BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT – PHASE 2A

Initial Study and Mitigated Negative Declaration

Prepared for
City of Newport Beach
Public Works Department

August 2018

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CHAPTER 1
Introduction

The City of Newport Beach (City) has determined the proposed Big Canyon Coastal Habitat and Adaptation Project – Phase 2A (project) is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). The proposed project includes the following: (1) restore historic riparian habitat by removing non-native vegetation and replanting native species, (2) restore and create a mosaic of native and sustainable habitats, 3) stabilize the creek and floodplain with erosion control measures, and (4) enhance public access and education within the Big Canyon Nature Park with improved trails and closure of illegal trails. The project also includes maintenance of the restored habitat and proposed erosion quality to ensure that the plants are established and erosion features are functioning as originally designed.

Phase 2A is considered a separate project from the other identified phases (i.e., Phase 1, Phase 2B and Phase 2C) because specific grant funding was provided to the project applicant, The Newport Bay Conservancy, to provide a restoration design for the 11.32-acre project site (Phase 2A). Phase 2A has independent utility and is not dependent upon the implementation of other individual projects such as Phases 1, 2B or 2C. Phase 1 has already been implemented and is currently going through the monitoring phase. This Initial Study (IS) addresses the indirect, direct, and cumulative environmental impacts associated with the proposed project.

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 IS 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 IS, 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).

This environmental documentation is intended as a formal 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:

Community Development Department
City of Newport Beach
100 Civic Center Drive
Newport Beach, CA 92660
Ms. Makana Nova, AICP, Associate Planner

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 IS documentation for consideration by the Zoning Administrator of the City of Newport Beach.

1.2 Purpose of Initial Study/Mitigated Negative Declaration

The City of Newport Beach (City) has prepared this IS to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the proposed Big Canyon Coastal Habitat Restoration and Adaptation Project – Phase 2A. This IS includes a project-level analysis of the potential effects associated with the project.

This IS 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, a Mitigated Negative Declaration (MND) shall be prepared if the IS 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 Coastal Habitat Restoration and Adaptation Project – Phase 2A (proposed project) is located on an 11.32-acre site within the 60-acre Big Canyon Nature Park (designated as Big Canyon Park on City maps) 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 flows through the Big Canyon Nature Park in a general southeast to northwest direction and then discharges into Upper Newport Bay.

Big Canyon Nature Park is located between Jamboree Road and Back Bay Drive, and has been subjected to the effects of water quality degradation from upstream development and impacted groundwater seepage, historical land disturbance from grazing and agricultural activities, increased peak-flows during storm events, year-round dry weather flows from urbanization of the watershed, and dredged materials placement in the lower canyon. This has resulted in:

- potential native riparian habitat now dominated by non-native invasive plants;
- un-vegetated and erosion-prone stream banks;
- local stream channel incision;
- loss of floodplain connectivity;
- high salinity soils;
- introduction of urban runoff that has impacted water quality in Big Canyon Creek;
- increase in selenium concentrations in dry weather flows from impacted groundwater seepage into Big Canyon Creek; and,
- recent infestation of native woody riparian vegetation by invasive insects.

The proposed project will vegetate and stabilize the creek banks and restore connectivity with the floodplain, restore riparian habitat by removing non-native vegetation and planting native species, restore and create a mosaic of native and resilient habitats that promote biodiversity and healthy ecosystems, and enhance public access and education with improved trails and closure of illegal trails. Project construction is projected to last for 5 months, commencing in Fall 2019 with substantial completion by March 2020, followed by a 120-day plant establishment and maintenance period.

SOURCE: ESRI

Big Canyon Restoration - Phase 2A

Figure 1
Project Location/Regional Map

ESA

2.2 Project Background

The proposed project is located within the Big Canyon Nature Park between Upper Newport Bay and urbanized areas of the City of Newport Beach. The upper 45-acre parcel is owned by the City of Newport Beach, while the lower 15-acre portion is owned by the California Department of Fish and Wildlife. The proposed project (Phase 2A) is within the City of Newport Beach property.

The City has contemplated restoration efforts within Big Canyon for over a decade. As shown on the Project Phasing Map (**Figure 2**), the overall restoration of the Big Canyon Nature Park is being implemented in phases. The City completed the 6-acre Phase 1 restoration effort in 2017, and is currently conducting the post-construction maintenance and monitoring. Phase 1 included the implementation of 650 feet of creek restoration, 2 acres of riparian habitat restoration and 1 acre of wetland habitat creation and enhancement. As shown on **Figure 3**, Phase 1 implemented water quality measures including a bioretention facility to remove stormwater pollutants entering the Nature Park from Jamboree Road and being washed into Big Canyon Creek. The Phase 1 project also includes capture of dry weather flows and diversion around high selenium containing groundwater seeps. These groundwater seeps are then collected and diverted to the sanitary sewer. These measures have resulted in water quality improvements that would otherwise have the potential to impact downstream restoration efforts.

As shown on Figure 2, Phase 1 is located upstream of the proposed project (Phase 2A). An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared for the Phase 1 project and approved by the City following the public review and comment period. The Newport Bay Conservancy (NBC) is now embarking on the design for the proposed project (Phase 2A) portion of the restoration as shown in Figure 12. The City has entered into a licensing agreement to allow NBC to enter on to City property to perform studies and surveys required for the proposed project design.

The proposed project is planned within the context provided in the Big Canyon Resource and Recreation Management Plan (RRMP) (IRC & Dudek, 2016). 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. The Big Canyon area is within the Orange County Central-Coastal NCCP/HCP plan area but designated as “non-reserve open space” so is not part of the NCCP/HCP Reserve System. As Big Canyon is not part of the Reserve, it is not subject to the level of protection provided for the Reserve under the NCCP/HCP.

The proposed project restoration efforts will benefit the Big Canyon Nature Park through:

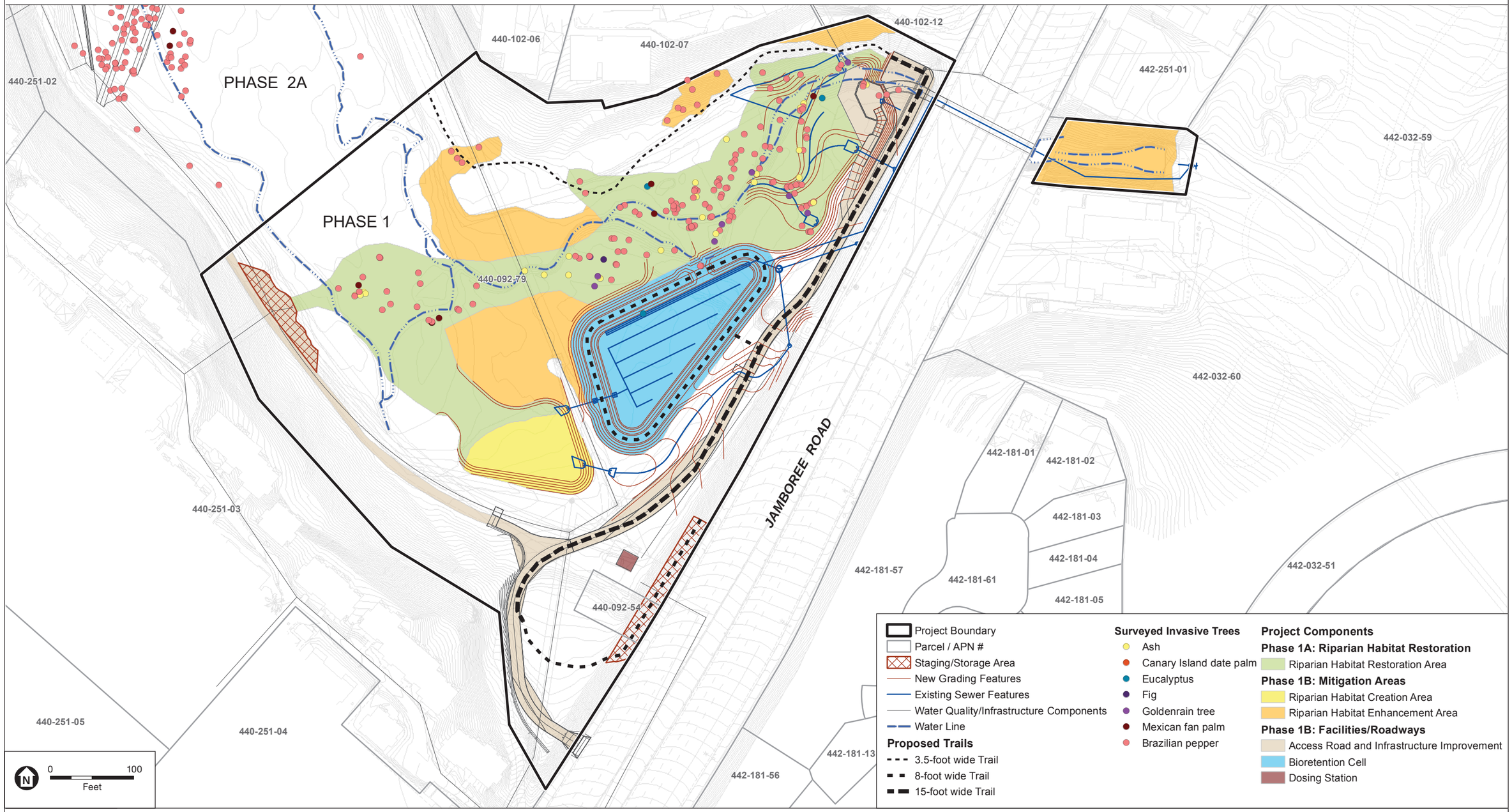
- Removal of exotic and invasive plants and replanting with native vegetation to create a mosaic of coastal habitats
- Restoration, enhancement and improvement in the resiliency of riparian habitat
- Creation of wet and high alkali meadow habitat to improve resiliency of restored habitats
- Reduction of creek channel erosion and restoration of connectivity between the creek channel and floodplain

SOURCE: ESRI

Big Canyon Restoration - Phase 2A

Figure 2
Big Canyon Nature Park
Planned Restoration Phasing

ESA



SOURCE: Burns & McDonnell; Dudek; ESA

Big Canyon Restoration - Phase 2A

Figure 3
Phase 1 - Project Components

ESA

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- Remediation of favorable mosquito breeding habitat
- Improvement in the Big Canyon Creek water quality and benthic habitat
- Encouragement in public access and improvement in educational and recreational opportunities

The approach to the proposed project (Phase 2A) is to build from the success and lessons learned from Phase 1, incorporate previous restoration planning, and address the identified impacts to provide for a sustainable and integrated ecosystem through cost-effective restoration and remediation measures. The proposed project (Phase 2A) implementation includes the creation of a diverse mosaic of coastal habitats in areas that are currently dominated by thick groves of non-native Brazilian pepper trees.

