPP). Following the installation of stormwater BMPs, project construction work would occur in phases for a duration of five to six months. The following schedule presents the construction phases, the activities to be completed under each phase, and the duration of the activities. Several activities will run concurrently to achieve the overall construction schedule of approximately five months.

Phase	Activity	Duration	Month 1				Month 2				Month 3				Month 4				Month 5			
Mobilization & Earthwork	Site preparation clearing & grubbing	1-2 weeks																				
	Excavation and grading	2-3 weeks																				
Drainage Structures and Piping Construction	Culvert extension	4-6 weeks																				
	Dry weather diversion structures and external piping	2-3 weeks																				
Water Quality System Construction	Bioretention cell liner and piping	1-2 weeks																				
	Bioretention cell media placement	1-2 weeks																				
	Bioengineering structure construction	1-2 weeks																				
OCSD Scope	OCSD dosing station installation	4-6 weeks																				
Restoration	Site vegetation restoration	3-4 weeks																				

Approximately 5 acres would be disturbed during project construction. Earthwork cuts are anticipated from the widened floodplain downstream and from the south bank of the Big Canyon Creek and the wetland habitat area. The total earthwork cut volume is approximately 4,000 cubic yards. Earthwork fills are anticipated for the bioretention cell berms and OCSD access road. The anticipated fill volume for mass earthwork is approximately 8,000 cubic yards. The net total volume import (soil and bioretention cell media) is approximately 4,000 cubic yards.

Haul trucks would be used to transport earthen material used to construct the project. These haul trucks would access the site from the intersection of San Joaquin Road and Jamboree Road west on San Joaquin Road to Back Bay Drive, and then travel north on Back Bay Drive to the Big Canyon Trail maintenance road entrance. Trucks would follow the maintenance road east to the construction staging area as shown in Figure 5. It is estimated that approximately 40 daily haul truck trips and up to 900 to 1,000 total haul truck trips for material deliveries would occur over the course of construction.

Approximately eight employees would be present on the project site at any given time during construction, including a construction superintendent, up to two laborers, up to three equipment operators, and up to two haul truck drivers. Typical equipment required for construction of the project would include a loader, back hoe, dozer, compactor, chipper (mulch), haul trucks, and a water truck. Construction is expected to occur between the hours of 7:00 a.m. and 6:30 p.m. Monday through Friday and 8:00 a.m. and 6:00 p.m. on Saturdays as set forth in the City of Newport Beach's Municipal Code 10.28.040, Construction Activity – Noise Regulations. No construction would occur on Sundays or federal holidays.

Construction activities will be coordinated with erosion control and surface water diversion to prevent soils loss, channel instability, discontinuity of water supply during dry weather season,

and flood damages during major wet season events. A Water Quality Management Plan (WQMP) will be developed as part of the Construction SWPPP to be implemented from the onset of the construction to post construction.

Biologically sensitive area protection will be established prior to construction and periodically monitored. Water quality protection during construction will be monitored based on a pre-construction Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP), to be developed prior to construction.

TABLE 2-2
PRELIMINARY CONSTRUCTION DURATION

Construction Activity	Approximate Duration
Site preparation clearing & grubbing	1-2 weeks
Excavation and grading	2-3 weeks
Culvert extension	4-6 weeks
Dry weather diversion structures & external piping	2-3 weeks
Bioretention cell liner & piping	1-2 weeks
Bioretention cell media placement	1-2 weeks
Bioengineering structure construction	1-2 weeks
OCSD dosing station installation	4-6 weeks
Site vegetation restoration	3-4 weeks
Total Construction Duration Per Component	

SOURCE: B&M

2.6 Project Operation and Maintenance

Within the bioretention cell, sediment removal is expected only after major rainfall events. Maintenance is critical if stormwater wetland basins are to function as originally designed. A specific maintenance plan will be developed for the bioretention cell when the final design has been completed, outlining the schedule and scope of maintenance operations, as well as the documentation and reporting requirements. The following are general maintenance requirements:

1. The stormwater wetland basin should be inspected annually and inspections after major storm events are encouraged (wetland basin inspection and maintenance checklists will be developed specifically for the bioretention cell). Trash and debris should be removed as needed, but at least annually prior to the beginning of the wet season.
2. Site vegetation should be maintained as frequently as necessary to maintain the aesthetic appearance of the site and to prevent clogging of outlets, creation of dead volumes, and barriers to mosquito fish to access pooled areas, and as follows:
    - Vegetation, large shrubs, or trees that limit access or interfere with basin operation should be pruned or removed.

- Slope areas that have become bare should be revegetated and eroded areas should be regraded prior to being revegetated.
- Invasive vegetation, such as Alligatorweed (*Alternanthera philoxeroides*), Halogeton (*Halogeton glomeratus*), Spotted Knapweed (*Centaurea maculosa*), Giant Reed (*Arundo donax*), Castor Bean (*Ricinus communis*), Perennial Pepperweed (*Lepidium latifolium*), and Yellow Starthistle (*Centaurea solstitalis*) must be removed and replaced with noninvasive species. Invasive species should never contribute more than 25% of the vegetated area.
- Dead vegetation should be removed if it exceeds 10% of area coverage. This does not include seasonal die-back where roots would grow back later in colder areas. Vegetation should be replaced immediately to maintain cover density and control erosion where soils are exposed.

3. Sediment buildup exceeding 6 inches over the storage capacity in the first cell should be removed. Sediments should be tested for toxic substance accumulation in compliance with current disposal requirements visual or olfactory indications of pollution are noticed. If toxic substances are encountered at concentrations exceeding thresholds of Title 22, Section 66261 of the California Code of Regulations, the sediment must be disposed of in a hazardous waste landfill.
4. Following sediment removal activities, replanting and/or reseeding of vegetation may be required for reestablishment.

Routine maintenance will be performed to keep the bioretention cell piping, diversion piping, and seep water inlets clear of debris and sediments. Erosion control materials for embankment and slope protection will be inspected routinely and repaired or replaced, as necessary. Routine maintenance of the diversion structures and stilling pool will be required on a regular basis to keep them clear of sediment and debris accumulations.

Upon initial installation, maintenance could occur as frequently as once per month, and could include a visual check, debris clearing, and/or equipment repair. Semiannual inspections for beginning and end of the wet season will be scheduled to identify any erosion problems and remove debris and sediment accumulation. A large rain event may require additional visual inspections to clear debris. The additional visual inspections may also require evaluation of wetland vegetation and inspection of vector presence or habitats on the project site. Inspections will include water quality BMPs at the storm outlets for erosion protection. Additionally, BMPs involving filtration functions will be inspected to ensure their pollutant reduction efficiency.

Operation of the bioretention cell would be passive for the most part, requiring occasional inspections to confirm the treatment cells are operating as intended by the design. As a part of the proposed project, a comprehensive Operations and Maintenance Plan has be developed (see Appendix A). The Plan will be updated when the final design for the bioretention cell is complete.

2.7 Project Approvals and Discretionary Actions

The City of Newport Beach would use this IS/MND and supporting documentation in its decision to certify this IS/MND and approve the project. Regulatory Agencies would similarly use this IS/MND and supporting documentation to support additional discretionary actions, including as**:**

- City of Newport Beach: Grading Permit
- City of Newport Beach: Right of Entry Permit
- U.S. Army Corps of Engineers (USACE): 404 Certification
- California Department of Fish and Wildlife (CDFW): Streambed Alteration Agreement
- California Coastal Commission: Coastal Development Permit
- Regional Water Quality Control Board: 401 Certification

CHAPTER 3
Initial Study Environmental Checklist

1. Project Title:	Big Canyon Habitat Restoration and Water Quality Improvement Project
2. Lead Agency Name and Address:	City of Newport Beach 100 Civic Center Drive Newport Beach, CA 92660
3. Contact Person and Phone Number:	Bob Stein (949) 644-3322
4. Project Location:	City of Newport Beach, Orange County, CA
5. Project Sponsor's Name and Address:	City of Newport Beach 100 Civic Center Drive Newport Beach, CA 92660
6. General Plan Designation(s):	Open Space (City of Newport Beach)
7. Zoning Designation(s):	Open Space (City of Newport Beach)
7. Description of Project:	See Chapter 2, Project Description
9. Surrounding Land Uses and Setting:	Recreation; Residential
10. Other public agencies whose approval is required:	Army Corps of Engineers; Regional Water Quality Control Board; California Department of Fish and Wildlife; Coastal Commission
11. Discretionary Actions:	City of Newport Beach: Grading Permit City of Newport Beach: Right of Entry Permit U.S. Army Corps of Engineers (USACE): 404 Permit California Department of Fish and Wildlife (CDFW): Streambed Alteration Agreement California Coastal Commission: Coastal Development Permit Regional Water Quality Control Board: 401 Certification

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology, Soils and Seismicity
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Land Use Planning	☐ Mineral Resources	☐ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

Note: None of the environmental factors were checked above because the proposed project would not result in a potentially significant impact on any of the environmental factors after the implementation of mitigation measures.

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Signature	Date
Printed Name	For

Environmental Checklist

3.1 Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Discussion

a) Have a substantial adverse effect on a scenic vista?

No Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. According to the City of Newport Beach General Plan Update EIR, the City does not contain any officially designated scenic vistas; however, public view points are identified within the City. The nearest public view point is located about 1,200 feet west of the project site within the western portion of Big Canyon Park. This public view point provides views of Upper Newport Bay.

Project grading and construction activities as well as restoration activities on the project site would not affect views from the nearest public view point because the view point offers views to the west toward Upper Newport Bay, and the project site is located east of the view point. Therefore, implementation of the proposed project would result in no impacts on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?

No Impact. There are no officially designated scenic highways within Newport Beach (City of Newport Beach 2006). However, the project area is approximately one mile north of State Route 1 (Pacific Coast Highway), identified by the City as "Eligible for State Scenic Highway" designation. Because no scenic highways are currently designated within the City, implementation of the proposed project would result in no impact to scenic resources within a state- or locally designated scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. The construction activities associated with the project would result in changes to the existing visual character of the project site, including construction grading and the removal of existing vegetation. However, as mentioned above, the creek restoration and riparian habitat enhancement component of the project would remove the non-native vegetation and restore native vegetation on the project site. This component of the project would improve the existing visual character and quality of the site by restoring natural habitat conditions in the creek, and thus would result in a less than significant impact to the existing visual quality of the project site.

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

No Impact. The proposed project would create no new source of lighting in the project area, and thus would result in no light impacts. The project includes structural improvements to the culvert and stilling pond, however these features would use earth materials in their construction, and would result in no glare impacts. Thus, the project would result in no adverse effects to day or nighttime views in the area due to light or glare.

Resources

City of Newport Beach. *Draft Environmental Impact Report: General Plan 2006 Update*. Volume I. Section 4.1: Aesthetics and Visual Quality. April 2006.

California Department of Transportation. Scenic Highway Routes – Orange County. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed January 14, 2016.

3.2 Agricultural and Forest Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

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

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

No Impact. The project vicinity is located in a developed and urbanized area of the city. The project site is located on land designated as Urban and Built-Up Land, as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program (Department of Conservation 2012). Because the project site does not contain Farmland, the proposed project would not cause direct or indirect impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Thus, the project would result in no Farmland conversion impacts.

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

No Impact. A Williamson Act Contract requires private landowners to voluntarily restrict their land to agricultural land and compatible open-space uses. There is no Williamson Act contract in effect for the project site nor does the City have any agriculture-oriented zoning designations or Williamson Act Contract land. Because the project site does not have a Williamson Contract, the project would result in no zoning conflict or Williamson Act contract impacts.

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

No Impact. The project site is zoned as Open Space and is surrounded by lands zoned for residential and industrial uses. The City of Newport Beach does not contain any land zoned as forest land, timberland, or for timberland production. Therefore, the project would result in no forest land or timberland zoning impacts.

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

No Impact. The project site and surrounding area contain no forest land. Thus, implementation of the proposed project would result in no impacts related to the loss or conversion of forest land to non-forest use.

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

No Impact. There are no agricultural uses or forest uses in the vicinity of the project site. Therefore, the proposed project would not involve changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Resources

California Department of Conservation: Farmland Mapping and Monitoring Program. *Orange County Important Farmland 2012*. January 2015.

City of Newport Beach. *Newport Beach Municipal Code*. Title 20: Planning and Zoning. Passed November 24, 2015. <http://www.codepublishing.com/CA/NewportBeach/?NewportBeach20/NewportBeach20.html>. Accessed January 14, 2015.

3.3 Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

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

Less than Significant Impact. A significant air quality impact may occur if a project is not consistent with the applicable Air Quality Management Plan (AQMP) or would in some way obstruct the implementation of the policies or obtainment of the goals of that plan. The proposed project is located within the City of Newport Beach, California. The city is located in the South Coast Air Basin (Basin), which is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, and cooperates actively with all state and federal government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures though educational programs or fines, when necessary. SCAQMD and SCAG are responsible for preparing the AQMP, which addresses federal and state Clean Air Act (CAA) requirements. Pursuant to these requirements, the SCAQMD is required to reduce emissions of criteria pollutants for which the Basin is in non-attainment. The AQMP details goals, policies, and programs for improving air quality in the Basin.

The 2012 AQMP is currently the most recent plan for the Basin, and was adopted by the SCAQMD Governing Board on December 7, 2012. The 2012 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and state air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. It builds on the approaches taken from the previous 2007 AQMP and sets

forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standards. SCAG, which is the regional metropolitan planning organization for the Southern California area, has established the assumptions for growth, in terms of demographic growth and associated air quality impacts, and these assumptions are utilized in SCAQMD's AQMP.