As shown on **Figure 4**, there are patches of non-native Brazilian pepper tree groves covering approximately 6.33 acres of the 11.32-acre subject project area. Brazilian pepper trees also occur intermixed with willows and other native vegetation in patch areas amounting to another 2.9 acres. Within the dense pepper tree grove areas, the invasive trees, including the root systems, will be removed. These areas will then be fine-graded and depressions from tree and root removal filled in with soils from stream restoration activities and native plants established. The Phase 2A areas are also characterized by high-salinity soils. A mosaic of habitats including wet and high alkali meadow communities will be created that are more adapted and resilient to higher salinity soils. The proposed project restoration will address impacts due to erosion that have resulted in un-vegetated channels and loss of connectivity between the channel and floodway. Segments of the creek that are locally incised, or too steep to support vegetation, will be graded to create floodplain benches and flatter slopes from the benches to better connect the channel to the floodplain. The removal of the non-native Brazilian pepper trees will include removal of the associated root systems to control re-establishment. Removal of the trees and associated root balls along the stream banks will result in disturbance of the existing banks. Disturbed banks will be graded to connect with the floodplain or stabilized using bio-engineering techniques. Further detail on the proposed project components that address each of the project's objectives are provided in the Project Description (Section 2.5).

As shown on Figure 2, Phase 2 will be implemented in three sub-phases. The proposed project (Phase 2A) is the next downstream restoration phase that includes restoration of at least 9.2 acres of coastal canyon creek, and alkali wet and dry meadow and riparian habitat (which includes habitat for the endangered Least Bell's Vireo) within the 11.32-acre Phase 2A site. Restoration of the Phases 2B and 2C areas (Figure 2) will follow implementation of Phase 2A. NBC is conducting feasibility studies for these future phases and developing alternatives to address water quality and mosquito breeding in the freshwater pond, remove invasive plant species, and improve future tidal transitional zones in these downstream areas. The proposed project will integrate with these future phases through restoration and creation of a continuous riparian corridor that will extend through each phase of the Nature Park along the creek channel. The creek restoration, site fine-grading and re-planting of the proposed project is designed to integrate with up and down-stream phases of the overall site restoration. A separate CEQA document will be prepared for these future phases following assessment and selection of a restoration/remediation alternative.

2.3 Project Location and Setting

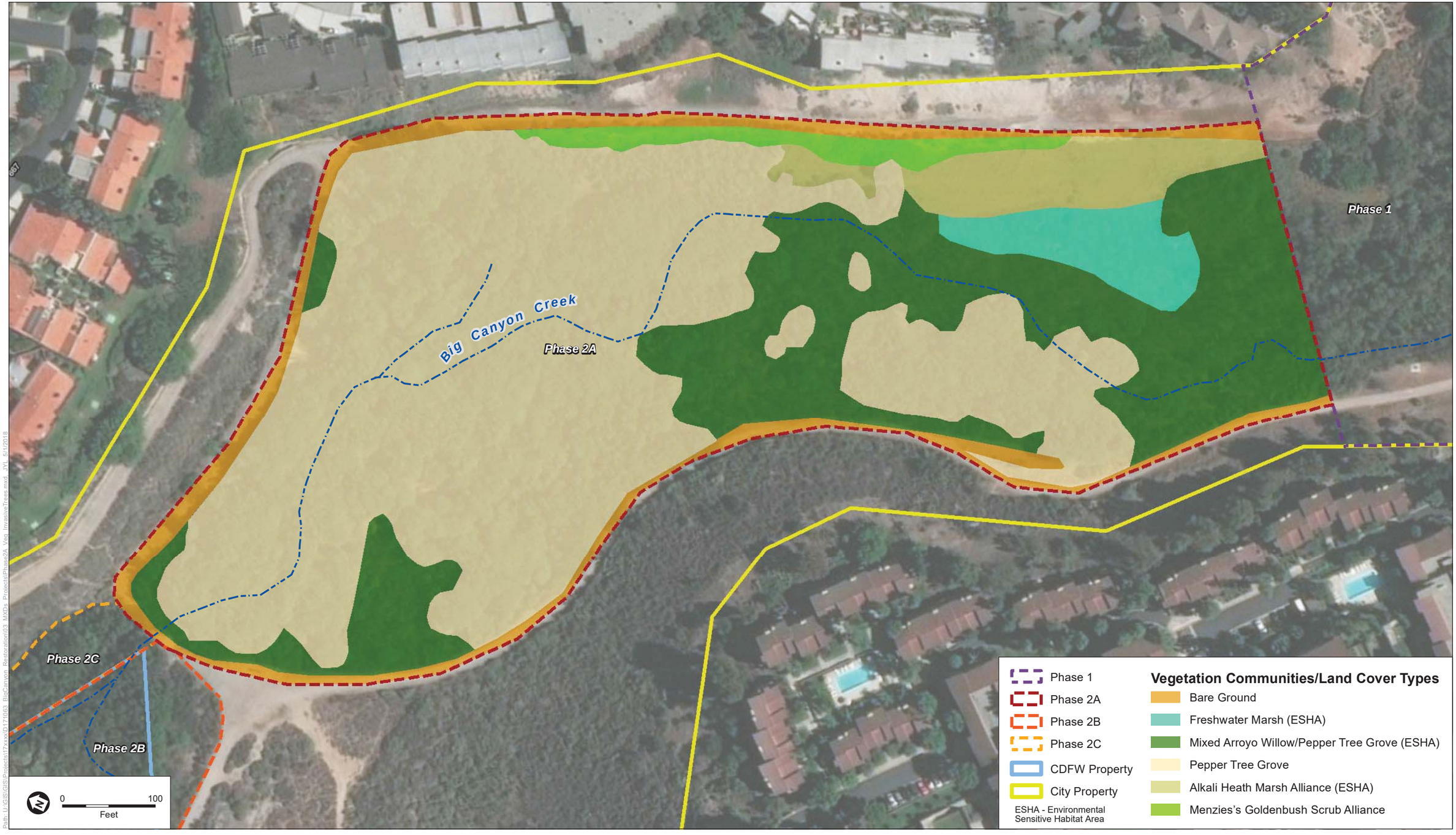
As shown in Figure 1, the project site is located within the City of Newport Beach, east of Upper Newport Bay and west of Jamboree Road. Primary regional access to the project site is provided by State Route 73, which runs north-south approximately 2 miles north of the project site, and State Route 1, 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. 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 through the proposed project site and then discharges into Upper Newport Bay (**Figure 5**).

The Big Canyon watershed is roughly 1,300 acres and extends roughly 3 miles east of Back Bay Drive into the San Joaquin Hills (Figure 5). Big Canyon Nature Park 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 (WRA, 2007). Of the 60-acre Big Canyon Nature Park, a 45-acre parcel is owned by the City of Newport Beach and contains native and non-native habitat and an array of hiking trails (Figure 2).

Directly downstream of the 45-acre parcel owned by the City (which includes the 11.32-acre Phase 2A project area), the lower 15-acre portion of the Nature Park is owned by the California Department of Fish and Wildlife (CDFW), which is a part of the Upper Newport Bay State Marine Conservation Area (SMCA) and Ecological Reserve, and is part of Southern California's coastal estuarine environment. The Upper Newport Bay is a 303(d)-listed impaired water body and has been closed to water-contact recreation since 1974. Newport Bay discharges adjacent to the Newport Coast Area of Special Biological Significance (ASBS). The project site is a moderately-sloped floodplain; slopes range in elevation from 20 to 75 feet above mean sea level.

2.3.1 Historical Ecology

The Big Canyon Nature Park has been subject to extensive disturbance that is documented in aerial photographs dating back to 1930's. The first significant change in the canyon was the construction of Bayside Drive that later became Back Bay Drive. The aerial photograph taken in 1938 (**Figure 6**) shows Bayside Drive had already been constructed and had cut off tidal flow into the lower canyon that was historically tidal marsh and mudflat in what is now Phase 2B and 2C (**Figure 7**). The area immediately east of Back Bay Drive appears to have been alkali flats toward the north and evidence of an alluvial fan is apparent toward the south. Big Canyon Creek appears to have been dry (ephemeral) with limited vegetation along the stream corridor (Dudek, 2015). The surrounding area was grassland that had been established from cattle ranching activities dating back to the 19th century (Dudek, 2015). **Figure 8** provides an aerial photograph of the project area in the 1950's, and shows extensive disturbance through the site. In the lower canyon within Phases 2B and 2C, there is evidence of the stockpiling of dredged materials on both sides Back Bay Drive. **Figure 9** shows the estimated extent of dredge material placement (WRC, 2007) and the aerial photograph taken in 1963 shows a similar extent of disturbance.



SOURCE: ESRI; Dudek; ESA

Big Canyon Restoration - Phase 2A

Figure 4
Proposed Project (Phase 2A)
Existing Vegetation and Plant Communities

ESA

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SOURCE: ESRI; City of Newport Beach

Big Canyon Restoration - Phase 2A

Figure 5
Big Canyon Watershed and Proposed Project Setting

ESA

The aerial photograph in Figure 9 also shows evidence of agricultural activities in the upper areas of the site that include Phases 2A and 1.

These historical aerial photographs document the extensive disturbance of the proposed project area and the adjacent phases. With the exception of the bluff slopes outside of the proposed project, the bulk of the vegetation in Phase 2A is recent in origin (estimated 1970's) when urbanization of the watershed occurred and urban runoff resulted in dense woody vegetation becoming established along the creek corridor (Dudek, 2015). Urbanization, as observed in most of the southern California coastal watershed, resulted in year-round dry weather flows in perennial coastal creeks from residential and commercial irrigation of landscaped areas (Daniel Stephans & Assoc., 2014).