Since the forecasted growth in SCAQMD's AQMP for the Basin relies on SCAG's regional growth forecasts, and because SCAG's growth forecasts are based upon, among other things, land uses specified in city general plans, a project that is consistent with the land use designated in a city's general plan would also be consistent with the AQMP growth projections. As discussed in Chapter 2 (Project Description), the proposed project would improve water quality through water conservation, runoff reduction and restoration. Specifically, the proposed project would include a wetland that would treat both dry and wet weather flows in Big Canyon, and would eliminate the storm drain-associated vector habitat. The proposed project would contain a pump station, and a primary treatment structure. Given that the proposed project is an infrastructure project that serves only to treat contaminated water and improve the functionality of the wetland; implementation of the proposed project would not result in any additional population or housing growth in the project area that has not been accounted for in the City of Newport Beach General Plan. Consequently, as no growth-inducing development or land use would occur under the project, implementation of the project would not conflict with or obstruct the implementation of SCAQMD's AQMP.

In addition, SCAQMD regional significance thresholds were designed to assist SCAQMD in determining if a project would worsen air quality conditions in the Basin. The determination of AQMP consistency is primarily concerned with the long-term influence of the proposed project on air quality in the Basin. As discussed under Question 3(b) below, the proposed project would not result in significant regional construction emissions and would not interfere with the attainment of air quality standards. Thus, the project's construction activities would not conflict with or obstruct implementation of the AQMP. Overall, the proposed project would result in a less than significant impact related to the AQMP.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact. A project may have a significant impact where project-related emissions would exceed federal, state, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. As the proposed project consists of the installation of a surface water treatment system, culvert improvement and restoration activities, potential air quality impacts associated with the project would only occur during the construction phase as the operation of construction equipment would result in additional air emissions in the region. Once construction activities have been completed, operation of the proposed project would not involve any direct pollutant emissions sources onsite. In addition, vehicle emissions would be generated by worker trips to and from the project area for routine maintenance of the dosing station, including removal of sediment and debris from the stilling basin. These maintenance trips are anticipated to occur only once a month. As such, the

mobile emissions generated during project operations would be negligible as discussed below under Question 3(c).

Construction of the proposed project is expected to last approximately five months and is tentatively scheduled to begin in September 2016 and continue through January 2017. Construction activities would commence with site preparation and clearance (approximately 2 weeks), followed by excavation and grading (approximately five weeks); culvert extension (6 weeks); dry weather diversion structures and external piping (2 weeks), construction of bioretention cell liner and piping (2 weeks), bioretention cell media placement (2 weeks), bioengineering structure construction (2 weeks), OCSD dosing station installation (6 weeks) and site vegetation restoration (4 weeks). Several of these activities will run concurrently to achieve the overall construction schedule of approximately five months.

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards for outdoor concentrations to protect public health. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon monoxide (CO), nitrous oxides (NOx), particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter (PM_{10} and $PM_{2.5}$), sulfur oxides (SOx), and reactive organic gasses (ROG). Construction activities associated with the project involving site preparation and excavation would primarily generate respirable particulate matter (PM_{10}) emissions. Mobile source emissions (use of diesel-fueled equipment onsite, and traveling to and from the construction site) would primarily generate oxides of nitrogen (NOx) emissions. The amount of emissions generated on a daily basis would vary, depending on the amount and types of construction activities occurring at the same time.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 (Fugitive Dust) for controlling fugitive dust emissions. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, and maintaining effective cover over exposed areas. Site watering and application of soil binders would reduce the particulate matter from becoming airborne, while washing of transport vehicle tires and undercarriages would reduce re-entrainment of construction dust onto the local roadway network.

The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod). CalEEMod was used to determine whether short-term construction-related emissions of criteria air pollutants associated with the proposed project would exceed SCAQMD's applicable regional thresholds and where mitigation would be required. Modeling was based on project-specific data, when available. Where project-specific information was not available, default model settings were used to estimate criteria air pollutant and ozone precursor emissions. For the purpose of this analysis, the construction emissions occurring on a peak (worst-case) day over the entire project construction period were estimated and evaluated against the applicable SCAQMD significance thresholds.

The daily emissions that are estimated to occur on peak construction days for each construction phase of the proposed project are shown in **Table 3-1**. These calculations take into account that

appropriate dust control measures under SCAQMD Rule 403 would be implemented by the project during each phase of construction.

TABLE 3-1
PROJECT PEAK DAY CONSTRUCTION EMISSIONS

	Pounds per Day					
Emissions Source	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Site Preparation Clearing and Grubbing						
Total Daily Peak Emissions	3.23	35.07	17.73	0.04	9.39	3.37
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Excavation and Grading						
Total Daily Peak Emissions	2.23	25.74	13.48	0.03	8.99	3.01
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Culvert Extension						
Total Daily Peak Emissions	1.25	15.82	8.17	0.02	1.98	0.71
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Dry Weather Structures and External Piping						
Total Daily Peak Emissions	0.39	4.30	3.36	0.01	0.25	0.21
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioretention Cell Liner and Piping						
Total Daily Peak Emissions	1.17	15.65	8.24	0.03	5.76	1.02
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioretention Cell Media Placement						
Total Daily Peak Emissions	1.24	16.78	5.89	0.02	0.63	0.53
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioengineering Structure Construction						
Total Daily Peak Emissions	1.27	18.01	9.36	0.03	7.83	1.26
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
OCSD Dosing Station Installation						
Total Daily Peak Emissions	2.62	31.74	15.01	0.04	9.17	3.19
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Site Vegetation Installation						
Total Daily Peak Emissions	2.46	28.10	11.82	0.03	4.04	2.56
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

ROG = reactive organic gas; NOx = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM10 = particulate matter less than 10 microns; PM2.5 = particulate matter less than 2.5 microns; lbs/day = pounds per day
NOTE: See Appendix B for CalEEMod output.

SOURCE: ESA, 2016

As noted, some of the construction phases will run concurrently to complete the construction schedule on time. **Table 3-2** shows the daily emissions that are estimated to occur on peak construction days of the overlapping construction phases.

TABLE 3-2
CONCURRENT CONSTRUCTION PEAK DAY CONSTRUCTION EMISSIONS

	Pounds Per Day					
	ROG	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Culvert Extension & Dry Weather Diversion						
Culvert Extension	1.25	15.82	8.17	0.02	1.98	0.71
Dry Weather	0.39	4.30	3.36	0.01	0.25	0.21
Total	1.65	20.12	11.53	0.03	2.24	0.92
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Dry Weather Diversion & Bioretention Cell Liner						
Dry Weather Diversion	0.39	4.30	3.36	0.01	0.25	0.21
Bioretention Cell Liner	1.17	15.65	8.24	0.03	5.76	1.02
OCSD Station	2.62	31.74	15.01	0.04	9.17	3.19
Total	4.18	51.69	26.61	0.07	15.18	4.41
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioretention Cell Media & OCSD Station Installation						
Bioretention Cell Media	1.24	16.78	5.89	0.02	0.63	0.53
OCSD Station	2.62	31.74	15.01	0.04	9.17	3.19
Total	3.86	48.52	20.90	0.06	9.80	3.72
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioengineering Structure & OCSD Station Installation						
Bioengineering	1.27	18.01	9.36	0.03	7.83	1.26
OCSD Station	2.62	31.74	15.01	0.04	9.17	3.19
Total	3.89	49.75	24.37	0.07	17.00	4.45
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No
Bioengineering Structure & OCSD Station Installation						
Bioengineering	1.27	18.01	9.36	0.03	7.83	1.26
OCSD Station	2.62	31.74	15.01	0.04	9.17	3.19
Restoration	2.46	28.10	11.82	0.03	4.04	2.56
Total	6.35	77.86	36.19	0.10	21.04	7.01
Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

ROG = reactive organic gas; NOx = nitrogen oxides; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter less than 10 microns; PM2.5 = particulate matter less than 2.5 microns; lbs/day = pounds per day

NOTE: See Appendix B for CalEEMod output.

SOURCE: ESA, 2016

As shown in Table 3-1 and Table 3-2, the peak daily regional emissions generated during project construction for individual phases, as well as those that overlap, would not exceed the SCAQMD daily significance thresholds for ROG, NO_X, CO, SOx, $PM_{2.5}$ and PM_{10}. Since construction emissions would not exceed the SCAQMD thresholds, the regional impacts related to air quality during project construction activities would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact. With respect to air quality, a significant impact may occur if the project would add a considerable cumulative contribution to federal or state non-attainment pollutants. Because the Basin is currently classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, cumulative development consisting of the proposed project along with other reasonably foreseeable future projects in the Basin as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. With respect to determining the significance of the proposed project's contribution to regional emissions, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Furthermore, SCAQMD states that if an individual development project generates less than significant construction or operational emissions then the development project would not generate a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As discussed under Question 3(b) above, the proposed project would not generate construction emissions that would exceed the SCAQMD's recommended thresholds. Once construction activities have been completed, operation of the proposed project would not involve any direct pollutant emissions sources onsite. In addition, because mobile emissions generated from worker trips to and from the project area for routine maintenance of the treatment structures are anticipated to only occur once a month, the mobile emissions generated would be negligible. As such, project operations would not generate substantial pollutant emissions that would exceed SCAQMD's applicable regional thresholds. Therefore, the proposed project would not generate a cumulatively considerable increase in emissions of the pollutants for which the Basin is in nonattainment, and impacts would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptors are populations that are more susceptible to the effects of air pollution than are the population at large. The SCAQMD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences,

schools, playgrounds, child care centers, and athletic facilities. The nearest and most notable off-site sensitive receptors to the project would be the existing residential uses located approximately 46 feet northeast of the project site.

Localized Construction Emissions

Emissions from construction activities have the potential to generate localized emissions that may expose sensitive receptors to harmful pollutant concentrations. The SCAQMD has developed localized significance thresholds (LSTs) that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds, which are found in the mass rate look-up tables in the *Final Localized Significance Threshold Methodology* document prepared by the SCAQMD, apply to projects that are less than or equal to five acres in size and are only applicable to a project's on-site emissions for the following criteria pollutants: NOx, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) within the Basin. The project area, which consists of an approximately 5 acres, is located in the City of Newport Beach (SRA 18).

The LSTs developed by SCAQMD are provided for the following distances from the source of emissions: 25 meters, 50 meters, 100 meters, 200 meters, and 500 meters. Additionally, the LSTs at these distances also vary based on the size of the project site. The SCAQMD has provided LSTs for sites that are 1-acre, 2-acre, and 5-acre in size. As the total construction work area would be approximately 5 acres, the LSTs for a five-acre site is used for this analysis. The nearest and most notable off-site sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the proposed project would be the existing residential uses located approximately 45 feet northeast of the project site. Given the proximity of these sensitive uses to the construction areas where the surface water treatment system would be installed, the LSTs for a five-acre site with receptors located within 25 meters (82.02 feet) are used to address the potential localized air quality impacts associated with the project's construction-related NOx, CO, PM_{10}, and $PM_{2.5}$ emissions.[1]

As discussed in Question 3(b) above, it was determined that a worst-case construction day for the proposed project would include emissions from the entire 5-acre construction site. However, whereas the construction emissions analysis conducted under Question 3(b) pertained to the project's total daily mass emissions, the LST analysis is concerned with a project's localized air quality impacts.

The peak daily emissions generated during construction activities were estimated using CalEEMod and are shown in **Table 3-3.** As LSTs are only concerned with a project's on-site

[1] Although the existing sensitive uses (i.e., residential uses) located northeast of the project site would be located closer than 25 meters from the project's construction areas, the SCAQMD's LST methodology indicates that projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.

emissions, the emissions shown in **Table 3-4** account for off-road equipment operating and fugitive dust. Table 3-4 shows the off-road equipment operating and fugitive dust emissions from those construction activities that will overlap.

TABLE 3-3
LOCALIZED CONSTRUCTION POLLUTANT EMISSIONS

	Pounds Per Day			
Construction Phase	NOx	CO	PM10	PM2.5
Site Prep Clearing and Grubbing	27.12	14.28	3.93	2.67
Excavation and Grading	20.20	8.82	3.56	2.32
Culvert Extension	14.40	6.62	0.56	0.52
Dry Weather Diversion Structures	4.29	3.16	0.22	0.20
Bioretention Cell Liner and Piping	10.12	3.78	0.36	0.33
Bioretention Cell Media Placement	16.75	5.50	0.56	0.52
Bioengineering Structure Construction	10.31	3.54	0.35	0.32
OCSD Dosing Station Installation	26.19	10.35	3.74	2.49
Site Vegetation and Restoration	25.54	9.26	3.69	2.44
Peak Day Localized Emissions	27.12	14.28	3.93	2.67
City of Newport Localized Significance Threshold	197	1,711	14	9
Exceed Threshold?	No	No	No	No

See Appendix B for CalEEMod output.

TABLE 3-4
LOCALIZED CONCURRENT CONSTRUCTION POLLUTANT EMISSIONS

	Pounds Per Day			
Construction Phase	NOx	CO	PM10	PM2.5
Culvert Extension & Dry Weather Diversion	18.69	9.78	0.78	0.72
Dry Weather Diversion & Bioretention Cell Liner & OCSD Dosing Station	40.60	17.29	4.32	3.02
Bioretention Cell Media & OCSD Dosing Station	42.94	15.85	4.31	3.01
Bioengineering Structure & OCSD Dosing Station	36.50	13.89	4.09	2.81
Bioengineering Structure & OCSD Dosing Station &Site Restoration	62.03	23.15	7.78	5.25
OCSD Dosing Station & Site Restoration	51.73	19.61	7.43	4.93
Peak Day Localized Emissions	**62.03**	**23.15**	**7.78**	**5.25**
City of Newport Localized Significance Threshold	197	1,711	14	9
Exceed Threshold?	No	No	No	No

See Appendix B for CalEEMod output.

As shown in Tables 3-3 and 3-4, the peak daily emissions generated during project construction activities would not exceed the applicable construction LSTs. Therefore, localized air quality impacts from the project's construction activities on the surrounding off-site sensitive receptors would be less than significant.

Localized Traffic-Related Emissions

Construction of the proposed surface water treatment system is not anticipated to result in substantial air quality impacts to the public with respect to traffic congestion. The proposed project limits the construction trips to distinct roads. Haul trucks would access the site from the intersection of San Joaquin Road and Jamboree Road west on San Joaquin Road to Back Bay Drive, and then travel north on Back Bay Drive to the Big Canyon Trail maintenance road entrance. Trucks would follow the maintenance road east to the construction staging area. It is estimated that approximately 20 daily haul truck trips and up to 1,000 total haul truck trips for material deliveries would occur over the course of construction. No work is expected to occur within city streets. Overall, the proposed project would result in a less than significant impact related to localized, traffic-related pollutant concentrations during construction.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by state and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

Construction of the proposed project would result in short-term diesel exhaust emissions from off-road heavy-duty equipment. Diesel exhaust is considered a TAC. Construction would result in the generation of diesel exhaust emissions from the use of off-road diesel equipment required for site preparation and excavation, and other construction activities.

The dose to which sensitive receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed project. Construction of the entire project would occur over approximately a five month period, and would be separated into 9 different phases. As such, the project's construction activities would not be permanently stationed at any one location but instead would occur at different locations depending on the phase. Thus, the duration of the proposed construction

activities at any one site would only constitute a small percentage of the total 70-year exposure period. Thus, diesel particulates from construction activities would not be anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards, and impacts would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant Impact. A significant impact may occur if objectionable odors occur which would adversely impact sensitive receptors. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As the proposed project consists of the installation of infrastructure for the treatment of water and restoration of the surrounding area, the proposed project is not a type of use identified by the SCAQMD as being associated with odors. Thus, the proposed project would not result in objectionable odors during operations, and this impact would be less than significant.

During construction of the proposed project, exhaust from equipment may produce discernible odors typical of most construction sites. Such odors would be a temporary source of nuisance to adjacent uses, but would not affect a substantial number of people. As odors associated with project construction would be temporary and intermittent in nature, the odors would not be considered to be a significant environmental impact. Therefore, impacts associated with objectionable odors would be less than significant.

Resources

South Coast Air Quality Management District (SCAQMD), *Final Localized Significance Threshold Methodology, Appendix C – Mass Rate LST Look-up Tables*. October 2009.

South Coast Air Quality Management District (SCAQMD), *Final 2012 Air Quality Management Plan*. February 2013.

South Coast Air Quality Management District (SCAQMD), *SCAQMD Air Quality Significance Thresholds*. March 2015. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook. Accessed on February 12, 2016.

3.4 Biological Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

The following evaluation is a summary of the findings provided in the Biological Resources Technical Report prepared by ESA in January 2016. This report is provided in Appendix C.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. No plant or wildlife species listed as state or federally threatened, endangered, or candidate species was observed within the project area, and no US Fish and Wildlife Service (USFWS)-designated Critical Habitat occurs onsite. Therefore, the project would not affect state or federally listed species or USFWS Critical Habitat.

No species covered by the Orange County Central-Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) were identified in the project area; therefore, the project would not affect species covered by the Orange County Central-Coastal NCCP/HCP.

Three California Species of Special Concern were observed within the riparian forest habitat onsite, including yellow warbler, yellow-breasted chat, and Cooper's hawk. These species, as well as other bird species nesting in the riparian or adjacent upland habitat or in the ornamental trees just outside of the project boundary could be negatively affected by the project through temporary loss of habitat during invasive species removal, floodplain grading, replanting, and construction of water quality, infrastructure and recreational facilities. Indirect impacts from construction (e.g., noise and increased activity) could also affect nesting bird species during the breeding season by disrupting breeding behavior, resulting in nest abandonment and loss of productivity. These potential impacts to nesting birds and vegetation communities would be considered significant.

Mitigation Measures

BIO-1: Nesting Birds. Impacts to nesting birds would be avoided by conducting all grading and construction activities outside of the bird breeding season (February 1–August 15). If breeding season cannot be avoided, the following measures would be followed.

a. During the avian breeding season, a qualified Project Biologist shall conduct a preconstruction avian nesting survey no more than 10 days prior to vegetation disturbance or site clearing. If grading or other construction activity begins in the non-breeding season and proceeds continuously into the breeding season, no surveys shall be required. However, if there is a break of 10 days or more in grading or construction activities during the breeding season, a new nesting bird survey shall be conducted before these activities begin again.

b. The nest survey shall cover all reasonably potential nesting locations on and within 300 feet of the proposed construction activities areas.

c. If an active nest is found during an avian nest survey, a qualified Project Biologist shall implement a 300-foot minimum avoidance buffer for coastal California gnatcatcher, least Bell's vireo, and other passerine birds and a 500-foot minimum avoidance buffer for all raptor species. Buffer distances for other species would be determined by the Project Biologist based on the species and its breeding or nesting requirements. The nest site area shall not be disturbed until the nest becomes inactive or the young have fledged.

BIO-2: Vegetation Communities. The project would impact a total of 2.46 acres of southern riparian forest, and 0.50 acre of coastal sage scrub. These vegetation communities are both highly disturbed from a heavy infestation of non-native plants and compacted, saline soils. These low-quality habitats would be restored to provide habitats with much greater ecological function than the current conditions. A total of 2.46 acres of southern riparian forest would be mitigated onsite through substantial habitat restoration (2.03 acres), willow riparian forest habitat creation (0.25

acre), and riparian habitat enhancement (0.64 acre). Impacts to coastal sage scrub would be mitigated onsite through restoration of 1.85 acres, which is 1.35 acres in excess of the required 1:1 ratio. Impacts to non-native grassland, disturbed areas, and ornamental vegetation do not require mitigation (**Table 3-5**).

TABLE 3-5
MITIGATION FOR IMPACTS TO VEGETATION COMMUNITIES

Plant Communities and Land Cover Types	Impacts (Acres)[1]	Required Mitigation (1:1 ratio)	Actual Mitigation (Acres)	Excess (Acres)
Southern Riparian Forest (SRF)[2]	2.46	2.46	2.92[3]	+0.46
Coastal Sage Scrub (CSS)	0.50	0.50	1.85	+1.35
Non-Native Grassland (NNG)	1.20	0.00	0.00	0.00
Disturbed (Existing Roads & Trails)	0.13	0.00	0.00	0.00
Ornamental (ORN)	0.06	0.00	0.00	0.00
Total Acreage of Impacts	**4.35**	**2.96**	**4.53**	**+1.81**

[1] Includes permanent impacts, temporary impacts associated with habitat restoration component, and temporary impacts associated with construction of water quality facilities and infrastructure.
[2] Note that some portions of the existing southern riparian forest habitat are not considered jurisdictional by the Corps/RWQB and/or CDFW; therefore, refer to Table 5 for detailed impact acreages of jurisdictional resources.
[3] Includes 2.03 acres of substantial restoration, 0.25 acre of habitat creation, and 0.64 acre of habitat enhancement.

SOURCE: ESA, 2016

Significance after Mitigation

Less than Significant. Potential impacts to nesting birds and vegetation communities would be reduced to less than significant with implementation of Mitigation Measures BIO-1 and BIO-2 described above.

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

Less than Significant with Mitigation Incorporated. The proposed project would permanently impact a total of 1.42 acres due to the implementation of the proposed water quality and infrastructure components and proposed trails. A total of 2.03 acres would be temporarily impacted from the riparian habitat restoration component of the project. An additional 0.90 acres would be temporarily impacted from construction-related activities. The permanent impacts to sensitive vegetation consist of 0.43 acre of southern riparian forest and 0.26 acre of coastal sage scrub (**Table 3-6**). Additional permanent impacts include 0.63 acre of non-native grassland, 0.08 acre of disturbed habitat, and 0.03 acre of ornamental land cover. The temporary impacts associated with the riparian habitat restoration component consist of primarily (1.77 acres) low-quality southern riparian forest, but also include 0.14 acre of non-native grassland, 0.06 acre of low-quality coastal sage scrub, 0.02 acre of disturbed habitat, and 0.03 acre of ornamental land cover. Restoration of this area would result in much higher quality native willow forest habitat.

Note that some areas of the existing southern riparian forest are not considered jurisdictional by the Corps/RWCQB and/or CDFW; therefore, refer to **Table 3-7**, below for detailed impact acreages of jurisdictional resources. The temporary impacts associated with construction consist of 0.43 acre of non-native grassland, 0.26 acre of low-quality southern riparian forest, 0.18 acre of low-quality coastal sage scrub, and 0.03 are of disturbed habitat. These construction-related temporary impacts include the staging area adjacent to the existing access road on the southwestern portion of the project area, the staging area adjacent to Jamboree road (the 8-foot centerline of this area would become a permanent trail after infrastructure construction has been completed, but the surrounding slopes would be revegetated), and the slopes surrounding the bioretention cell. These temporary construction impacts would be considered significant.

TABLE 3-6
SUMMARY OF IMPACTS TO VEGETATION COMMUNITIES

	Impacts (Acres)			
Plant Communities/Land Cover Types	**Permanent**	**Temporary (Restoration)**	**Temporary (Construction)**	**Total Impacts**
Southern Riparian Forest (SRF)[1]	0.43	1.77	0.26	2.46
Coastal Sage Scrub (CSS)	0.26	0.06	0.18	0.50
Non-Native Grassland (NNG)	0.63	0.14	0.43	1.20
Disturbed (Existing Access Roads and Trails)	0.08	0.02	0.03	0.13
Ornamental (ORN)	0.03	0.03	0.00	0.06
Total Acreage of Impacts	**1.42**	**2.03**	**0.90**	**4.35**

[1] Corps/RWQCB/ and/or CDFW and/or CCC jurisdictional habitat
SOURCE: ESA, 2016

Mitigation Measures

Implementation of **Mitigation Measure BIO-2** is required.

Significance after Mitigation

With implementation of Mitigation Measure BIO-2, a total of 2.46 acres of southern riparian forest would be mitigated onsite through substantial habitat restoration (2.03 acres), willow riparian forest habitat creation (0.25 acre), and riparian habitat enhancement (0.64 acre). Impacts to coastal sage scrub would be mitigated onsite through restoration of 1.85 acres, which is 1.35 acres in excess of the required 1:1 ratio. Impacts to sensitive vegetation communities would be less than significant after implementation of Mitigation Measure BIO-2.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated.

Avoidance. Based upon previous project planning and input from the resource agencies, infrastructure design measures have been implemented to avoid sensitive habitat and species to the extent practicable. Limitations to avoid the sensitive habitat and species remain due to the presence of two sewer lines that run across the existing riparian habitat and parallel to Jamboree Road. The location of the bioretention cell was placed to not impact future maintenance of either line. The proposed maintenance road/hiking trail has been place outside the jurisdictional wetland limits and crossing of the creek would now occur over the proposed culvert extension, rather than through the middle of the creek, which was the original trail location identified in the previous planning effort.

Because of creek degradation, both the mainflow creek bed incision and the invasion of exotic species, temporary impacts to the habitat as a result of restoration implementation are unavoidable. The resulting restored habitat, however, would provide superior ecological benefits.

Permanent Impacts to Jurisdictional Waters & Wetlands. As a result of the water quality improvement and infrastructure components, the project would permanently impact Waters of the United States/State which are characterized as southern riparian forest habitat. Impacts to Waters of the Waters of the United States/State would result from the extension of the culvert into Big Canyon, installation of the stilling basin and rip-rap energy dissipater, the maintenance road and turnaround, and construction of the bioretention cell. Table 3-7, Permanent Impacts to Jurisdictional Areas, defines impact acreages per the regulating resource area. Note, CDFW riparian includes Corps/RWQCB acreage, and CCC wetlands include CDFW and Corps/RWQCB jurisdiction. Thus, maximum permanent jurisdictional impacts do not exceed 0.57 acre.

TABLE 3-7
PERMANENT IMPACTS TO JURISDICTIONAL AREAS

Habitat Types	Jurisdictional Area Impacts (acres)
Corps/RWQCB Wetlands	--
Corps/RWQCB Non-Wetlands	0.24
CDFW Riparian	0.44
CCC Wetland	0.57

SOURCE: ESA, 2015

Temporary Impacts to Jurisdictional Waters & Wetlands. Temporary impacts to jurisdictional areas would occur from implementation of the riparian habitat restoration component of the project. This includes the floodplain restoration grading, construction of the vegetated soil lifts and willow brush matts, and exotic removal activities. Because of the extensive invasive species presence in both the understory and overstory vegetation, the majority of impacts are considered beneficial, in that they would result in improved riparian health. Note that if additional exotic species are found in areas during implementation, temporary disturbances areas may be slightly higher.

Combined Permanent and Temporary Impacts to Jurisdictional Waters & Wetlands. The permanent and temporary impacts to jurisdictional waters and wetlands identified above are considered significant.

Mitigation Measures

BIO-3: Jurisdictional Wetlands. As stated previously, the project has been designed to avoid and minimize impacts to jurisdictional resources and high-quality habitat to the extent practicable. To mitigate for unavoidable permanent impacts to Waters of the United States/State, both habitat creation and enhancement activities would be conducted onsite, as summarized in **Table 3-8**.

TABLE 3-8
MITIGATION FOR PERMANENT IMPACTS TO JURISDICTIONAL AREAS

Habitat Types	Permanent Impacts (acres)	Mitigation for Jurisdictional Impacts
Corps/RWQCB Non-Wetlands/CDFW Riparian/CCC Wetland	0.24	0.25 acre of riparian forest habitat creation (1:1 mitigation ratio)1
CDFW Riparian only	0.19	0.64 acre of habitat enhancement (extensive invasive species removal)
CCC Wetland only	0.33	

[1] Fullfills Corps "no net loss" requirement.