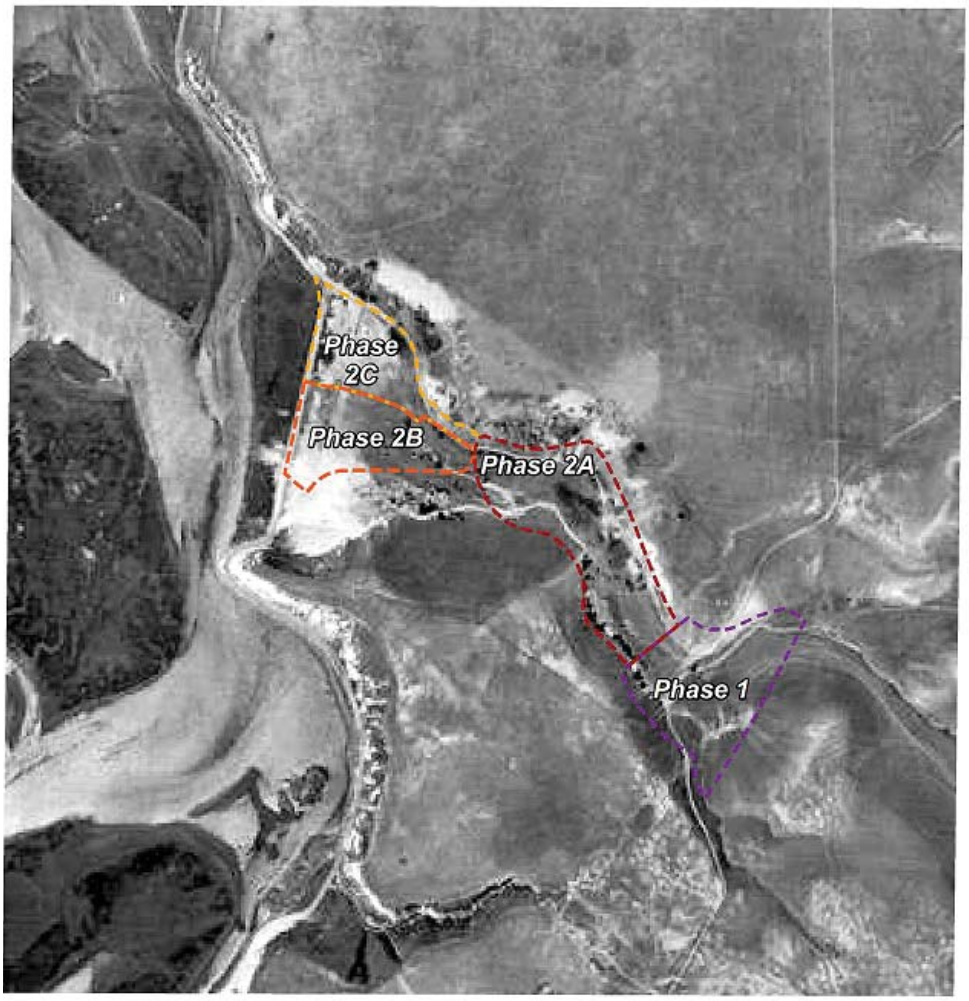


Figure 6: Historical Aerial Photograph from 1938 – Construction of Bayside Drive (Dudek, 2015)

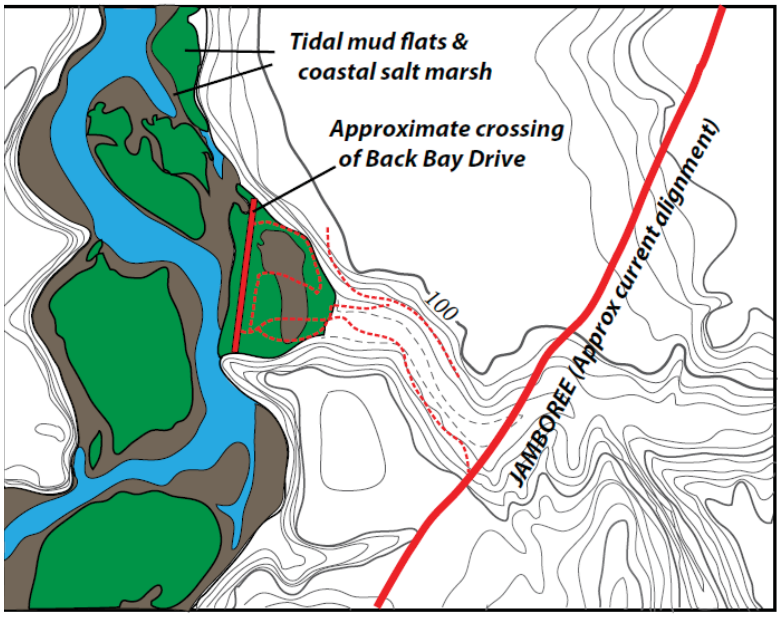


Figure 7: Historical Extent of Tidal Mud Flats (Brown) and Coastal Salt Marsh (Green) into Phases 2B and 2C (current trails shown as red-dashed lines) based on Nautical chart, Entrance to Newport Bay, Los Angeles County, California, U.S. Coast and Guard, 1878 (Dudek, 2015)

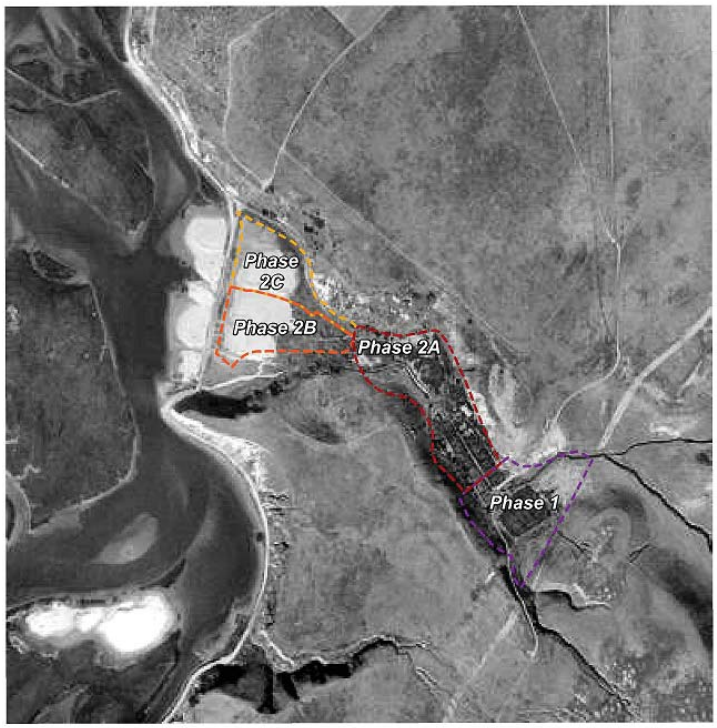
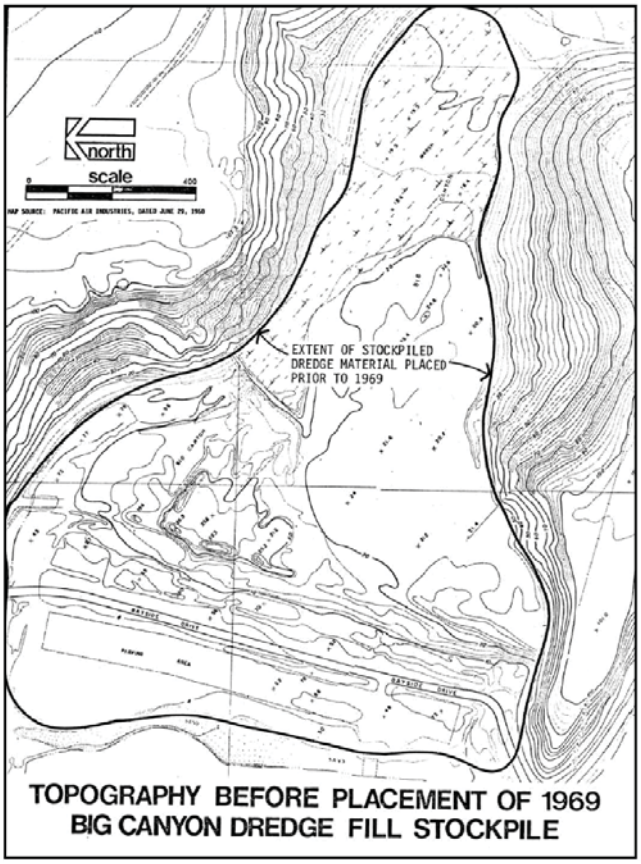


Figure 8: Historical Aerial Photograph from 1950's – Indication of Dredge Material Stockpiling in lower Big Canyon Nature Park and Agricultural Activities in Upper Portion (Dudek, 2015)



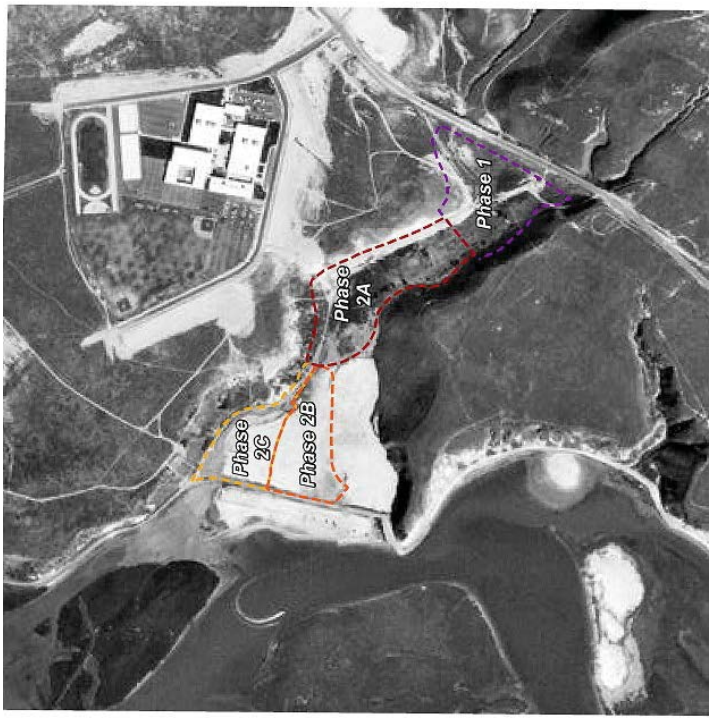


Figure 9: Estimated Extent of Dredge Material Stockpile (WRC, 2007) and Aerial photograph from 1963 (Dudek, 2015)

2.3.2 Existing Project Site Conditions

Current vegetation communities are shown on Figure 4 based on surveys conducted in March 2018. The vegetation communities are classified in accordance with the Orange County Habitat Classification System (Jones and Stokes 1993, Gray and Bramlet 1992) and California vegetation alliances (Sawyer et al. 2009). Acreages of each vegetation community in the project area are summarized in **Table 1**. As shown on Figure 4, the project is dominated by two extensive pepper tree groves with dense canopies with little or no understory.

TABLE 1
EXISTING VEGETATION COMMUNITIES IN THE PROJECT AREA

Vegetation Community	Acres	State Rank[1]
Mixed Arroyo Willow*/Pepper Tree Grove	2.91	S4
Freshwater Marsh	0.40	S5
Alkali Heath Marsh Alliance*	0.58	S3
Menzies's Goldenbush Scrub Alliance*	0.28	S3
Pepper Tree Grove	6.33	None
Bare Ground	0.82	None
Grand Total	**11.32**	

* Asterisk indicates that an association is considered sensitive by CDFW.
1 CDFW state rank denotes the rarity of a vegetation type within the state as follows:
S1 = Critically Imperiled – At very high risk of extirpation due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2 = Imperiled – At high risk of extirpation due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 = Vulnerable – At moderate risk of extirpation due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 = Apparently Secure – At a fairly low risk of extirpation due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 = Secure - At very low or no risk of extirpation due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

As shown in Table 1, the project area currently supports five vegetation communities, as well as bare ground and disturbed and developed areas (i.e., unpaved public access areas and dirt trails). These plant communities include: mixed arroyo willow/pepper tree grove, freshwater marsh, alkali heath marsh alliance, Menzies's goldenbush scrub alliance, and pepper tree grove. Of these, three are special-status vegetation communities: mixed arroyo willow/pepper tree grove, alkali heath marsh alliance, and Menzies' goldenbush scrub alliance (Figure 4). Sensitive plant communities are those considered to support special-status plant and/or wildlife species, or function as corridors for wildlife movement.

Throughout much of the proposed project, the vegetation reflects the extensive historical site disturbance from cattle grazing, agricultural activities and introduction of perennial dry weather flows in a historically intermittent coastal creek. The invasion and establishment of invasive trees and understory vegetation has heavily impacted the southern riparian forest habitat. 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 non-native Brazilian pepper tree (*Schinus terebinthifolius*) dominates the majority of the project area, while other portions are comprised of native vegetation or intermixed communities with both native and non-native species. As a result, portions of the

project are comprised of a mosaic of different types, and are characterized by varying levels of disturbance, and status of succession, rather than distinct, well-defined habitat types.

The canyon creek runs through these pepper tree groves and the roots of these trees extend along the creek banks that provide stabilization where the channel is more incised and the top of the bank is greater than two feet from the bed. **Figure 10** presents photographs of the pepper tree groves and the creek segment that has been locally incised. In the upper portion of the project, the existing conditions include a mixture of riparian arroyo willow habitat mixed with pepper trees and other invasive plants. As shown on Figure 4 and presented in Table 1, the project area also includes alkali marsh and meadow community and upland coastal sage scrub habitat. More detailed descriptions of these vegetation communities are presented in Appendix C (Biological Technical Report) (ESA, 2018).

2.4 Project Purpose and Need

The proposed project is needed to restore the Phase 2A area, consistent with overarching goals identified in the Big Canyon Resource and Recreation Management Plan (RRMP) (IRC & Dudek, 2016). Specifically, the goals of the Phase 2A project are to (1) restore riparian habitat (2) restore and create a mosaic of native and sustainable habitats, 3) stabilize the creek and floodplain, and (4) enhance public access and education within the Big Canyon Park.

2.4.1 Project Objectives

To achieve these goals, the proposed project has multiple objectives including:

- Remove Exotic and Invasive Plants and Replant with Native Vegetation to Create a Mosaic of Coastal Habitats
- Restore, Enhance and Improve the Resiliency of Riparian Habitat
- Create Wet and High Alkali Meadow Habitats to Improve Resiliency of Restored Habitats
- Reduce Big Canyon Creek Channel Erosion and Restore Connectivity between the Big Canyon Creek Channel and Floodplain
- Remediate and Remove Favorable Mosquito Breeding Habitat
- Improve the Big Canyon Creek Water Quality and Benthic Habitat
- Encourage Public Access and Improve Educational and Recreational Opportunities

These project objectives are illustrated in **Figures 11, 12** and **13**, and described in detail below.

2.5 Project Description

To meet the project goals and objectives, the proposed project includes the following components. Each component in the following project description addresses each of the objectives listed above in Section 2.4.1.

2.5.1 Remove Exotic and Invasive Plants and Create a Resilient Mosaic of Coastal Habitats

This component addresses these listed objectives and is described in the following corresponding subsections:

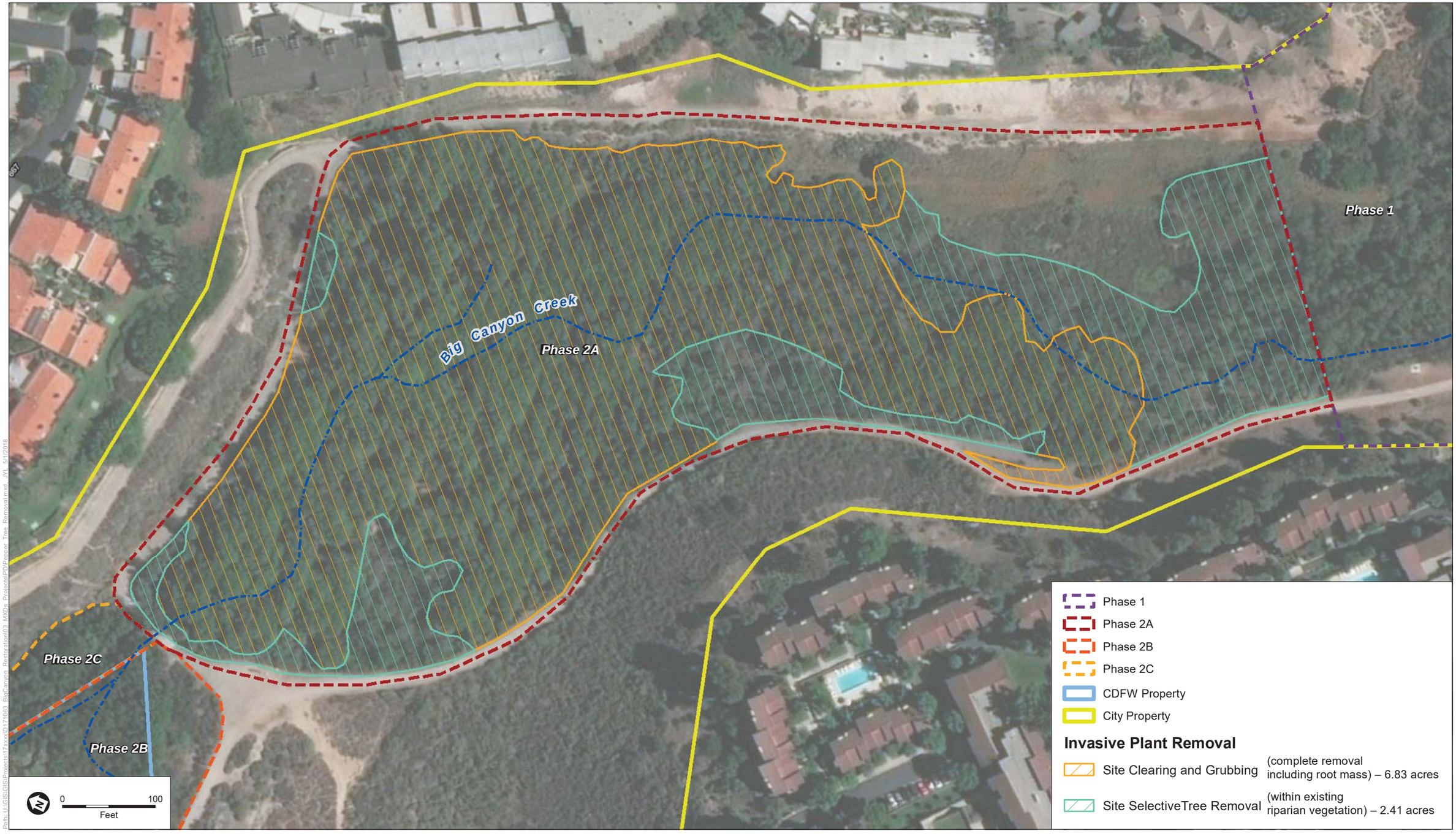
- Remove exotic and invasive plants
- Replant with native vegetation to create a mosaic of coastal habitats
- Restore, enhance, and improve the resiliency of riparian habitat
- Create wet and high alkali meadow habitat to improve resiliency of restored habitats

2.5.1.1 Removal of Exotic and Invasive Plants

More than half of the proposed project area is dominated by invasive Brazilian pepper trees as shown on Figure 4. This in turn has impacted the habitat quality of the riparian corridor and adjacent habitat zones. Without the proposed project, the impact of invasive plant species will expand and further reduce habitat for native coastal plant, animal, and bird species.

The proposed project will first remove the invasive pepper tree groves and other invasive plant species in the areas shown on Figure 11. The proposed project will first remove the invasive pepper tree groves and other invasive plant species. More extensive clearing and grubbing is anticipated within the pepper tree groves (6.33 acres). In order to stabilize the stream and restore sections of the creek where the channel has been locally incised, some of these more extensive clearing and grubbing activities will extend from the pepper tree groves into existing woody riparian areas that contain exotics. These areas account for a limited area of 0.5 acres of the total 6.83 acres that will require extensive clearing and grubbing predominantly in the pepper tree grove. Selective removal of exotic trees and other invasive plants will be conducted on an additional 2.41-acre area of existing woody riparian vegetation that contains pepper trees. The total area of clearing, grubbing and selective vegetation removal for restoration purposes is 9.24 acres.