SOURCE: ESA, 2015

To offset for permanent losses to 0.24 acre of non-wetland waters of the United States (Corps/RWQCB), 0.44 acre of CDFW and 0.57 acre of CCC jurisdictional wetlands, the creation of 0.25 acre of new habitat is proposed directly to the southwest of the proposed bioretention cell. This would satisfy the federal mandate for no net loss of wetlands by the Corps. The deficit acreage (0.19 acre for CDFW and 0.33 acre for CCC) would be satisfied through the removal of non-native vegetation in adjacent riparian and seed source areas (i.e., riparian habitat enhancement). This would include removal of the Brazilian peppertrees both east of Jamboree Road and on the north slopes of the canyon west of Jamboree Road that are the primary source of invasive seeds for Big Canyon. In addition, understory invasives not mapped by Dudek, including pampas grass, periwinkle, and English ivy, are prevalent throughout the project area. These species would be removed as part of the enhancement activities. Approximately 0.64 acre of invasive removal of the 1.07 acres available would be considered mitigation for unavoidable permanent impacts. Enhancement activities are distinguished from the restoration activities proposed (not mitigation) in that restoration would require grading and extensive soil remediation to achieve full habitat functioning, and enhancement areas would not.

Jurisdictional areas temporarily impacted as a result of construction of the water quality or infrastructure-related components of the project would be restored to native habitat at a 1:1 ratio. A full Habitat Restoration Plan describing the Big Canyon restoration as well as habitat mitigation activities would be submitted for review and approval as part of the environmental permitting process.

Significance after Mitigation

With implementation of Mitigation Measure BIO-3, impacts to jurisdictional wetlands would be reduced to less than significant through the restoration of native habitat at a 1:1 ratio.

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

Less than Significant with Mitigation Incorporated. The project could temporarily disrupt wildlife movement during construction of the infrastructure and water quality components as well as invasive species removal, floodplain grading, and planting in the riparian habitat restoration area. This temporary disruption to wildlife movement and potential impact on native wildlife nursery sites would be considered significant.

Mitigation Measure

Implementation of **Mitigation Measure BIO-2** is required.

Significance after Mitigation

With implementation of Mitigation Measure BIO-2, onsite habitat would be restored and would be a higher functioning habitat that can provide cover and forage for migrating wildlife. The potential impacts to wildlife movement and nursery sites would be reduced to less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The project would not conflict with the protection of biological resources under the City of Newport Beach Municipal Code, or the City's proposed LCP Coastal Land Use Plan (2015 revised submittal). The proposed project, while not currently included in the Orange County Central-Coastal NCCP/HCP, would be designated to meet Plan standards. The highly degraded riparian channel, floodplain, and native vegetation would be restored to better functioning riparian habitat; restoration of adjacent coastal sage scrub areas would provide higher-quality upland habitat for wildlife and wetland buffer function; and the water quality facilities would greatly improve the hydrology and water quality of the creek. Therefore, the project would not conflict with the provisions of any local policies or ordinances protecting biological resources or any NCCP/HCPs.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project would not conflict with the protection of biological resources under the City of Newport Beach Municipal Code, or the City's proposed LCP Coastal Land Use Plan (2015 revised submittal). The proposed project, while not currently included in the Orange

County Central-Coastal NCCP/HCP, would be designated to meet Plan standards. The highly degraded riparian channel, floodplain, and native vegetation would be restored to better functioning riparian habitat; restoration of adjacent coastal sage scrub areas would provide higher-quality upland habitat for wildlife and wetland buffer function; and the water quality facilities would greatly improve the hydrology and water quality of the creek. Therefore, the project would not conflict with the provisions of any local policies or ordinances protecting biological resources or any NCCP/HCPs.

Resources

City of Newport Beach, *Local Coastal Program, Coastal Land Use Plan,* Amended February 2009. Website: http://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs//CLUP_Cover%20and%20Table%20of%20Contents.pdf. Accessed on February 12, 2016.

ESA, *Biological Resources Technical Report, Big Canyon Habitat Restoration and Water Quality Improvement Project*, January 2016.

3.5 Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion

The following evaluation is a summary of the findings provided in the Cultural Resources Study prepared by ESA in January 2016. This report contains confidential information and is not for public distribution.

a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?

Less than Significant with Mitigation Incorporated. No built resources, archaeological sites, or tribal cultural resources were identified in the project area as a result of the current study, which included archival research, pedestrian survey, a search of the Sacred Lands File at the Native American Heritage Commission, and Native American outreach. That said, numerous prehistoric archaeological sites do occur throughout the area. A records search at the South Central Coast Information Center (SCCIC) shows that 35 archaeological resources have been recorded in a 1 mile radius, and that 5 of these occur with 0.15 mile. While most of these occur on ridgetops and mesas above and outside the project area, Native American representatives and the Sacred Lands File search indicate that the area contains sensitive archaeological resources. Given this, and given the fact that the archaeological survey only addressed resources visible on the surface, and that certain heavily vegetated areas were not accessible for survey, there is a potential, though small, that earthmoving activity could impact buried archaeological resources. This potential impact on unknown archaeological resources would be considered significant.

Mitigation Measures

CR-1: Archaeological Monitoring. An archaeological monitor (working under the direct supervision of a Secretary of the Interior-qualified archaeologist [USDI 2008]) shall be retained to observe all ground-disturbing activities, including but not limited to brush clearance, vegetation removal, grubbing, grading, and excavation. Prior to start of ground-disturbing activities, the archaeologist shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological

resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Archaeological monitoring shall be conducted by an archaeologist familiar with the types of archaeological resources that could be encountered within the project site. The qualified archaeologist, in coordination with the City, may reduce or discontinue monitoring if it is determined that the possibility of encountering buried archaeological deposits is low based on observations of soil stratigraphy or other factors. The archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the qualified archaeologist has evaluated the discovery and determined appropriate treatment. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to the City, the Corps, and any Native American groups who request a copy. A copy of the final report shall be filed at the SCCIC.

If archaeological resources are encountered during monitoring, and if it is determined that the discovered archaeological resource constitutes a historic property under Section 106 of the NHPA or a historical resource under CEQA, avoidance and preservation in place is the preferred manner of treatment. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan would be prepared and implemented by a qualified archaeologist in consultation with the Corps and the City. The plan will provide for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The Corps and the City shall be required to consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

CR-2: Native American Monitoring. The City shall retain a Native American monitor to observe all ground-disturbing activities, including but not limited to brush clearance, vegetation removal, grubbing, grading, and excavation. The Native American monitor shall be selected from amongst the Native American groups identified by the NAHC as having affiliation with the project area. The Native American representative shall be allowed to participate in the cultural resources sensitivity training, discusses in Mitigation Measure CR-1, and all authorities ascribed to the archaeological monitor, including the authority to stop work in the event of the discovery of cultural resources, shall also apply to the Native American monitor. In the event that

archaeological materials are encountered, the Native American monitor shall participate in any discussions involving treatment and subsequent mitigation.

Significance after Mitigation

With the implementation of Mitigation Measures CR-1 and CR-2, monitoring activities, as well as subsequent data recovery, if necessary, would reduce potential impacts on historical resources to less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?

Less than Significant with Mitigation Incorporated. As mentioned above, no archaeological resources were identified within the project area. That said, there is the potential to encounter buried resources during construction. This potential to encounter buried archaeological resources would be considered a significant impact.

Mitigation Measures

Implementation of **Mitigation Measures CR-1** and **CR-2** is required.

Significance after Mitigation

The implementation of Mitigation Measures CR-1 and CR-2 would ensure that the project would have a less than significant impact on unique archaeological resources.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated. The results of the paleontological records check at the Natural History Museum of Los Angeles County indicate that the project area is sensitive for paleontological resources. The Monterey Formation underlies younger Quaternary alluvium within the central portion of Big Canyon, and there are exposures of Monterey Formation in the Big Canyon walls. While grading operations will not involve substantial excavation extending into the underlying Monterey Formation within the canyon, or excavations in the exposures of Monterey Formation in the Big Canyon walls, there is a good chance of uncovering significant vertebrate fossil remains. Paleontological resources are considered part of the environment and a project that may directly or indirectly destroy a unique paleontological resource is a project that may have a significant effect on the environment. Therefore, the construction activities associated with the proposed project would result in potential significant impacts on paleontological resources.

Mitigation Measures

CR-3: Paleontological Monitoring. A qualified paleontologist meeting the Society for Vertebrate Paleontology (SVP) guidelines for professional paleontologist (SVP, 2010) shall be retained to oversee all mitigation measures related to paleontological resources. That said, both the paleontological and archaeological monitoring could be carried out by the same person,

presuming the monitor is qualified in both disciplines. During ground disturbing activity, the qualified paleontologist or paleontological monitor shall conduct spot-checks of exposed sediments. The purpose would be to determine whether the project would impact the paleontologically sensitive Monterey Formation. The qualified paleontologist may institute paleontological monitoring if, based on observations of subsurface stratigraphy or other factors, he or she determines that the possibility of encountering fossiliferous deposits is high. Paleontological monitoring would be conducted by a paleontological monitor working under the supervision of the qualified paleontologist. In the event that monitoring is required, the monitor shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens and shall complete daily monitoring logs outlining the day's activities. The qualified paleontologist shall prepare a final monitoring report to be submitted to the City and filed with the local repository, along with any fossils recovered during construction.

The qualified paleontologist shall also contribute to any construction worker cultural resources sensitivity training (see Mitigation Measure CR-1) either in person or via a training module provided to the qualified archaeologist. The training shall include information of the types of paleontological resources that may be encountered, and the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources.

In the event of unanticipated discovery of paleontological resources, the City shall cease ground-disturbing activities within 100 feet of the find until it can be assessed by the qualified paleontologist. The qualified paleontologist shall assess the find, implement recovery measures if necessary, and determine if paleontological monitoring is warranted once work resumes.

Significance after Mitigation

The implementation of Mitigation Measure CR-3 would ensure that the project would have a less than significant impact on paleontological resources or unique geologic features.

d) Disturb any human remains, including those interred outside formal cemeteries?

No Impact. No human remains were identified in the project area as a result of the archival research or survey, and it is anticipated that the project would have no impact on human remains. That said, the area was known to have been used by prehistoric Native Americans. In the unlikely event that human remains are uncovered during ground disturbing activities, appropriate state law would apply. Specifically, California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

Further, California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into

account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that would not be subject to further disturbance.

Resources

Advisory Council on Historic Preservation, *Section 106 of the National Historic Preservation Act*, 1966.

Society of Vertebrate Paleontology, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, 2010. Website: https://vertpaleo.org/PDFS/68/68c554bb-86f1-442f-a0dc-25299762d36c.pdf. Accessed on February 12, 2016.

State of California. *California Health and Safety Code Section 7052*. Website: http://law.onecle.com/california/health/7052.html. Accessed on February 12, 2016.

State of California, Public Resources Code Section 5097.98. Website: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=05001-06000&file=5097.9-5097.991. Accessed on February 12, 2016.

US Department of the Interior, National Park Service, Secretary of the Interior's Standards and Guidelines, Archaeology and Historic Preservation. Website: http://www.nps.gov/history/local-law/arch_stnds_0.htm. Accessed on February 12, 2016.

3.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)

No Impact. Based on a review of the City of Newport Beach General Plan, Safety Element, the City is located in the northern part of the Peninsular Ranges Province which is an area that is exposed to risks from multiple earthquake fault zones. The nearest earthquake that contains an Alquist-Priolo Earthquake Fault Zone is the Newport-Inglewood fault zone. This fault is located offshore from the City of Newport Beach. Based on a review of the Special Studies Zones map prepared by the California Division of Mines and Geology, there are no Alquist-Priolo Earthquake Fault Zones on the project

site. Therefore, the proposed project would not be exposed to a rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

Less than Significant Impact. The largest earthquake magnitude within a 100-mile radius of the project site between 1800 and 2006 was 7.6 magnitude GSI 2006). The project site is subject to varying ground shaking intensities similar to other areas within the region. The City requires that all construction meet the latest standards of the California Building Code (CBC) which considers proximity to potential seismic sources and the maximum anticipated ground shaking possible. The construction of the proposed facilities on the project site would be in accordance with applicable City ordinances and policies and consistent with the most recent version of the CBC which requires structural design that can accommodate ground accelerations expected from known active faults. Compliance with the City's safety design standards as well as the CBC would reduce potential impacts associated with seismic ground shaking to less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is a secondary earthquake-induced hazard that occurs when water-saturated soils lose their strength and liquefy during intense and prolonged ground shaking. Based on a review of the Newport Beach General Plan, the project site includes areas that are susceptible to liquefaction. Adherence to the CBC and the City's Municipal Code requirements would implement proven geotechnical design measures that would minimize the potential for liquefaction, and potential impacts would be less than significant.

iv) Landslides?

Less than Significant Impact. Based on a review of the Newport Beach General Plan, the project site contains a few areas that could be susceptible to landslides. Project implementation would be required to adhere to the CBC and the City's Municipal Code to ensure the potential for landslides is reduce to less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. During project construction, excavation and grading would be required. These activities would expose soil to erosive elements such as wind and rain. However, project construction would be required to comply with existing regulatory requirements that address soil erosion such as the National Pollutant Discharge Elimination System (NPDES) program. Any development site, such as the project site, that would disturb one or more acres would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which includes the use of erosion control Best Management Practices to protect surface water and groundwater from the adverse effects of construction activities.

The erosion control best management practices (BMPs) such as scheduling, preservation of existing vegetation, hydroseeding, sandbags, fiber rolls, and silt fences would prevent the exposure of soil to wind and water and reduce the threat of erosion during construction to less than significant.

Once constructed, the potential for erosion or loss of topsoil is substantially reduced. The project would include creek restoration activities that would include floodplain restoration, streambank stabilization and habitat restoration. Floodplain restoration and streambank stabilization activities would result in flood flow attenuation, stabilization of the north bank of the main channel, and creation of an active sinous riparian floodplain. The north creek bank at the inlet would be stabilized using natural bioengineering techniques. Riparian habitat would be restored directly downstream of the floodplain restoration area through the removal of invasive trees, soil remediation to reduce plant-limiting sodium levels, and replacement with native riparian species. The proposed project would reduce the potential for soil erosion or loss of topsoil to less than significant.

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

Less than Significant Impact. As described above, the development of the proposed structures would be required to adhere to the CBC and City requirements. These requirements would ensure that appropriate engineering techniques are implemented to reduce any potential for landslides, lateral spreading, subsidence, liquefaction or collapse to less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact. Although the west side of Big Canyon contains previously dredged materials from Upper Newport Bay that could contain expansive soils, it is unknown if the project site contains expansive soil. As stated above, the proposed structures would be required to comply with the CBC and the City requirements for stable soils. Compliance with these requirements would reduce the potential impacts to less than significant.

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

No Impact. The proposed project does not include septic tanks or alternative waste disposal systems. As a result, there is no potential for soil failure associated with the installation of septic tanks or alternative waste disposal systems.

Resources

California Division of Mines and Geology (CDMG), *State of California Special Studies Zones, Newport Beach Quadrangle*, 1986. Website:

http://gmw.consrv.ca.gov/shmp/download/quad/NEWPORT_BEACH/maps/NEWPORTBCH.PDF. Accessed on February 11, 2016.

City of Newport Beach, Newport Beach General Plan, 2006.Website: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan. Accessed on February 11, 2016.

Geosoils, Inc (GSI), Geotechnical Feasibility Report: Big Canyon Creek Restoration, Upper Newport Bay, Newport Beach, County of Orange, California, 2006..

3.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and anthropogenic activities, which alter the composition of the global atmosphere.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), chlorofluorocarbons (CFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon dioxide is the "reference gas" for climate change, meaning that emissions of GHGs are typically reported in "carbon dioxide-equivalent" (CO_2e) measures. There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emissions of GHG would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires CARB to design and implement emission limits, regulations, and other measures,

such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

On March 18, 2010, the California Office of Planning and Research (OPR) submitted amendments to the *CEQA Guidelines* for GHG emissions, as required by Public Resources Code section 21083.05. These *CEQA Guideline* amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments are relatively modest changes to various portions of the existing *CEQA Guidelines*.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. The proposed project would primarily contribute to global climate change as a result of emissions of GHGs, primarily CO_2, emitted during construction activities associated with the installation of a surface water treatment system, including a pump station and culvert improvements. Once construction activities have been completed, operation of the proposed project would only generate minimal GHG emissions sources from vehicle emissions associated with worker trips to and from the project area for routine maintenance of the surface water treatment structure. However, because these trips would only occur once a month, these GHG emissions would be negligible.

GHG impacts are considered to be exclusively cumulative impacts (CAPCOA, 2008); there are no non-cumulative GHG emission impacts from a climate change perspective. Thus, the purpose of this GHG analysis is to determine whether the contribution of GHG emissions by the proposed project would be cumulatively considerable.

The City of Newport Beach has not adopted any significance criteria or guidelines for GHG analysis. SCAQMD has issued proposed standards and guidelines, proposing a 10,000 metric ton per year (MT/year) CO_2e threshold for industrial projects for which it is the lead agency. Additionally, SCAQMD has proposed, a 3,000 MT/year CO_2e threshold for residential and commercial developments (SCAQMD, 2008). For the purpose of this analysis, the project's total annual GHG emissions resulting from construction activities have been quantified and evaluated against the 3,000 MT/year CO_2e screening criteria. As was conducted for the proposed project's air quality analysis in Question 3 (Air Quality), the project's construction-related GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips using CalEEMod.

The project's estimated annual GHG emissions during construction are shown in **Table 3-9**. With respect to construction GHG emissions, SCAQMD recommends that the total emissions for a project be amortized over a 30-year period and added to its operational emission estimates (SCAQMD, 2008). To determine the total construction emissions that would be generated from the project's surface water treatment system, the annual GHG emissions under a worst-case construction scenario was taken to conservatively represent the total emissions that would be generated from construction of the proposed project. Total construction-related GHG emissions was calculated to be 103.97 CO_2e MT/yr. Amortized over 30 years, the proposed project

construction-related GHG emissions would be 3.47 CO_2e MT/yr. With respect to operational emissions, the only GHG emissions generated by the proposed project would be periodic maintenance on-site. This maintenance would include maintenance of the water dosing station, monitoring the bioretention cell for any debris buildup and maintenance of any invasive or dead vegetation removal. The periodic maintenance would not be expected to result in higher GHG emissions than produced by construction activities. Therefore, a conservative estimate of the operational GHG emissions was chosen as 20% of the annual construction GHG emissions.

TABLE 3-9
ESTIMATED PROJECT CONSTRUCTION GHG EMISSIONS

Emission Source	Proposed Project EmissionsCO_2e (MT/yr)
Construction	
Annual Project Construction (Amortized over 30 yrs)[a]	3.47
Operation	20.79
Total Annual Emissions	24.26
CAPCOA Screening Threshold	3000
Significant Impact?	No

NOTES: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year; see Appendix B for CalEEMod model outputs.

[a] The total project construction GHG emissions were derived by summing the annual construction emissions (MT/yr) for all nine phases. Total project construction GHG emissions = 103.97 CO_2e MT/yr. Amortized over 30 years, annual project construction GHG emissions = 3.47 CO_2e MT/yr.

As shown in Table 3-9, the proposed project's total annual GHG emissions resulting from construction activities and project operation would be approximately 24.26 MT CO_2e per year. Thus, the project's total annual GHG emissions would not exceed the 3,000 MT of CO_2e per year screening threshold recommended by SCAQMD. Therefore, the proposed project would not result in the generation of substantial levels of GHG emissions and would not result in emissions that would adversely affect the statewide attainment of GHG emission reduction goals of AB 32. This impact would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The proposed project would generate temporary construction-related GHG emissions and minimal GHG emissions during operations. Because the proposed project only involves the installation of surface water treatment infrastructure, culvert improvements and restoration activities, implementation of the project would not result in, or induce, growth in the project area that has not been accounted for by the City of Newport Beach. Consequently, no growth-inducing development or land use that would generate GHG emissions would occur under the project. The proposed project would not conflict with any adopted plan's goals of reducing GHG emissions.

Overall, implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, this impact would be less than significant.

Resources

South Coast Air Quality Management District (SCAQMD), *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008.

State of California, Office of Governor, *Executive Order S-3-05*, 2008. Website: https://www.gov.ca.gov/news.php?id=1861. Accessed on February 12, 2016.

3.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

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

Less than Significant Impact. Construction activities associated with the proposed project would involve site clearing, excavation, grading, and other ground-disturbing activities. Construction activities would be required for the installation of the project facilities, including the culvert extension, the bioretention cell liner and piping, and the bioengineering structure construction. Construction activities would occur for approximately five months within the project site. The proposed construction activities would require the use of equipment, such as loaders, excavators, trucks, and other powered equipment, and would therefore use fuels (gasoline or diesel) and lubricants (oils and greases). All construction equipment would be housed within the staging area of the project site. The construction equipment on site may require minor

maintenance during construction activities, which may result in the disposal of hazardous byproducts from the equipment.

Operation of the proposed facilities would involve the routine and major maintenance of the wetland basin. This would include the removal of trash, debris, and dying vegetation that interfere with facility maintenance. Maintenance activities would also include removal of any visual contamination from floatables, such as oil and grease, and repairs to any flow control structures as needed to maintain full functionality. Operational activities would involve limited amounts of hazardous materials used in and transported to the project site. The use of hazardous materials and substances during construction and operation activities would be subject to federal, state, and local health and safety requirements for handling, storage, and disposal. Therefore, hazardous material impacts related to construction activities would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As discussed above in discussion 3.8(a), limited quantities of hazardous materials such as gasoline, diesel, oils, and lubricants may be required to operate the construction equipment. Construction activities would be short-term, and the use of these materials would cease once construction is complete. The hazardous substances used during construction would be required to comply with existing federal, state and local regulations regarding the use and disposal of these materials. In the event of an accidental release during construction, containment and clean up would be in accordance with existing applicable regulatory requirements. Project operation would involve minimal transport and use of hazardous materials onsite. The use of hazardous materials and substances during construction and operation activities would be subject to federal, state, and local health and safety requirements for handling, storage, and disposal. Potential impacts to the public or the environment related to reasonably foreseeable accident conditions involving hazardous materials would be less than significant.

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

Less than Significant Impact. The nearest existing school to the project site is Our Lady Queen of Angels High School located approximately 0.16 miles north of the project site. In addition, Corona Del Mar High School is located approximately 0.25 miles north of the project site. Therefore, there are two schools within one-quarter mile of the proposed project area.

Construction within the project site would include the use of loaders, dozers, haul trucks, compactors, and water trucks. Hazardous materials, such as oil, solvents, and gasoline, needed for the maintenance of the construction equipment would be used only in small quantities on the project site, and the use of hazardous substances would be compliant with City code regulations and Best Management Practices. Hazardous materials would not be transported on a routine basis. Construction activities are to last approximately five months; therefore, construction-related hazardous materials would be only temporarily present on site and subsequently removed after

construction is completed. Operation of the proposed project would not introduce any hazardous emissions or materials into the project site. Therefore, the proposed project would result in less than significant hazardous material-related impacts to schools within a quarter-mile of the project.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Pursuant to Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties with known hazardous substance contamination within the proposed project area (California Government Code, Section 65960 et seq.) (see Appendix D). A review of the Department of Toxic Substances Control's (DTSC) Hazardous Waste and Substances List – Site Cleanup (Cortese List) indicates that identified hazardous material sites are not located within the project area (DTSC, 2007). There was a formerly leaking underground storage tank across the street at Big Canyon Country Club, but the case has closed as of May 15, 2001 (EDR, 2016). A review of the DTSC EnviroStor and the State Water Resources Control Board GeoTracker online databases did not indicate any open cleanup sites or hazardous waste facilities within the vicinity of the project area. Therefore, since the project is not located on a list associated with hazardous materials, no impacts would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The nearest public airport to the project site is John Wayne Airport (JWA), approximately 2.5 miles north of the site. The John Wayne Airport Safety Compatibility Zones are defined in the Airport Environs Land Use Plan for JWA (ALUC, 2013). The proposed project is not located within any Safety Compatibility Zones for JWA. No impacts to safety hazards for people residing or working in the project area would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed project is not located within the vicinity of a private airstrip. The nearest private airstrip to the project site is the L.A. Times Costa Mesa Heliport approximately 5 miles northwest of the project site (www.tollfreeairline.com). No airstrip related hazard impacts would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Newport Beach Fire Department prepared an Emergency Operations Plan (EOP) that was adopted by the City of Newport Beach in September 2011. The purpose of the EOP is to provide guidance for the City's response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting the

City of Newport Beach. The EOP also shows the City's emergency evacuation routes in the event of a tsunami. The project site is located along Jamboree Road, a designated emergency evacuation route.

The proposed project would be constructed completely within the proposed project boundary. Construction equipment as well as haul trucks would access the site from Jamboree Road, and then travel west at the intersection of San Joaquin Road and Jamboree Road onto San Joaquin Road. Construction vehicles would travel to Back Bay Drive, and then travel north on Back Bay Drive to the Big Canyon Trail maintenance road entrance. Construction vehicles would follow the maintenance road east to the construction staging area. There would be no road closures or alterations to Jamboree Road during construction and all construction equipment would be stored in active grading areas and/or the proposed staging areas within the project area. Once constructed, the proposed project does not include any uses or design features that would result in interference with any adopted emergency response plan or emergency evacuation plan. The design of the proposed project would provide adequate emergency access consistent with City requirements, including public access trails within the project site. Therefore, the proposed project would not result in impacts to emergency access during construction and/or operation. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and, thus, the project would result in no impact.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The project site is not located in an area classified as a "Wildland Area That May Contain Substantial Forest Fire Risks and Hazards" or a "Very High Fire Hazard Severity Zone" by the California Department of Forestry and Fire Protection (CAL FIRE 2011). Therefore, the risk for wildland fire hazards is low, and project implementation would result in no impact to people or structures to a significant fire risk.

Resources

California Department of Forestry and Fire Prevention. CAL FIRE: Newport Beach LRA Map. October 2011.

City of Newport Beach, *City of Newport Beach General Plan, Chapter 11: Safety Element*. Adopted July 25, 2006.

John Wayne Airport, Orange County. Airport Land Use Commission. <http://www.ocair.com/commissions/aluc/>. Accessed on January 19, 2016.

Newport Beach Fire Department. *City of Newport Beach Emergency Operations Plan*, Approved September 27, 2011.

Orange County Public and Private Airports, California. Website:<http://www.tollfreeairline.com/california/orange.htm>. Accessed on January 19, 2016.

3.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a) Violate any water quality standards or waste discharge requirements?