Figure 10 Proposed Project Existing Conditions: Photographs of Existing Locally Incised Creek Channel and Invasive Pepper Tree Groves



Path: U:\GIS\GIS\Projects\17xxxx\D171063 BigCanyon Restoration\03 MXDs Projects\PD\Pepper Tree Removal.mxd JYL 5/1/2018

SOURCE: ESRI; Dudek; ESA

Big Canyon Restoration - Phase 2A

Figure 11
Proposed Project - Phase 2A
Extent of Invasive Plant Removal

ESA

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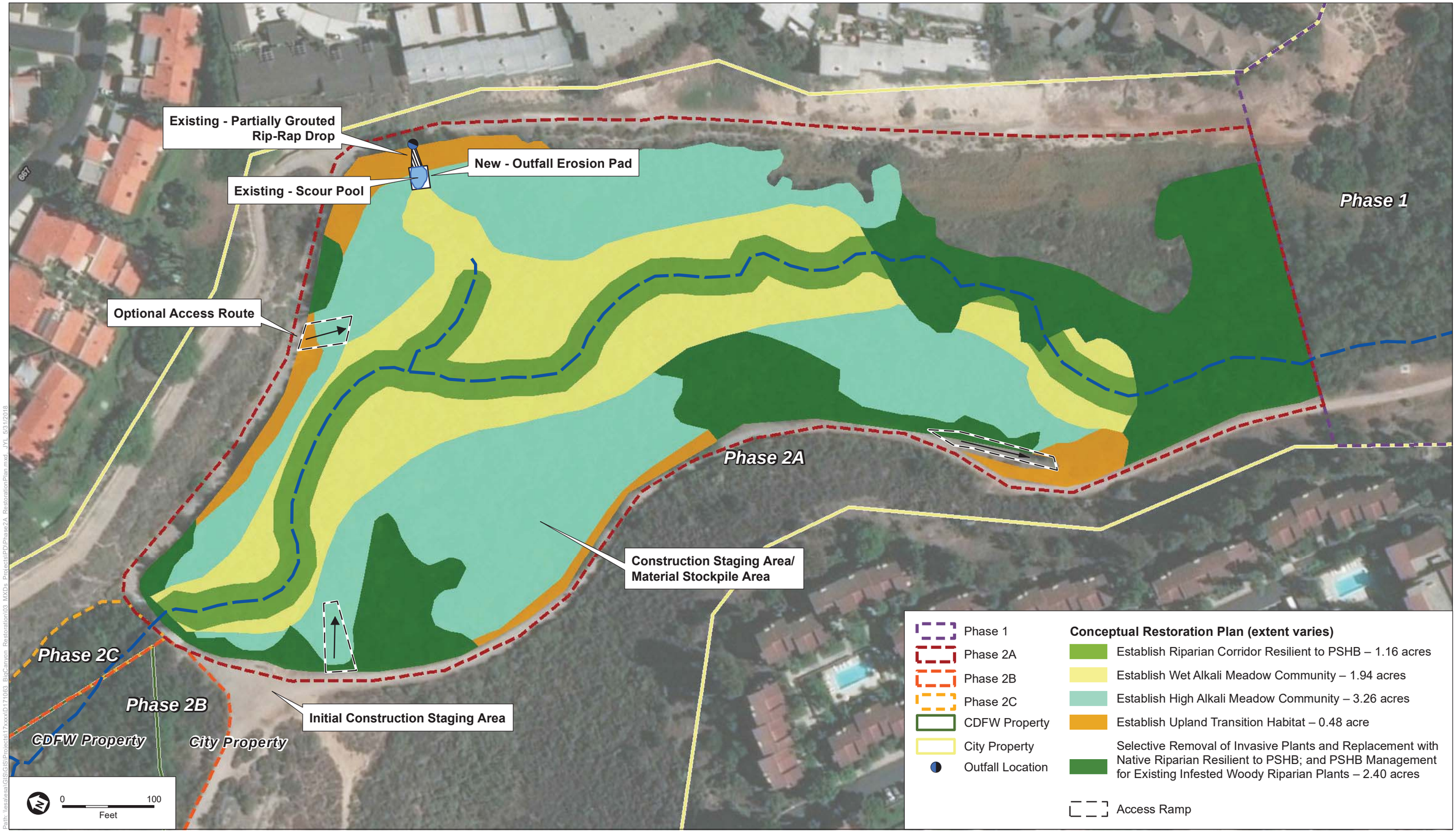

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SOURCE: ESRI; Dudek; ESA

Big Canyon Restoration - Phase 2A

Figure 12
Conceptual Restoration Plan

ESA

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Existing - Partially Grouted Rip-Rap Drop

New - Outfall Erosion Pad

Existing - Scour Pool

Contour floodplain to drain as needed at tree removal depressions

After more extensive pepper tree and root ball removal, excavate floodplain bench and stabilize bank using bioengineereing techniques*

Phase 1

Optional Access Route

After select exotic tree/plant removal, grade channel bank to create gentler slope and implement bank stabilization using bioengineereing techniques*

Contour floodplain to drain as needed at tree removal depressions

Phase 2A

Reconstruct channel banks after pepper tree removal

Construction Staging Area/ Material Stockpile Area

Phase 2C

Phase 2B

CDFW Property

City Property

Initial Construction Staging Area

Phase 1
Phase 2A
Phase 2B
Phase 2C
CDFW Property
City Property
Outfall Location
Low-flow Channel

Conceptual Restoration Plan (extent varies)

- Establish Riparian Corridor Resilient to PSHB – 1.16 acres
- Establish Wet Alkali Meadow Community – 1.94 acres
- Establish High Alkali Meadow Community – 3.26 acres
- Establish Upland Transition Habitat – 0.48 acre
- Select Removal of Invasive Plants and Replacement with Native Riparian Resilient to PSHB; and PSHB Management for Existing Infested Woody Riparian Plants – 2.40 acres

Access Ramp

Area of Proposed Fill Placement

Stabilize bank using bioengineering techniques *(See 60% Design - Detail A - Sheet C4)*

After extensive pepper tree and root ball removal, excavate 30-ft floodplain bench as shown, and stabilize bank using bioengineering approaches * *(See Detail Typical D for benching, and Detail Typicals B and C for stabilization in 60% Design - Sheet C4)*

Grade bank or create bench, depending on select non-native tree removal and stabilize bank using bioengineering approaches * *(See Detail Typicals B and C in 60% Design - Sheet C4)*

* *Channel bank grading and stabilization approaches to be confirmed once grubbing activities are complete.*

0 100 Feet

Path: U:\GIS\GIS\Projects\17xxxx\D171063_BigCanyon_Restoration\03_MXDs_Projects\PD\Phase2A_CreekStabil_60percentPlan.mxd_JYL_7/9/2018

SOURCE: ESRI; Dudek; ESA

Big Canyon Restoration - Phase 2A

Figure 13
Proposed Project:
Creek Channel and Floodplain Restoration and Stabilization

ESA

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Where access with heavy equipment to the more isolated invasive plants requires clearing, these access routes will connect with heavier removal areas to minimize disturbance of native vegetation where feasible. These access ramps have been accounted for in the estimated area of heavier clearing and grubbing as shown on Figure 12. These areas will be replanted with native plantings.

Clearing and removal of non-native pepper trees with large canopies and root systems will result in depressions that will be filled as part of site fine-grading using soils from pulling back steeper creek slopes to provide better connectivity to the floodplain. The removal of these non-native trees require removal of the root ball to limit re-sprouting and re-establishment. The removal of pepper trees and root systems located within and adjacent to the stream banks will be conducted with bank stabilization efforts. In reaches where the existing channel is deeper than desired, removal of the pepper trees will create an opportunity to adapt the root ball depression into lower floodplain areas that develop into seasonal wetlands. In other areas (e.g. where a root ball depression is on an outside bend or the existing channel is already an appropriate width and depth) the approach will be to reconstruct the banks of the creek to appropriate stable dimensions using biotechnical methods (e.g. biodegradable coir fabric, use of live, native plant materials).

Removal and clearing of the pepper trees and other exotics and invasive plants will involve cutting down and shredding all the smaller limbs and foliage and using a stump grinder to chip the larger trunks and stems. The small limbs and foliage contain naturally occurring oil that can deter native plant growth and will require off-site disposal along with the pepper tree seed. A small excavator or backhoe will then be used to grub out the top 2 feet of surface material with a fork or claw attachment to extract the bulk of the existing root mass for chipping. Chipped material totaling up to approximately 800 cubic yards may be used for top dressing within the replanted area as well as on the trail located along the northern boundary of the project site. A portion of the 800 cubic yards of chip material is anticipated to be infested Polyphagous Shot Hole Borer (PSHB). Only the potential infested wood chips would be potentially used on the existing trail located along the northern boundary of the project site. The infested chips would be treated through solarization at locations along the existing trail that are illustrated on Page 6 of the 60% Design Plans in Appendix A. The solarization would include the covering of chips with sturdy plastic for at least 6 weeks during July and August. Temperatures under the sturdy plastic during these months should preferably be above 95°F (35°C). If solarization occurs in September through June, the chips would need to be covered with sturdy plastic for 6 months.

It is estimated that up to 6,000 to a maximum of 7,500 cubic yards of chipped and shredded material will not be suitable for use on-site and will require disposal off-site at a green waste facility. Where root mass from invasive trees provides stabilization of the stream bank, stabilization of the creek bank will be implemented as discussed under the stream restoration component.

2.5.1.2 Replant Native Vegetation to Create a Mosaic of Coastal Habitats

Following clearing and removal of invasive pepper trees and other exotics and invasive plants**,** including the bulk of associated root material, stream bank stabilization and site fine-grading will be conducted as part of the stream restoration described in Section 2.5.2. The purpose of the bank stabilization and fine-grading is to create floodplain benches and pull back incised channel banks

to achieve gentler bank slopes that improves connectivity of the channel with the floodway. Soils excavated for floodplain benches and to achieve gentler slopes will be used for bank re-construction and stabilization and for fine grading to fill in depressions created by the removal of the root mass from larger pepper trees. This grading will allow for a transition from the creek channel to a wet and then drier flood way that then transitions to upland as elevations increase. As shown on Figure 12, the cleared and graded areas will then be replanted with native coastal vegetation that provide a mosaic of woody and herbaceous riparian vegetation along the creek corridor, wet alkali, and high alkali meadow communities adjacent to the riparian corridor, and coastal sage scrub upland transitional habitat within higher elevation sections. The plant community species list for these habitat mosaics will be more tolerant of the high salinity soils that dominant the proposed project area.

As shown on Figure 12, in the areas of the proposed plan that contain a mixture of woody riparian vegetation and invasive species, identified invasive species will be removed and replaced with native more resilient riparian vegetation.

2.5.1.3 Restore, Enhance and Improve the Resiliency of Riparian Habitat

The stream corridor outside of the pepper trees groves is dominated by native willows (see Figure 4) that have been infested by the Polyphagous Shot Hole Borer (PSHB) based on field surveys conducted during Phase 1. The proposed project will use pest management techniques in consultation with the University of California Riverside that may include heavy pruning of the existing infested mature trees and application of soil amendments and tree injections to improve resilience of existing woody plants. These areas also contain invasive plant species that will be removed selectively and replaced with native plants. To improve sustainability of the replanted native riparian vegetation, woody species, and herbaceous plants with demonstrated low susceptibility to PSHB will be selected. A list of plant palettes for the proposed restoration project is provided on page 11 in Appendix A. Soil amendments will be used to reduce salinity levels and improve biological activity in soils. Similarly, the planned re-vegetation after removal of the pepper tree groves along the creek channel will use a mixed palate of native vegetation that includes smaller stem plants that are less desirable to the PSHB. Without these management measures, the existing and proposed riparian habitat will be impacted by the PSHB infestation through the die off of mature large diameter trees that otherwise provides habitat to endangered species.