No Impact. The proposed project would not violate any water quality standards or waste discharge requirements because the project includes treatment facilities that would improve surface water quality in the project area.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less than Significant Impact. Groundwater would be not required for construction or operation of the proposed project. Surface seeps along the creek bank immediately upstream and downstream of the culvert under Jamboree Road would be collected and diverted to the sanitary sewer due to the high selenium concentrations measured in these seeps. The collection and diversion of the significant source of selenium to the creek would measurably reduce downstream selenium concentrations and improve water quality through the creek segment that runs through the Big Canyon Preserve. This would allow for successful restoration efforts associated with the proposed project The estimated seepage flows are anticipated to be less than 10% of the total current dry weather flows in Big Canyon Creek. Therefore, approximately 90% of the current dry weather flows would be returned to the creek. Diverting the high selenium seepage flows would substantially reduce in-stream selenium concentrations in the downstream creek flowing through the restoration area. Because the project would not require the use of groundwater and the project would divert the current high selenium from seepage flows, the project would result in less than significant impacts on groundwater supplies.

c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. The project includes creek restoration activities that would include floodplain restoration, streambank stabilization and habitat restoration. Floodplain restoration and streambank stabilization activities would result in flood flow attenuation, stabilization of the north bank of the main channel, and creation of an active sinous riparian floodplain. The north creek bank at the inlet would be stabilized using natural bioengineering techniques. Riparian habitat would be restored directly downstream of the floodplain restoration area through the removal of invasive trees, soil remediation to reduce plant-limiting sodium levels, and replacement with native riparian species. The proposed project would reduce the potential for erosion and siltation to less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than Significant Impact. The additional impervious surfaces or other similar features are not substantial to cause any noticeable increase in surface runoff. Furthermore, the project includes the construction of a water quality treatment bioretention cell that would treat wet-weather flows from Jamboree Road. In order to treating the pollutants, stormwater flows from Jamboree that currently discharge directly into the riparian creek corridor, would be directed to

the bioretention cell that would retain and filter these flows. Following treatment of the stormwater, the flow would be discharged through an outlet structure that would control the rate of discharge. Therefore peak storm flows that can impact downstream sections of the creek would be attenuated. The proposed project would therefore reduce peak flows that may impact the sensitive habitat of the site, and potential flooding impacts associated with the project would be less than significant.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Impact. Surface flow rates that currently discharge to the site from Jamboree Road would be measurably reduced by the bioretention cell. The project includes a new permanent access that would include adequately design stormwater drainage features to accommodate the proposed flows and not impact downstream areas. In addition, the project would not add additional sources of polluted runoff, but would improve downstream surface water quality through the implementation of the proposed surface water quality improvements. The proposed project would result in no impacts to the capacity of the existing stormwater drainage system and no impacts to downstream surface water quality.

f) Otherwise substantially degrade water quality?

No Impact. The Project would result in positive water quality improvement for both stormwater and dry weather surface flows.

Storm Flows – The purpose of the stormwater treatment system is to reduce transportation-related constituent concentrations currently discharged to Big Canyon Creek during storm events and to attenuate stormwater peak-flow discharge rates from the contributing Jamboree Road drainage area. The transportation-related pollutants are currently conveyed to the receiving waters in Big Canyon Creek from a variety of sources, including vehicles, road maintenance, maintenance facility runoff, and landscaping maintenance. Vehicles are known to produce a variety of pollutants that can have a negative impact on water quality in the receiving waters to which they drain. Metals such as copper and zinc can build up on road surfaces through brake and tire wear; other metals such as cadmium, chromium and sometimes lead can be deposited on road surfaces from paint on vehicles and streets. Metals often bind to sediments, trash, and debris on road surfaces; these can be carried into waterways during storm events. In addition to pollutants associated with vehicles, landscaped areas associated with or adjacent to streets (e.g., median, parkway, and residential landscaping) can be sources of pollutants such as pesticides, nutrients (particularly nitrate and phosphorus), and fecal-indicator bacteria (all of which are known to be associated with urban landscaping, which is found throughout the 11.1-acre Jamboree Road drainage area). These pollutants can be transported to receiving waters during storm events. Finally, in addition to direct deposition to the road surface, street surfaces and adjacent walkways and landscaped areas can be impacted from vehicle emissions through atmospheric deposition of pollutants such as the dissolved fraction of metals and organics (e.g., polynuclear aromatic hydrocarbons (PAHs).

According to national and regional best management practices (BMPs) manuals (e.g., the California Stormwater Quality Association BMP handbook), the technology proposed in the stormwater treatment system has been shown to be effective in treating a variety of pollutants associated with transportation runoff, including trash, sediment (and attached pollutants), nutrients and organics such as PAHs and pesticides, and fecal-indicator bacteria. The stormwater treatment system would consist of a primary stormwater treatment structure and a bioretention cell, as described below.

Dry Weather Flows The purpose of the dry weather flow diversion is to limit the contact between dry weather flows with low selenium concentrations with groundwater seepage flows that contain much higher selenium concentrations. Surface seeps would be passively collected and diverted to the sanitary sewer. The lower concentration dry weather flows would be diverted around the higher selenium seeps and back into the creek channel. Selenium reductions of 70-90% are anticipated in downstream flows. These reductions would allow for successful and sustainable restoration of the creek as part of the proposed project and in potential future downstream restoration efforts.

Overview With the implementation of the proposed project, surface and groundwater quality would not be impacted.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. All residential properties are on the high banks above the 100-year floodplain. These banks would not be impacted by the proposed project.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less than Significant Impact. One-Hundred year flows from Big Canyon Creek would be directed through the restored creek section and the downstream stream channels. This proposed project would improve surface water hydrology by reducing peak flows from Jamboree Road that would be directed through the proposed bioretention cell. The currently incised creek channel downstream of the culvert would be restored to include a wider floodplain and the northern bank stabilized using bio-engineering techniques. The extended culvert element to accommodate the new access road includes the implementation of concrete stilling basin and grade control structure to dissipate storm flows and reduce the potential for downstream erosion. The planned restoration would include removal of invasive plants and re-vegetation with native plants that would also improve overall hydrology. The implementation of the proposed facilities on the project site would result in less than significant impacts associated with a 100-year flood hazard area.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. No risk associated with property loss or life threatening conditions would result from the proposed project as no significant changes in site hydrology would occur as a result of the project. Hydraulic analysis of the proposed flood control conveyance show that velocities in the conveyance would be below erosive levels due to the 2% longitudinal slope and heavily vegetated side slopes. The proposed project would not increase the risk of people or structures to loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. The watershed is heavily urbanized and the Upper Newport Bay is protected against ocean waves. Therefore, the proposed project would result in no impacts related to flooding.

j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

No Impact. No risk associated with property loss or life threatening conditions would result from the proposed project as no significant changes in site hydrology would occur as a result of the project. Hydraulic analysis of the proposed flood control conveyance show that velocities in the conveyance would be below erosive levels due to the 2% longitudinal slope and heavily vegetated side slopes. The proposed project would not increase the risk of the project area or surrounding land to be inundated as a result of seiche, tsunami, or mudflow. The watershed is heavily urbanized and the Upper Newport Bay is protected against ocean waves. Therefore, the proposed project would result in no impacts related to seiche, tsunami or mudflow.

Resources

California Stormwater Quality Association, Stormwater Best Management Practice Handbook, New Development and Redevelopment, January 2003. Website: https://www.casqa.org/sites/default/files/BMPHandbooks/BMP_NewDevRedev_Complete.pdf. Accessed on February 12, 2016.

City of Newport Beach, *City of Newport Beach General Plan, Chapter 11: Safety Element*. Adopted July 25, 2006.

3.10 Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. LAND USE AND LAND USE PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) Physically divide an established community?

No Impact. The project site is located between two residential communities to the north and south of the project site. Creek restoration activities confined within the project site would enhance the vegetation and habitat of the creek, and would not physically divide the existing communities to the north and south. Thus, implementation of the project would result in no impacts to the physical division of an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed project is consistent with the existing City of Newport Beach General Plan land use and zoning designations. The project site is zoned as Open Space (OS) within the City's General Plan, Zoning Ordinance, and Local Coastal Program (City of Newport Beach 2010)**.** The OS land use and zoning designation is intended to provide areas for a range of public and private uses to "protect, maintain, and enhance the community's natural resources." Since the project aims to restore natural habitat and improve water quality in the creek, the project's objectives align with applicable land use plans regarding OS. The project will not conflict with any applicable land use plans, therefore, the project would result in no impacts to existing land use plans, policies or regulations.

c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Impact. The project would not conflict with the protection of biological resources under the City of Newport Beach Municipal Code, or the City's proposed LCP Coastal Land Use Plan (2015 revised submittal). The proposed project, while not currently included in the Orange

County Central-Coastal NCCP/HCP, will be designated to meet Plan standards. The highly degraded riparian channel, floodplain, and native vegetation will be restored to better functioning riparian habitat; restoration of adjacent coastal sage scrub areas will provide higher-quality upland habitat for wildlife and wetland buffer function; and the water quality facilities will greatly improve the hydrology and water quality of the creek. Therefore, the project will not conflict with the provisions of any local policies or ordinances protecting biological resources or any NCCP/HCPs.

Resources

City of Newport Beach, *City of Newport Beach General Plan, Chapter 3: Land Use Element*. Adopted July 25, 2006

City of Newport Beach, *Local Coastal Program, Coastal Land Use Plan*, Amended February 2009. Website: http://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs//CLUP_Cover%20and%20Table%20of%20Contents.pdf. Accessed on February 12, 2016.

City of Newport Beach. *Newport Beach Municipal Code*. Title 20: Planning and Zoning. Passed November 24, 2015. <http://www.codepublishing.com/CA/NewportBeach/?NewportBeach20/NewportBeach20.html>. Accessed on January 14, 2015.

3.11 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

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

No Impact. Based on the guidelines adopted by the California Geological Survey (CGS), areas known as Mineral Resource Zones (MRZ) are classified according to the presence or absence of significant mineral resource deposits. The City is required to respond to mineral resource recovery areas that have been designated by the State as MRZ-2 (significant existing or likely mineral deposits). These classifications indicate the potential for a specific area to contain significant mineral resources.

According to the CGS, the City of Newport Beach does not contain any land classified as MRZ-2. The project site is located on land classified as MRZ-1, which are "areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence" (Division of Mines and Geology). The project involves restoration and revegetation of the creek, and no mining operations would occur. Therefore, the proposed project would result in no loss of availability of known mineral resources valuable to the region or residents of the State, and no impact would occur.

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

No Impact. As discussed in the 3.11a), the lack of impacts to known mineral resources that would be of value to the region or residents of the State applies equally to locally important mineral resource recovery sites. The City of Newport Beach General Plan classifies no land with locally-important mineral resource deposits within the City. Therefore, the proposed project would result in no loss of availability of a locally-important mineral resource recovery site delineated by any land use plan, and no impact would occur.

Resources

Department of Conservation. Division of Mines and Geology. Guidelines for Classification and Designation of Mineral Lands.

City of Newport Beach, City of Newport Beach General Plan EIR. Mineral Resources. July 25, 2006.

3.12 Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. NOISE — Would the project:				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Noise is generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed

in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency deemphasis and is typically applied to community noise measurements.

An individual's noise exposure is a measure of noise over a period of time. While a noise level is a measure of noise at a given instant in time, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The L_{eq}, or equivalent sound level, is the energy-mean dBA during a measured time interval. It is the "equivalent" constant sound level that would have to be produced by a given source to equal the acoustic energy contained in the fluctuating sound level measured.

L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_{dn}: Also termed the DNL, the L_{dn} is defined as the A-weighted average sound level for a 24-hour day with a 10-dB penalty added to nighttime sound levels (10:00 p.m. to 7:00 a.m.) to compensate for increased sensitivity to noise during usually quieter evening and nighttime hours.

CNEL: CNEL, or Community Noise Equivalent Level, is defined as the A-weighted average sound level for a 24-hour day. It is calculated by adding a 5-dB penalty to sound levels in the evening (7:00 p.m. to 10:00 p.m.) and a 10-dB penalty to sound levels at night (10:00 p.m. to 7:00 a.m.) to compensate for increased sensitivity during such time periods when a quiet environment is expected.

An important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing

ambient noise level, the less acceptable the new noise level would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change in noise levels is considered to be a barely perceivable difference;
- A change in noise levels of 5 dBA is considered to be a readily perceivable difference; and
- A change in noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflecting or barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA.

Regulatory Framework

It should be noted that the project does not include any permanent noise sources after the completion other than periodical maintenance.

City of Newport Beach General Plan

Policy N1.8 describes significant noise impacts as below:

> Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses. The CNEL increase is shown in Table 1.

TABLE 3-10
GENELAN PLAN POLICY N1.8 DBA INCREASE

Existing CNEL (dBA)	dBA Increase
55	3
60	2
65	1
70	1
75+	Any increase is considered significant

SOURCE: City of Newport Beach General Plan

Policy N5.1 describes that the limited hours of construction activity is enforced. The limited construction hours are based on the municipal code.

City of Newport Beach Municipal Code

Section 10.28.040 limits construction hours between 7:00 a.m. and 6:30 p.m. on any weekdays and between 8:00 a.m. and 6:00 p.m. on any Saturdays. It also prohibits construction activities on any Sundays and any federal holidays.

a) Exposure of persons to or generation of noise levelS in excess of standards established in the local general plan or noise ordinance, or applicable standards or other agencies?

Less than Significant Impact. A significant impact may occur if the proposed project would generate excessive noise that exceeds the noise level standards set forth in the respective General Plan Noise Elements and Noise Ordinances of the City of Newport Beach. Potential project noise impacts were assessed for 1) project construction to the adjacent noise sensitive receivers, 2) off-site noise impacts due to the project operation, and 3) on-site noise impact to the project site. It is concluded the impact would be less than significant. See details below.

Construction Noise

With regard to construction noise, the City's noise ordinance, Section 10.28.040 limits construction hours between 7:00 a.m. and 6:30 p.m. on any weekdays and between 8:00 a.m. and 6:00 p.m. on any Saturdays. It also prohibits construction activities on any Sundays and any federal holidays. It is assumed that construction would not occur outside of indicated hours and considered less than significant.

Off-Site Noise

After the completion of the project, there would be no noise generated sources in the project site. The potential noise generated activities would be occasional maintenance and repair activities throughout a year. It is assumed that maintenance and repair activities would occur within the

hours indicated in the City's noise ordinance, Section 10.28.040. Therefore, the impact would be less than significant.

On-Site Noise

The project site is identified as)pen Space in the City's General Plan, and it would remain as Open Space after the completion of the project. The City's General Plan Noise Element Policy N1.8, describes the threshold of significant impact based on the increase of noise levels over the existing noise levels. Since the ambient noise in the vicinity of the project site would remain unchanged after the completion of the project, the impact would be less than significant.

b) Exposure of people to generation or excessive groundborne vibration or groundborne noise levels?

Less than Significant with Mitigation Incorporation. Ground-borne vibration would be generated from the operation of heavy construction equipment at the project site, which could potentially affect the existing sensitive land uses surrounding the site. Once completed, there would be no operational sources causing ground-borne vibration.

The closest off-site structure to the project construction area is the multi-family residential structure to the north adjacent to Jamboree Road. The distance to this structure is approximately 10 feet from potential construction equipment.

Ground-borne vibration levels resulting from construction activities at the project site were estimated using data published by the Federal Transit Administration (FTA) in its *Transit Noise and Vibration Impact Assessment* (2006) document. The FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities, which are shown in **Table 3-11**.

TABLE 3-11
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, 2006.

In addition, the FTA has also adopted standards associated with human annoyance for ground-borne vibration impacts for the following three land-use categories: Vibration Category 1 – High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment

includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference. The vibration thresholds associated with human annoyance for these three land-use categories are shown in **Table 3-12**.

TABLE 3-12
GROUNDBORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

a "Frequent Events" is defined as more than 70 vibration events of the same source per day.
b "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.
d This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: FTA, 2006.

The various peak particle velocity (PPV) expressed in inches per second (in/sec) and root mean square (RMS) velocity expressed in VdB levels for the general construction equipment that would operate during the construction of the proposed project are identified in **Table 3-13**. Note that it is assumed that impact activities, such as pile driving, would not be used for this project.

TABLE 3-13
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV (in/sec) at 25 feet	Approximate RMS (VdB) at 25 feet
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

[1] Vibratory roller would be used only for Pond Lining/Miscellaneous phase.

SOURCE: FTA, 2006.

Structure Damage

Construction activities associated with the proposed project would have the potential to impact the surrounding off-site structures. The closest multi-family residential structure to the north is considered as non-engineered timber structure and is located approximately 10 feet from construction equipment. Therefore, the vibration impact threshold would be 0.2 in/sec PPV. The PPV value of a large bulldozer at 10 feet would be 0.352 in/sec PPV, which exceeds the impact threshold. This exceedance of the vibration level threshold for structural damage would be considered significant.

Mitigation Measure

NOI-1: Large construction equipment, such as large bulldozer and loaded trucks, shall be replaced with smaller equipment when the construction equipment is within 45 feet of the residential structure.

Significance after Mitigation

With the implementation of Mitigation Measure MM NOI-1, vibration impacts causing structural damage from construction activities would be less than significant. When a small bulldozer is used, the PPV value at 10 feet would be 0.119 in/sec PPV, which would be less than the impact threshold of 0.2 in/sec PPV.

Human Annoyance

The construction vibration could annoy people within a building. The vibration impact threshold for human annoyance at a residential structure would be 80 VdB. The RMS value of a large bulldozer at 10 feet would be 99 VdB which would exceed the human annoyance vibration threshold of 80 VdB. Therefore, the project construction activities could result in significant human annoyance vibration impacts.

Mitigation Measure

Implementation of Mitigation Measure NOI-1 is required.

Significance after Mitigation

With the implementation of Mitigation Measure MM NOI-1, vibration impacts causing human annoyance would be reduce to less than significant. The use of a small bulldozer would result in a RMS value at 10 feet of 70 VdB, which would be less than the impact threshold of 80 VdB.

Operation

Once construction activities have been completed, the potential vibration activities would occur when occasional maintenance is conducted by a large piece of equipment. Since the specific equipment is unknown, the potential impact could be considered significant.

Mitigation Measure

Implementation of **Mitigation Measure NOI-1** is required.

Significance after Mitigation

With the implementation of Mitigation Measure NOI-1, vibration impacts from operational activities associated with maintenance would be reduce to less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. After the completion of the project, there would be no noise generated sources in the project site. The potential noise generated activities would be occasional maintenance and repair activities throughout a year. It is assumed that maintenance and repair activities would occur within the hours indicated in the City's noise ordinance, Section 10.28.040. Therefore, the impact would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant with Mitigation Incorporation. The project would temporary increase noise levels during construction phases. Construction of the proposed project would occur in multiple phases within a project boundary and is expected to last approximately five months. Construction phases and activities are presented in **Table 3-14**.

TABLE 3-14
CONSTRUCTION SCHEDULE

Phase	Activity	Duration	Months
Mobilization & Earthwork	Site preparation/ clearing/Grubbing	1-2 weeks	Month 1
	Excavation and grading	2-3 weeks	Months 1 and 2
Drainage Structures and Piping Construction	Culvert extension	4-6 weeks	Months 2 and 3
	Dry weather diversion structures and external piping	2-3 weeks	Month 3
Water Quality System Construction	Bioretention cell liner and piling	1-2 weeks	Months 3 and 4
	Bioretention cell media placement	1-2 weeks	Month 4
	Bioengineering structure construction	1-2 weeks	Month 4
OCSD Scope	OCSD dosing station installation	4-6 weeks	Months 3, 4, and 5
Restoration	Site vegetation restoration	3-4 weeks	Month 5

Construction activities occurring under each of these phases would require the use of heavy equipment (e.g., excavators, backhoes, loaders, tractors, etc.) along with the use of smaller power tools, generators, and other sources of noise. During each construction phase there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of each activity. As such, construction activity noise levels during each phase would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment.

Table 3-15 includes the list of construction equipment with quantity, usage per day, and estimated noise levels per phase. It should be noted that maximum noise levels associated with the construction equipment would only be generated when the equipment are operated at full power. Typically, the operating cycle for a piece of construction equipment would involve one or two minutes of full power operation followed by three or four minutes at lower power settings. As such, the maximum noise levels shown in Table 3-15 would only occur occasionally throughout the construction day.

In addition to Table 3-15, hauling trucks would access the project site from Back Bay Drive and an access road through Big Canyon. Trucks would be very slow. However, trucks would be passing by within 100 feet of existing multi-family residential homes.

TABLE 3-15
CONSTRUCTION EQUIPMENT USAGE AND NOISE LEVELS

Equipment[a]	Maximum Noise Level at 50' (dBA)[b]	Equipment Quantity[a]	Hours per day[a]	Estimated Noise Level at 50' (dBA)
Site Preparation Clearing and Grubbing				
Loader	80	1	8	90
Back Hoe	80	1	8	
Dozer	85	1	8	
Chipper (mulch)	85	1	8	
Haul Truck	84	2	8	
Water Truck	84	1	2	
Excavation and Grading				
Back Hoe	80	1	8	89
Dozer	85	1	8	
Compactor	80	1	8	
Haul Truck	84	2	8	
Water Truck	84	1	2	
Culvert Extension				
Loader	80	1	8	83
Back Hoe	80	1	8	
Water Truck	84	1	2	
Dry Weather Diversion Structures and External Piping				
Back Hoe	80	1	8	78
Bioretention Cell Liner and Piping				
Loader	80	1	8	82
Water Truck	84	1	2	
Mini Excavator	85	1	2	
Bioretention Cell Media Placement				
Loader	80	1	8	81
Water Truck	84	1	2	
Bioengineering Structure Construction				
Loader	80	1	8	81
Water Truck	84	1	2	

TABLE 3-15
CONSTRUCTION EQUIPMENT USAGE AND NOISE LEVELS

Equipment[a]	Maximum Noise Level at 50' (dBA)[b]	Equipment Quantity[a]	Hours per day[a]	Estimated Noise Level at 50' (dBA)
OCSD Dosing Station Installation				
Loader	80	1	8	86
Back Hoe	80	1	8	
Dozer	85	1	8	
Compactor	80	1	8	
Site Vegetation Restoration				
Dozer	85	1	8	88
Water Truck	84	1	2	
Soil Disc / Tractor	84	1	8	
Hydroseeder Truck	84	1	8	

[a] Burns & McDonnell 2016.
[b] maximum noise levels are derived from Federal Highway Administration's (FHWA) Roadway Construction Noise Model User's Guide. Noise levels for those equipment not included in this User's Guide are estimated based on similar equipment.

SOURCE: ESA 2016.

During the project's construction activities, the nearest and most notable off-site sensitive receptors to the construction site would be the existing multi-family residential uses to the north, which would be as close as 10 feet from the project boundary. Due to the use of construction equipment during the construction phases, the project would expose these sensitive receptors to increased exterior noise levels. Over the course of a construction day, the highest noise levels would be generated when multiple pieces of construction equipment are being operated concurrently.

The City's noise ordinance, Section 10.28.040 limits construction hours to between 7:00 a.m. and 6:30 p.m. on any weekdays and between 8:00 a.m. and 6:00 p.m. on any Saturdays. It also prohibits construction activities on any Sundays and any federal holidays. Thus, the construction activities associated with the proposed project would be required to adhere to the applicable permitted hours of operation established under the City of Newport Beach's Noise Ordinance.

However, although the proposed project's construction activities would only occur under the permitted hours allowed under the City of Newport Beach's Noise Ordinance, the proposed project would still expose the existing sensitive receptors located in proximity to the project site to increased exterior noise levels above existing ambient noise levels. It should be noted, however, that any increase in noise levels at the off-site sensitive receptors during project construction would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances are possible. Nonetheless, because the temporary noise nuisance generated by the project's construction activities would constitute a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, this noise impact is considered to be potentially significant.

Mitigation Measures

NOI-2: The construction contractor shall ensure proper maintenance and working order of equipment and vehicles and that all construction equipment is equipped with manufacturers approved mufflers and baffles.

NOI-3: The construction contractor(s) shall endeavor to use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), when feasible. Noisy equipment shall be switched off when not in use.

NOI-4: Construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels, to the extent feasible.

NOI-5: The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

Significance after Mitigation

Implementation of Mitigation Measures NOI-2 through NOI-5, which would require the implementation of noise reduction devices and techniques during construction at the project site, would reduce the noise levels associated with construction of the proposed project to the maximum extent that is technically feasible, and this reduction would result in less than significant noise impacts.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is located approximately 2.3 miles south of the John Wayne Airport. However, the project site is not within the airport's Noise Impact Zones, as specified by the Airport Environs Land Use Plan (AELUP) for John Wayne Airport (ALUC, 2008). Further, the project would not increase the amount of people living or working in the area, and would therefore, not expose people residing or working in the area to excessive noise levels.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips in the vicinity of the proposed project. Further, the project would not increase the amount of people living or working in the area, and would therefore, not expose people residing or working in the area to excessive noise levels.

Resources

City of Newport Beach, *City of Newport Beach General Plan.* November 2006.

City of Newport Beach, *City of Newport Beach Municipal Code*. Passed November 2015.

Federal Highway Administration (FHWA), *Roadway Construction Noise Model User's Guide*, 2006.

Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, 2006.

County of Orange, *Airport Environs Land Use Plan for John Wayne Airport*, April 17, 2008.

3.13 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. POPULATION AND HOUSING — Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed project would not increase the number of residents within the City. Project construction would require a total of about 8 employees per day that would be employed temporarily during construction, and these employees would not induce population growth within the City. The duration of the project construction would last approximately five months, and it would not result in population growth in the area due to the project's temporary activities lasting only five months. Therefore, the project would result in no direct or indirect impacts to population growth in the project vicinity.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is located on open space land that is a natural habitat for various plant and wildlife species. There is no existing housing on the project site, no displacement of existing housing and no required replacement housing. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is located on open space land that is utilized as a natural habitat for various plant and wildlife species. The project would not increase the number of residents within the City. Therefore, the project would not displace people and would not require the construction of replacement housing. No impact would occur.

Resources

None.

3.14 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

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

a) Fire protection?

No Impact. The Newport Beach Fire Department (NBFD) provides fire protection services for the entire City. The nearest NBFD fire station is Fire Station #3 located approximately 0.4 miles south of the project site at 868 Santa Barbara Drive. The proposed project would restore habitat, provide water quality features, and provide enhanced access to the project site for trail users. The proposed project could increase the use of the project area by increasing access and providing educational opportunities through the installation of interpretive signs along the trail. The project site could also provide learning opportunities for community and school groups. Although the project may increase the use of the project area, this increase would not result in a substantial number of trail users such that the fire department's service would be substantially affected. In addition, the enhancement of onsite access would allow the fire department improved access within the project site for emergencies. Because the proposed project is not altering the use of the project site (i.e., provision of trails), and the project would not substantially alter the number of trail users, the proposed project would not require the NBFD to provide new or physically altered facilities to serve the project site. Therefore, the implementation of the proposed project would result in no environmental impacts to new or physically altered fire department facilities because changes to these City facilities would not be required.

b) Police protection?

No Impact. The Newport Beach Police Department (NBPD) provides local police services to the City of Newport Beach. The NBPD headquarters is located adjacent to NBFD Fire Station #3 at 870 Santa Barbara Drive. The proposed project would restore habitat, provide water quality features, and provide enhanced access to the project site for trail users. The proposed project could increase the use of the project area by increasing access and providing educational opportunities through the installation of interpretive signs along the trail. The project site could also provide learning opportunities for community and school groups. Although the project may increase the use of the project area, this increase would not result in a substantial number of trail users such that the police department's service would be substantially affected. In addition, the enhancement of onsite access would allow the police department improved access within the project site for emergencies. Because the proposed project is not altering the use of the project site (i.e., provision of trails) and the project would not substantially alter the number of trail users, the proposed project would not require the NBPD to provide new or physically altered facilities to serve the project site. Therefore, the implementation of the proposed project would result in no environmental impacts to new or physically altered police department facilities because changes to these City facilities would not be required.

c) Schools?