2.5.1.4 Create Wet and High Alkali Marsh Habitat to Improve Resiliency

Following the clearing and grubbing of the 6.83 acres of pepper trees (including 0.5 acres of extensive clearing in mixed willow and exotics for stream restoration), stream restoration (excavation of benches, slope grading and bank stabilization) and site fine-grading, as shown on Figure 12, alkali wet (low) and high alkali meadow communities will be created adjacent to the restored riparian habitat corridor and the newly connected floodplain. The vegetation for these alkali meadow communities are better adapted to the site's saline soils. The areas adjacent to the riparian corridors that have more frequent flood inundation will provide conditions suitable for a wetter alkali meadow habitat. The extent of the wet alkali meadow will depend on frequency of

flood inundation and depth to groundwater. Fine-grading and contouring will be performed using soils from excavation for floodplain benches and from pulling back from steep stream banks to establish more gentle slopes and restore the connectivity between the stream channel and the floodplain. These soils will be used for bank stabilization, to fill in depressions from clearing and grubbing activities and to create a gentle slope from the stream bank to the toe of the upland slopes along the perimeter of Phase 2A. Estimated excavation and on- and off-site fill placement is presented under the stream restoration component in Section 2.5.2.

At slightly higher elevations and further from the riparian corridor, a high alkali meadow community will be created. The plant palettes for the alkali meadow communities are provided on page 11 in Appendix A. The extent of the wet and high meadow communities as shown on Figure 12 will vary depending on seasonal inundation during wet weather flows that will extend out from the creek channel into the floodplain. Localized groundwater seepage and depth below the surface will also influence the extent of these alkali meadow communities.

Additional habitat mosaic will be provided with the restoration and enhancement of upland transitional coastal sage scrub habitat at higher elevations as shown on Figure 12. These areas along the perimeter of Phase 2A, also provide for limited opportunities for fill placement of the soils excavated for the creek restoration component and chipped vegetation/mulch form clearing activities. The estimated excavation and fill quantities are provided under the creek restoration and flood plain component. A list of plants on the upland palette is on page 11 in Appendix A.

2.5.2 Creek and Flood Plain Restoration

This component of the proposed project addresses the following objective:

- Reduce Creek Channel Erosion and Restore Connectivity between the Creek Channel and Floodplain

Urbanization in the Big Canyon watershed has resulted in increased peak and sustained storm flows that have resulted in hydraulic modification of the Big Canyon Creek. The project includes restoration of segments of Big Canyon Creek that have been eroded and locally scoured, isolating the channel from the floodplain and degrading the riparian corridor which requires periodic inundation. These segments are within the combined 6.83-acre area predominated by invasive Brazilian pepper tree groves that will require clearing, grubbing and removal of tree roots to prevent re-sprouting.

As shown on Figure 13, there are creek segments within the proposed project where the channel is more incised and the floodplain is isolated from the channel. Along these segments within the project limits, the channel has incised, creating a steep vertical bank slope two to four feet from the top of the bank to toe of the bank. This has reduced floodplain connectivity in the adjacent riparian community that requires periodic inundation to support native biological species and habitat conditions, and has created steep banks that are hard for vegetation to colonize. Within these segments, the channel will be excavated and graded to create floodplain benches and gentler slopes connecting the channel with the floodplain and providing for more frequent inundation during storm events. Without the proposed project restoration measures, the ongoing physical, chemical,

and biological processes will result in additional bank and bed erosion, and continued displacement of coastal riparian and alkali meadow habitat by invasive species that could otherwise provide habitat for endangered and threatened species. These species include least Bell's vireo in the riparian corridor and Belding's savannah sparrow in the alkali meadow habitat.

Along the locally incised segments that total approximately 680 linear feet, the existing channel bank will be excavated to create floodplain benches approximately 30 feet from the existing banks, and the slope from the bench pulled back to a maximum 3:1 slope to provide connectivity between the channel and floodway, and support vegetation. Fine grading of the site will create a gentler slope from the re-constructed/stabilized banks to provide connectivity between the channel and floodway, and support vegetation (see Figure 13). Fine-grading of the site will extend out to establish a gentle slope to the toe of the upland slopes. Fine-grading will also consist of filling in depressions left from the removal of the root ball of the non-native pepper trees. Gently sloped channel banks will then be re-planted with native riparian vegetation within the approximately 45-65-foot wide continuous riparian corridor.

Within these segments, existing mature pepper trees have been established with extensive root systems that have stabilized the creek banks. In order to provide for bank stabilization after the larger pepper trees and root masses located on or adjacent to the stream banks are removed, the bank at these locations will be reconstructed and stabilized using bio-engineering techniques. The extent of these stabilizing techniques will be dependent on the location and extent of the larger pepper trees along the banks. In reaches where the existing channel is deeper than desired this will create an opportunity to adapt the root ball depression into lower floodplain areas that develop into seasonal wetlands. In segments heavily disturbed by the removal of the pepper trees, bank activities are determined separately for outside bends and straight or inside bends. Disturbed channel banks on the inside bend or straight reach will be reconstructed by excavating/reconfiguring a maximum 30 ft. wide floodplain bench that is connected to the existing grades beyond with a maximum 3:1 daylight slope. Disturbed channel banks on the outside bend will be reconstructed and stabilized using vegetated soil lifts (VSLs). In other areas not affected by grubbing but bank heights are greater than 2 feet, the approach will be to pull back the creek banks to a stable slope of 3:1 and stabilized using biotechnical methods (e.g. biodegradable coir fabric, use of live, native plant materials).

Because the condition of the creek bank immediately following the pepper tree and associated root system removal cannot be fully determined until after clearing and grubbing, the proposed design will use an adaptive restoration design approach that anticipates the various conditions that may be encountered (e.g. outside bend bank with hole from root ball removal, inside bend without root ball removal etc.), and provides the bank excavation and bio-engineering stabilization techniques to address each of these conditions. Details on these stream bank treatment approaches are provided on pages 7 through 9 in Appendix A.

Encapsulated vegetated soil lifts (VSL) implemented under the conditions defined in the design details will be planted with native riparian shrubs (e.g., mule fat, sandbar willow) and other native vegetation less susceptible to PSHB 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 amended

alluvial soil from the site to improve success of replanting. Each lift will be 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 mulefat and willow stems that will grow following installation and are more resilient to PSHB. Daylight slopes for floodplain benches and where the channel is two foot or less from the top of the bank will be pulled back to a maximum 3:1 slope and revegetated and stabilized using erosion control fabric or brush mat.

As shown on Figure 13, within the stream segments that are between the areas of pepper tree removal, the bank stabilization treatment as described will extend into these areas of existing woody riparian mixed with invasive plants. In these areas the extent of bank stabilization and grading will be limited to minimize disturbance of existing native plants, but may include clearing of up to approximately 0.5 acres of these mixed vegetation communities for the purpose of restoring connectivity of the flood way and stabilizing the creek banks. The bank treatments will depend on the depth of the channel compared to the top of the bank and whether it is an inside or outside bend.

Outside the 65 to 45-foot wide riparian corridor and within the areas designated for pepper tree removal as shown on Figure 12, the site will be graded to level out depressions from pepper tree root mass removal to reduce the potential for ponding of water that can create favorable mosquito breeding habitat, and to extend the area of flood inundation to establish the wet alkali meadow habitat.

The total amount of expected fine-grading to restore and stabilize the creek channel and establish the floodway connectively and establish the planned mosaic of riparian and wet and high alkali meadow habitats is 2,500-5,500 cubic yards. This maximum estimated fine-grading quantity is for this concept “envelope” for estimating construction vehicle emissions and noise potential impacts. The design process will refine these quantities. The proposed project will use excavated soils from pulling back steep stream slopes to fill in depressions created with the removal of the root mass of the extensive pepper tree grove. The filling in of depressions and fine-grading will create a continuous gentle slope that connects the channel with the floodplain extending to the toe of the upland slopes around the perimeter of Phase 2A. The pulling back of the steep banks and fine-grading of the floodplain will maintain the extent of the floodplain and associated jurisdiction wetlands. There will be no change in the defined acreage of existing jurisdictional wetlands.

For the purpose of this concept “envelope”, up to approximately 2,000-4,000 cubic yards of the material from pulling back the stream banks may be used to fine-grade the site to fill in depressions and create a continuous connect floodplain. A portion of this soil that is suitable will also be used in construction of the bank stabilization. Limited amounts of approximately 500-1,000 cubic yards of soils may be used on the existing upland areas between the perimeter roads and toe of the upland slope as shown on Figure 12. A limited amount (<250 cubic yards) of suitable material may also be used on trails that are not used for maintenance vehicle access. For the purpose of this concept “envelope”, approximately 500-1,500 cubic yards of on-site soils are anticipated to be transported off-site to a permitted facility. Excavated soil will be reused on-site when feasible.

2.5.3 Vector Habitat Remediation

This component of the proposed project addresses the following objective:

- Remediate and Remove Favorable Mosquito Breeding Habitat

A mosquito vector habitat is present when wet weather flows from the storm drain outlet as shown on Figure 12 that discharges into a scour pond and a side channel of the creek downstream from the proposed project area. This project addresses mosquito breeding habitat by eliminating the scour pond and implementing erosion control measures to address future scouring. The side channel that drains from the scour pond will also be graded to promote improved drainage. The site area where the pepper trees will be removed including the root mass will be graded to fill in and level out created depressions from the clearing and grubbing activities to promote drainage and avoid ponding of water that creates favorable mosquito breeding habitat. The approach to the restoration considers the need to reduce favorable mosquito breeding habitat by improving site drainage and minimizing long term ponding in the main channel. The riparian corridor and wet alkali meadow habitats will rely on periodic inundation of flood waters from the main channel that will either infiltrate and drain away from these areas as storm flows return to the channel.

2.5.4 Water Quality and Benthic Community Habitat Improvements

This component of the proposed project addresses the following objective:

- Improve the Creek Water Quality and Benthic Habitat

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 criteria for selenium (California Toxics Rule chronic freshwater criteria) have been measured in dry weather flows in Big Canyon Creek. The City 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. The City has also implemented selenium reduction measures as part the Phase 1 project (Figure 3). These combined measures have significantly reduced the concentration of selenium in dry weather flow in Big Canyon Creek. Further monitoring is planned by the City to confirm the effectiveness of these selenium reduction measures and to plan and implement additional selenium reduction measures if needed.