No Impact. The Newport-Mesa Unified School District (NMUSD) provides public educational services to the City of Newport Beach, as well as the City of Costa Mesa and other unincorporated areas of Orange County. The proposed project would not introduce new residents within the City. Therefore, the project would not increase the demand for school facilities. As a result, the proposed project would not require the NMUSD to provide new or physically altered school facilities. The project would result in no environmental impacts to new or physically altered school facilities because changes to school facilities would not be required.

d) Parks?

No Impact. The proposed project encompasses about 6 acres in the eastern portion of the 60-acre Big Canyon Nature Park. The project site is designated as Open Space by the City General Plan, which is intended to "provide areas for a range of public and private uses to protect, maintain, and enhance the community's natural resources." The proposed project would enhance the recreational activities in the park by providing an extension of the existing trails to allow for pedestrian and bicycle travel. The official trail would allow access for the public to learn and enjoy the native habitats located within the park. The project's habitat restoration and access trails would enhance the quality of the park. The proposed project would not require the City to provide new or physically altered park facilities because these facilities would not be required to serve the project. Therefore, the implementation of the proposed project would result in no environmental impacts to new or physically altered park facilities.

e) Other public facilities?

No Impact. The proposed project would introduce no new residents that would directly increase the City's population, and thus the project would result in no increase in the demand for other public services, such as libraries or hospitals. Therefore, the implementation of the proposed project would result in no environmental impacts to new or physically altered public facilities such as libraries and hospitals.

Resources

City of Newport Beach, Fire Stations. Website: http://newportbeachca.gov/government/departments/fire-department/fire-operations-division/fire-stations. Accessed on February 12, 2016.

City of Newport Beach, *City of Newport Beach General Plan. General Plan Land Use Overview Map*, November 2006. Website: http://www.newportbeachca.gov/PLN/General_Plan/Figures/FigLU01_GeneralPlanOverviewMap_11x17color_web.pdf. Accessed on February 12, 2016.

City of Newport Beach, Police Department. Website: http://www.nbpd.org/. Accessed on February 12, 2016.

3.15 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION — Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?

Less than Significant Impact. The proposed project encompasses about 6 acres in the eastern portion of the 60-acre Big Canyon Nature Park. The proposed project would enhance the recreational activities in the park by providing an extension of the existing trails to allow for pedestrian and bicycle travel. The official trail would allow access for the public to learn and enjoy the native habitats located within the park. The proposed project could increase the use of the project area by increasing access and providing educational opportunities through the installation of interpretive signs along the trail. The project site could also provide learning opportunities for community and school groups. Although the project may increase the use of the project area, this increase would not result in a substantial number of trail users such that the existing trails would result in substantial physical deterioration. The proposed project would result in a less than significant impact on the existing trails in the project area.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The proposed project includes the enhancement of recreational activities within a portion of the existing Big Canyon Nature Park. The implementation of these enhancements would not require additional recreational facilities to serve the project. Therefore, the project would not result in an adverse physical effect on the environment from the construction or expansion of additional recreational facilities because the project would not require additional recreational facilities.

Resources

None.

3.16 Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than Significant Impact. The project site is assessable from Back Bay Drive and Jamboree Road by trail users as well as maintenance personnel. The implementation of the proposed project would result in an increase in traffic during construction activities and may result in minor increases in maintenance personnel trips during the operation of the project. During construction, approximately 8 employees will travel to the project site during the morning peak hour traffic period (i.e., prior to 9 am). Construction activities will require the use of haul trucks for vegetation and soil removal. The haul trucks would be used during the non-peak hours (i.e., after 9 am and prior to 4 pm). A maximum of 40 trucks per day during 6 hours each day would result in a maximum average of 7 trucks per hour. Trucks arriving to the site would travel along Jamboree Road, San Joaquin Hills Drive, and Back Bay Drive to the access road within Big

Canyon. Back Bay Drive is a one way roadway that provides northbound travel. Trucks exiting the project site would travel along the Big Canyon access road to Back Bay Drive to East Bluff Drive and then to Jamboree Road. The addition of 8 employee trips during the peak hour and an average of about 7 truck trips per hour during the non-peak hours would not result in substantial traffic effects at intersections or roadways in the project vicinity.

b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than Significant Impact. As stated above, the proposed project would result in a minimal amount of traffic trips to the surrounding street network. The applicable congestion management program is administered by the Orange County Transportation Agency (OCTA). According to the OCTA 2015 Congestion Management Program (CMP), the nearest CMP roadway is approximately 2 miles north of the project site at Jamboree Road and State Route 73. As stated above, the proposed project is anticipated to generate 8 employee trips during the peak hour and 7 truck trips during the non-peak hours. This level of traffic is considered minimal. According to the CMP Preparation Manual, a traffic impact analysis (TIA) is required for CMP purposes if a project generates 2,400 or more daily trips if the project does not directly access the CMP Highway System link, such as the proposed project (Orange County Transportation Authority, 2011). Because the project would generate a maximum of 40 trucks entering and 40 trucks exiting the site and up to 8 employee vehicles entering and 8 employees exiting the project site, the project would generate substantially fewer daily trips than the 2,400 or more daily trips that require a TIA to be prepared for CMP purposes. Therefore, the project would result in a less than significant impact on a CMP facility.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?

No Impact. The implementation of the proposed project would include facilities that would not affect air traffic patterns. The nearest airport to the project site is John Wayne Airport which is located approximately 2.3 miles north of the project site.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The project site currently contains a maintenance access off of Jamboree Road. The proposed project includes a modified maintenance road access that is perpendicular to Jamboree Road. The proposed access would meet the City of Newport Beach design requirements for maintenance roads. In addition, construction vehicles are proposed to access Back Bay Drive. The current speed limit for vehicles on Back Bay Drive is 15 miles per hour. Construction vehicles associated with the proposed project would limit speeds on Back Bay Drive to 15 miles per hour to ensure traffic safety for pedestrians, bicyclists and equestrian users of the trail along Back Bay Drive. In addition, as part of a standard City procedure during public works projects, signs will be

posted along Back Bay Drive regarding the construction activities and duration. Therefore, the proposed project would not result in increasing hazards due to a design feature.

e) Result in inadequate emergency access?

No Impact. Project construction activities would be located on the project site and would not require any lane closures. In addition, project operational activities will not require lane closures or impact emergency access. The provision of additional trail segments on the project site would provide greater access to the project area, but would not adversely affect emergency access. Therefore, the project would not impact emergency access to the project site or areas in the vicinity of the project site.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The implementation of the proposed project would not conflict with policies, plans or programs related to public transit, bicycle or pedestrian facilities. Back Bay Drive currently has public transportation facilities, including a one way vehicular pathway. The project construction vehicles would use the one-way vehicular pathway and limit their speeds to the existing 15 miles per hour limit.

Resources

Orange County Transportation Authority, Congestion Management Program, 2015. Website: http://www.octa.net/pdf/Final%202015%20CMP.pdf. Accessed on February 16, 2016.

Orange County Transportation Authority, Congestion Management Program Preparation Manual, 2011. Website: http://www.octa.net/pdf/cmpprepmanual.pdf. Accessed on February 16, 2016.

3.17 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The Regional Water Quality Control Board, Santa Ana Region, issued a National Pollutant Discharge Elimination System (NPDES) permit that implements federal and state law governing point source discharges and nonpoint source discharges to surface waters of the United States. Construction and operation of the proposed project includes a wastewater pipe that would allow selenium-concentrated water from seeps to be conveyed to the existing wastewater pipe located along Jamboree Road. The wastewater would be conveyed to the Orange County Sanitation District treatment facilities. The amount and frequency of discharged selenium wastewater would be nominal, and the proposed project would not exceed OCSD's wastewater treatment requirements of the Santa Ana Region of the Regional Water Quality Control Board. Thus, the project would not impact existing wastewater treatment requirements.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed project would not require the construction of a new water or wastewater treatment facility or expansion of the existing treatment facilities serving the project vicinity. The project requires no potable water supply for the project site. The project would involve the extension of an existing sewer conveyance within the project site, but would not require the extension of any existing water or wastewater facilities off the project site. Therefore, the proposed project would result in no impact requiring the construction of water or wastewater treatment facilities.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed project would not require the construction of new stormwater drainage facilities. The project itself includes the construction of a primary stormwater treatment structure to trap and pretreat contaminants prior to conveyance to the bioretention cell. The project would not require the addition of a storm drain conveyance or the expansion of any stormwater drainage facilities since the project aims to restore the natural habitat and improve water quality within the creek. With the implementation of these features, the proposed project would not require the construction of new storm water drainage facilities or expansion of existing facilities off site. Therefore, the project would result in no environmental effects from new storm water drainage facilities or expansion of existing facilities to serve the proposed project.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. The City of Newport Beach's water supply is provided by the Municipal Water District of Orange County. The construction and operation of the proposed project requires no use of imported water supply from existing water resources. Thus, the project would result in no need for new or expanded water supply entitlements, and no impacts would occur.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than Significant Impact. Wastewater collected by the Sanitary District is sent to the County Sanitation Districts of Orange County (County Sanitation) plants for treatment and disposal. Wastewater is treated at County Sanitation's treatment plants in Fountain Valley and Huntington Beach. According to County Sanitation's treatment plant operational data, the combined effluent treated at both plants is approximately 200 million gallons daily (average). County Sanitation operates under an NPDES ocean discharge permit issued by the California Regional Water Quality Control Board (OCSD, 2016). The project's increase in selenium

wastewater would be infrequent and not be substantial. Project implementation would contribute a nominal amount of wastewater and would not cause the treatment plants' operating capacities to be exceeded. Therefore, the proposed project would result in a less than significant impact to wastewater treatment capacity.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. The project site would be served by the solid waste facilities and landfills that are operated by the Orange County Waste and Recycling (OCWR). The nearest landfill to the project location is the Frank R. Bowerman Sanitary Landfill in Irvine, and is the only landfill that serves the City of Newport Beach. The Bowerman Landfill is permitted as a Class III landfill to receive a daily maximum of 11,500 tons per day. Class III landfills accept only non-hazardous municipal solid waste for disposal; no hazardous or liquid waste can be accepted. It is currently estimated to operate with adequate capacity until 2053. The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies (OCWR, 2016).

Project implementation would result in the need for disposal of debris from construction and maintenance activities. Solid waste removed from the project site would include dead or non-native vegetation. Debris would be removed with construction equipment and transported to the landfill by haul trucks. It is anticipated that the project's generation of solid waste would be at its greatest during initial construction activities due to the primary removal of non-native habitat vegetation. Thereafter, the project would result in minimal removal of dead vegetation during operational maintenance activities. Given the project's scale, it is anticipated that the specified landfill would have the adequate capacity to accommodate the project's waste disposal needs. Therefore, the project would result in a less than significant impact to landfill capacity.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. Construction and operation of the proposed project would result in the disposal of dead or non-native vegetation to the Frank R. Boweman Sanitary Landfill in Irvine. The disposal of vegetation would comply with federal, state, and local statutes related to solid waste. No impact to these regulations would occur with project implementation.

Resources

City of Newport Beach. *Draft Environmental Impact Report – General Plan 2006 Update*. Volume I. April 2006.

Orange County Sanitation District. <http://www.ocsd.com/about-ocsd/general-information/facilities>. Accessed February 3, 2016.

Orange County Waste and Recyling. <http://oclandfills.com/landfill/active/bowerman>. Accessed February 3, 2016.

3.18 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18. MANDATORY FINDINGS OF SIGNIFICANCE —				
Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated. Construction activities associated with the proposed project could impact nesting birds, vegetation communities such as riparian and wetland habitat and could temporarily disrupt wildlife movement. These potential impacts to these biological resources would be significant.

Construction activities could also impact historical or prehistorical resources. Although no resources are known to occur on the project site, there is a potential for unknown historical or prehistorical resources to be located on the project site based on resources found in the project vicinity. These potential unknown resources could be significantly affected.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-3, CR-1 and CR-2 is required.

Significance after Mitigation

The implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3 to reduce these potential impacts on biological resources to less than significant.

The implementation of Mitigation Measures CR-1 and CR-2 would reduce potential impact to historical and prehistorical resources to less than significant.

b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant with Mitigation Incorporated. Based on a review of the City of Newport Beach Cumulative Projects List, there are various projects in different planning stages that are located within two miles of the project site; however, only one project (one new residence) that is located upstream within Big Canyon of the project site. The various projects include an Autonation (about 2.0 miles from the site), Environmental Nature Center Preschool (about 1.7 miles from the site), condominium development at Newport Center Villas (about 1.0 mile from the site), mixed-use development at Back Bay Landing (about 1.5 miles from the site), Balboa Marina expansion (about 1.7 miles from the site), medical offices (about 1.7 miles from the site), a residence (about 0.4 mile from the site), construction of a clubhouse at Newport Beach Country Club (about 1.0 miles from the site), condominium units (about 0.6 mile from the site), and a commercial development (about 2.0 mile from the site).

As discussed in Section 3 of this IS/MND, the proposed project would result in significant impacts to biological resources, cultural resources, vibration, and construction noise. The project would substantially contribute to potential cumulative impacts to each of these environmental components. As a result, the project's contribution to cumulative impacts associated with biological resources, cultural resources, vibration, and construction noise would be cumulatively considerable.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-3, CR-1 through CR-3, and NOI-1 through NOI-5 is required.

Significance after Mitigation

With the implementation of the above mitigation measures, the project's contribution to cumulative impacts associated with biological resources, cultural resources, vibration, and construction noise would be reduce to less than significant.

c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. The implementation of the proposed project could result in temporary noise increases during construction as well as vibration impacts during construction. These noise and vibration impacts could represent significant adverse effects on human beings.

Mitigation Measures

Implementation of Mitigation Measures NOI-1 through NOI-5 is required.

Significance after Mitigation

The implementation of the above mitigation measures would reduce the potential vibration impacts as well as the construction noise level on the adjacent residents. This reduction in impact would result in a less than significant noise and vibration impact.