To reduce the impact on the biological community of selenium concentrations in dry weather flows, the proposed project will improve the channel grading to promote continuous flow and reduce potential ponding of dry weather flows. Selenium in the water column will accumulate and may become more bio-available if water is not continuously flowing and is allowed to pond and potentially change reduction–oxidation reaction conditions with associated increased biological assimilation. By designing the stream restoration to restore and maintain drainage and continuous flow, the potential for selenium transformation to a more biologically assimilated form is minimized.

Restoration of the stream channel will include stabilization of the bed and bank, creation of continuous flow, and restoration of native vegetation. These planned restoration measures will improve the macro-invertebrate benthic habitat along the creek channel. The current condition within the pepper tree groves lacks vegetation and contains areas of ponded water of poor quality. Improved connectivity between the channel and floodplain will also provide for improved habitat for macro-invertebrate benthic communities, fish and other local wildlife that use these communities as a food source.

2.5.5 Public Access Enhancements

This component of the proposed project addresses the following objective:

- Encourage Public Access and Improve Educational and Recreational Opportunities

Big Canyon Nature Park is used by residents and visitors for passive recreation. It is also 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 enjoy and 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 are rarely visited by the public. Along with the restoration of a mosaic of coastal riparian and alkaline meadow habitat, trail enhancements with interpretive signs and rest areas as well as the placement of wood chips on the surface of the trail that extends along the northern boundary of the project site are proposed as shown in **Figure 14**. The interpretive signs will provide an enhanced experience with the different ecotones in a coastal watershed, as well as education about the importance and difficulty of these large-scale restoration efforts. The surface of the remaining existing trails is not proposed to be improved, and no new trails are proposed. The project includes the installation of appropriate fencing to keep the public out of sensitive habitats.

2.6 Construction Activities and Schedule

Project grading and construction is expected to last 5 months, beginning in fall 2019 and will include the creek restoration, habitat restoration and enhancement, vector control, and trail enhancement components described in the previous section. Construction will be substantially complete by March 31, 2020 to avoid impacts during the nesting season. Planting of all restoration areas will take place once grading has been completed as identified in **Table 2**.

Construction activities would commence with the installation of construction stormwater pollution prevention BMPs in accordance with the project Stormwater Pollution Prevention Plan (SWPPP). The preliminary SWPPP is provided in the 60% Design Drawings and includes the Erosion and Sediment Control Plan (page 6 of Appendix A) and the associated details (page 8 of Appendix A). The Erosion & Sediment Control plan provides the best management practices (BMPs) and the phases of the project for which these BMPs will be implemented. This preliminary SWPPP will be the basis for the more detailed SWPPP that will be prepared by the Construction Contractor. The

60% Design provides the requirements for the detailed SWPPP in the General Notes on page 2 in Appendix A. No work will commence until the SWPPP is approved per the conditions of the applicable construction permits.

The project construction work would occur in phases for a duration of approximately five 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.

TABLE 2
PROPOSED PROJECT CONSTRUCTION SCHEDULE

Phase	Activity	Duration	Month 1	Month 2	Month 3	Month 4	Month 5
Phase 1 - Mobilization & Invasive Plant Removal	Activity 1A - Site preparation – Erosion and Sediment Control	1-2 weeks					
	Activity 1B - Clearing and Grubbing	6-8 weeks					
Phase 2 - Creek Restoration	Activity 2A - Bank and Floodplain Grading	4-6 weeks					
	Activity 2B - Stream Stabilization	2-3 weeks					
	Activity 2C - Fine Site Contouring	2-3 weeks					
Phase 3 - Site Replanting for Restoration and Enhancement	Activity 3A - Temporary Irrigation for Initial Planting	1-3 weeks					
	Activity 3B - Soil Amendments	1-2 weeks					
	Activity 3C - Plantings for Riparian, Alkaline Meadow & Upland Habitats	4-6 weeks					
Phase 4 - Trail Enhancements	Activity 4 – Installation of Interpretive Signs and Rest Areas	2-3 weeks					
Phase 5 - PSHB Control Measures	Activity 5 - Pruning, Soil Amendments, other measures	6-7 weeks					

SOURCE: ESRI, Dudek, ESA 2018

Big Canyon Restoration - Phase 2A

Figure 14

Coastal Access and Interpretive Signs/Rest Areas

ESA

Approximately 6.83 acres would be disturbed for clearing/grubbing, grading, filling and re-planting activities. An additional 2.41 acres will undergo select invasive plant removal and re-planting during project construction. Earthwork is anticipated to create floodplain benches (where applicable) and to pull back the creek channel banks to create gentler slopes to achieve improved connectivity between the channel and floodplain. Materials excavated and pulled back from the banks will be used for bank stabilization and reconstruction that includes vegetated soil lifts created by the removal of pepper trees and their root systems along the channel banks. Fine-grading of the floodplain will be conducted to fill in depressions and create a gentle continuous slope that connects the channel to the floodplain. These fine-grading activities will be limited to the channel segments within the pepper tree removal areas. The total earthwork cut volume is anticipated to be approximately 2,500-5,500 cubic yards. If the excavated material cannot be fully used for bank reconstruction and to fill in depressions and fine-contouring, a limited amount of less than 500-1,000 cubic yards may be used in upland areas around the perimeter of Phase 2A. A limited amount (<250 cubic yards) of suitable material may also be used on foot-traffic only trails. For the purpose of this concept "envelope", approximately 500-1,500 cubic yards of on-site soils are anticipated to be transported off-site to a permitted facility that cannot be accommodated within the planned fine-grading of the floodplain. The design process will refine these quantities.

There are up to three potential excavations and grading equipment access points as shown on Figure 12. Temporary stockpiling of soils will be located within the restoration area identified as the construction staging area/material stockpile area shown in Figure 12. The temporary stockpiling area will include sediment and erosion control measures per the SWPPP as shown on pages 6 and 8 in Appendix A.

For excavated material that is unsuitable for fill as well as wood chips, haul trucks would be used to transport the material from the site to an off-site disposal facility such as the Prima Deshecha Landfill located in San Juan Capistrano. These haul trucks would access the site from the intersection of Jamboree Road and 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 located at the intersection of the southern and western trails (open bare soil area shown in Figure 12). Approximately 10 daily haul truck trips and less than 50 total haul truck trips (100 total for arrival and departure trips) for soil materials export would occur over the course of construction. In addition, chipped and shredded material from the removed pepper trees that cannot be used on-site may total up to a maximum of approximately 7,500 cubic yards. This could require up to approximately 250 (500 for arrival and departure trips) haul truck trips. Haul trips that leave the project site would access the Back Bay Drive and travel north to Eastbluff Drive. Haul trucks on Eastbluff Drive could travel north of Jamboree Road to SR-73 or travel south of Jamboree Road to Bison Avenue to SR-73.

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, backhoe, 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. Saturday work, if allowed, would occur between 8:00 a.m. and 6:00 p.m.

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. Water quality best management practices will be implemented with the project. A Water Quality Management Plan (WQMP) will be prepared and a preliminary construction SWPPP is located in Appendix A. Both of these plans will be implemented from the onset of the construction to post construction.

Biologically sensitive areas will be protected 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. Protocols for preventing transfer of invasive species to the site and off the site will be detailed in the construction specifications.

2.7 Project Operation and Maintenance

The start of the short-term maintenance period begins when the installation has been accepted as complete (following the 5-month grading and construction duration identified above).

2.7.1 Day Maintenance

The plant establishment period (PEP) will start after planting and seeding installation has been completed, which is the final step of the installation phase, and will have a duration of 120 calendar days. The 120-day PEP will be considered part of the Year 1 post-installation period. The PEP is intended to provide a maintenance, observation, and guarantee period, during which the restoration installation contractor is responsible for ensuring that plants become properly established and that installation has been properly executed. During this period, irrigation use (i.e., frequency and quantity of water) will be scheduled to promote seed germination, container plant survivorship, and live stake root development and establishment. Water for temporary irrigation will be provided from a metered point of connection (POC), and/or a temporary tank on-site. The installation contractor will have the responsibility and discretion (means and methods) for conducting temporary irrigation to meet success criteria during the 120-day PEP.

2.7.2 Long-Term Maintenance

Maintenance activities include those activities that will occur after the 120-day PEP. Long-term maintenance of the revegetation areas will be performed under the City's supervision by an assigned (contracted), experienced, maintenance contractor. Long-term maintenance will include irrigation maintenance for providing temporary irrigation for the upland and riparian areas to meet the proposed project goals and success criteria. The irrigation methods including a potential use of an automated system for some areas, will be maintained and repaired as needed. As a confirmation that self-sustaining habitats have been established, it is intended that temporary irrigation use be phased out by the end of Year 3 (or earlier) so that revegetated area habitats will persist without irrigation. Long-term maintenance will also include control of exotic weeds. A comprehensive

weed control and eradication program will be implemented to minimize the adverse effects of weed invasion. In addition, an Integrated Pest Management (IPM) approach will be taken toward pest control, with natural measures and prevention playing primary roles in suppressing or reducing pest species populations. These natural measures could include (1) the use of plant "probiotics" (e.g., chitin, chitosan, etc.) to help bolster health of native plants to improve survival when pests attack 2) mulching to minimize weed germination 3) manual removal of pest plants (i.e., weeds) at first appearance and whenever feasible and cost effective instead of relying solely on herbicide. 4) possible use of alternative "natural" herbicides (e.g., acidic acid, coconut oil extracts, etc.) rather than potentially more toxic synthetic herbicides (e.g., glyphosate, imazapyr). Prevention could involve several "weed beater" plant species (e.g., plantain, goldfields, etc.) in seed application to provide quick coverage and thus limit invasion by opportunistic weeds, followed by frequent and regular monitoring to promote rapid response to pest infestation (manual removal, string trimming, wicking) to stay ahead of weed invasion and prevent displacement of desired natives. Also, judicious use of supplemental irrigation to avoid promoting weed establishment (i.e., no excessive irrigation) Signs of the PSHB will be reported to the UC Riverside Eskalen Lab and appropriate remedial measure taken immediately, including but not limited to removal of the diseased branch and/or tree, chipping <1" and heat treatment to 160 F, or disposal offsite at an approved landfill such as Prima Deshecha Landfill. Trash will be removed by the landscape contractor on an as-needed basis.

2.8 Project Approvals and Discretionary Actions

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

- City of Newport Beach: Coastal Development 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
- Regional Water Quality Control Board: 401 Certification

CHAPTER 3
Initial Study Environmental Checklist and Evaluation

3.1 Project Information

1. Project Title:	Big Canyon Coastal Habitat Restoration and Adaptation Project – Phase 2A
2. Lead Agency Name and Address:	City of Newport Beach 100 Civic Center Drive Newport Beach, CA 92660
3. Contact Person and Phone Number:	Makana Nova, Associate Planner (949) 644-3249
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:	Open Space; Residential
10. Other public agencies whose approval is required:	• Army Corps of Engineers; • Regional Water Quality Control Board; • California Department of Fish and Wildlife; • California Coastal Commission
11. Discretionary Actions:	• City of Newport Beach: Coastal Development Permit; • 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; • Regional Water Quality Control Board: 401 Certification

3.2 Environmental Factors Potentially Affected

None of the environmental factors are checked below because the proposed project would not result in a "Potentially Significant Impact" in any of the environmental factors below. All the environmental factors will result in a "Less than Significant Impact with Mitigation Incorporated", "Less Than Significant", or "No Impact."

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

3.3 Determination (To be completed by the 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 will be prepared.

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

3.4 Environmental Checklist and Evaluation

3.4.1 Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*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?	☐	☐	☐	☒

Environmental Evaluation

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

Less than Significant Impact. Scenic vistas are defined as expansive views of distant landforms and aesthetic features from public vantage points, including areas designated as official scenic vistas along roadway corridors or otherwise designated by local jurisdictions for the benefit of the general public. According to the City of Newport Beach General Plan, the City does not contain any officially designated scenic vistas; however, views of the Pacific Ocean, coastal canyons and gullies in the eastern portion of the City, and coastal bluffs along the shoreline, facing the wetlands and surrounding Upper Newport Bay, are considered important scenic resources. Other scenic resources include parkland and passive open space (City of Newport Beach, 2006). Additionally, the City's General Plan identifies various north/south trending streets that provide coastal views (defined as Coastal View Roads), and specific public vantage points that provide views of scenic resources. Further, the City's Local Coastal Program's Coastal Land Use Plan defines scenic and visual resources as public parks, piers, trails and viewing areas. Section 4.4 of the Coastal Land Use Plan identifies Coastal View Roads and public view points, consistent with the City's General Plan (City of Newport Beach, 2017).

According to Figure NR3 of the City of Newport General Plan and the Coastal Land Use Plan, there are two public viewpoints within the vicinity of the project site, with the nearest public viewpoint located approximately 600 feet west of the project site within the western portion of Big Canyon Park. These public viewpoints provide views of Upper Newport Bay. Additionally, Back Bay Drive, which travels north/southbound to the west of the project site is designated as a Coastal View Road. Further, Jamboree Road to the east of Big Canyon Park is a roadway segment identified by the General Plan as providing scenic views of the Pacific Ocean (City of Newport Beach, 2006).

Construction activities such as grading and restoration activities on the project site would not affect views from the public viewpoints and corridors because the viewpoints offer views to the west toward Upper Newport Bay and south towards the ocean, and the project site is located east of the

viewpoints. These restorative activities would also not take place along Back Bay Drive and Jamboree Road, but approximately 900 feet to the east and 500 feet to the west, respectively. Therefore, construction equipment would not obstruct coastal views from motorists traveling southbound/northbound on Back Bay Drive and Jamboree Road. Further, there is a 20- to 35-foot grade difference between Jamboree Road and the project site. Jamboree Road sits higher than the project site and views from the road are largely obscured by existing roadside vegetation and trees. In addition, the proposed project would not involve the construction of any aboveground, physical facilities which could have the potential height or massing to obstruct views of scenic coastal vistas or the Upper Newport Bay area.

Furthermore, the proposed project includes the removal of the existing Brazilian pepper trees that are approximately 20 to 30 feet in height, non-native and evergreen. Although these tree species could provide a visually pleasing view, these species are infested with PSHB that will eventually destroy the trees. The proposed removal of these non-native evergreen species as well as other exotics and invasive species would alter distant views from Back Bay Drive and limited views from Jamboree Road, as well as distant eastern views from the nearest public viewpoint located approximately 600 feet west of the project site within the western portion of Big Canyon Park. Although these current views would be altered, the presence of PSHB will result in the ultimate destruction of the existing pepper trees and the visually pleasing resource will be naturally affected. Therefore, the proposed restoration of the project site with alkali wet and high meadow communities with vegetation heights of two to three feet would include more sustainable natural plant species. The final project plantings would continue to provide natural and visually pleasing vegetation as viewed from Back Bay Drive and Jamboree Road. Although the proposed restoration would alter views from Jamboree Road, Back Bay Drive, as well as the public viewpoint west of the project site, views of the project site would remain aesthetically pleasing and impacts to the scenic quality of the project area would be less than significant.

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

No Impact. A scenic highway is officially designated as a State Scenic Highway when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as an Official Scenic Highway. There are no officially designated scenic highways within Newport Beach (City of Newport Beach, 2006; CalTrans, 2018). However, the project area is approximately 1.25 miles north of State Route 1 (East Coast Highway), identified by the City and CalTrans as an Eligible State Scenic Highway (City of Newport Beach, 2006; CalTrans, 2018). Because no scenic highways are currently designated within the City and East Coast Highway within the City is not an Officially Designated State Scenic Highway, 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 visual character of a project site and its immediate surroundings is defined by existing land uses and the associated natural or built environment, including vegetation, landforms, and structural features. The construction activities associated with the proposed project would result in changes to the existing visual character of the project site, including construction grading and the removal of existing vegetation. However, the proposed project would enhance the visual character of the project site by removing the non-native vegetation and restoring the area to its native condition. This component of the project would provide for the sustainability of plant species in the project area. Although the existing visual character and quality of the site, which includes approximately 20 to 30 feet in height of non-native and evergreen tree species, would be modified with alkali wet and high meadow communities with vegetation heights of two to three feet, the native plantings will maintain a sustainable natural habitat and visual quality in the project area. Further, as discussed above, the existing trees are infested with PSHB, which would eventually destroy the trees. The proposed project would eliminate this future issue and would not adversely impact the visual character of the project area. Visual character and quality impacts associated with project implementation would be less than significant.

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 not involve the construction of any physical facilities which would require lighting, and therefore, would not create new source of lighting in the project area. The project includes restoration and creation of sustainable habitats as well as signage along the Big Canyon Nature Park trails, and these improvements would not result in glare impacts. Thus, the project would result in no adverse effects to day or nighttime views in the area due to light or glare.

References

California Department of Transportation (CalTrans), 2018. Officially Designated Scenic Highways Scenic Highway Routes – Orange County. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed April 2018.

City of Newport Beach, 2006. City of Newport Beach, General Plan 2006 Update, Volume I, Draft Environmental Impact Report, Aesthetics and Visual Quality. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-report, accessed April 2018.

City of Newport Beach, 2017 (Amended 2017). City of Newport Beach Local Coastal Program Coastal Land Use Plan, Chapter 4. Available at: http://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf, accessed July 6, 2018.

3.4.2 Agricultural and Forest Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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.

Environmental Evaluation

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. According to the California Department of Conservation (CDC), Prime Farmland is land which has the best combination of physical and chemical features able to sustain long-term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings such as greater slopes or less ability to store soil moisture. Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards (Department of Conservation, 2017).

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, 2016). Because the project site does not contain Important Farmland, as defined above, 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 (Department of Conservation, 2004). 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 planned community uses. The City of Newport Beach does not contain any land zoned as forest land, timberland, or for timberland production (City of Newport Beach, 2018). Therefore, the project would not result in 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 not result in 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.

References

California Department of Conservation, 2004. Agricultural Preserves 2004, Williamson Act Parcels, Orange County, CA. Available at: ftp://ftp.consrv.ca.gov/pub/ dlrp/wa/ Orange_WA_03_04.pdf, accessed April 2018.

California Department of Conservation, 2016. California Important Farmland Finder. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/, accessed April 2018.

California Department of Conservation, 2017. Important Farmland Categories. Available at: http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx, accessed April 2018.

City of Newport Beach, 2018. Draft Zoning Map, City of Newport Beach. Available at: http://www.newportbeachca.gov/Home/ShowDocument?id=660, accessed April 2018.

3.4.3 Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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

The project area is located within the 60-acre Big Canyon Nature Park at the downstream end of the Big Canyon Watershed in the City of Newport Beach, Orange County, California within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The topography and climate of southern California combine to make the SCAB an area of high air pollution potential. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the

cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions that produce ozone.

Based on past climate records from the Western Regional Climate Center (WRCC), the average annual maximum temperature in the area is 68 degrees Fahrenheit (°F) and the average annual minimum temperature is 55° F. The average precipitation in the area is about 11 inches annually, occurring primarily from December through March (WRCC, 2016).

Federal and State Ambient Air Quality Standards

Ambient Air Quality Standards

Regulation of air pollution is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, USEPA has set "primary" and "secondary" maximum ambient limits for each of the criteria pollutants. Primary standards were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent damage to animals, crops, vegetation, and buildings.

Regional and Local

The NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. The NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]) and has adopted air quality standards for some pollutants for which there is no corresponding national standard, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Both the national and State ambient air quality standards for pollutants along with their associated health effects and sources are presented in **Table 3**.

TABLE 3
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NO_X react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm	0.075 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm		
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.50 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	---	0.03 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 µg/m^3	150 µg/m^3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m^3	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3		
Lead (Pb)	30 Day Average	1.5 µg/m^3	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases).	*Present source:* lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	---	1.5 µg/m^3		
	Rolling 3-Month Average	---	0.15 µg/m^3		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining
Sulfates (SO_4)	24 hour	25 µg/m^3	No National Standard	Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	Industrial processes.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See $PM_{2.5}$.

NOTE: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter.

SOURCE: CARB, 2009, CARB, 2016.

Existing Air Quality

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The project area is located in the Central Orange County Coastal Air Monitoring Subregion. Currently, the nearest monitoring station to the project area is the Costa Mesa – Mesa Verde Drive Station. This station monitors ambient concentrations of ozone, NO_2, CO, and SO_2. The closest monitoring station that monitors for $PM_{2.5}$ and PM_{10} is the Saddleback Valley station. Historical data of ambient ozone, NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$ concentrations from these monitoring stations for the most recent 3 years (2014–2016) are shown in **Table 4**.

Both CARB and USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The current attainment status for the SCAB is provided in **Table 5**.

Sensitive Receptors

Sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater than average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. The closest sensitive receptors to the project area are residential structures located approximately 75 to 100 feet to the north and south of the project site. Our Lady Queen of Angeles High School and Corona Del Mar High School are located approximately 200 feet and 650 feet north of the project site, respectively.

TABLE 4
AIR QUALITY DATA SUMMARY (2014 – 2016) FOR PROJECT AREA

Pollutant	Standard[a]	Monitoring Data by Year		
		2014	2015	2016
Ozone – Costa Mesa				
Highest 1 Hour Average (ppm)		0.117	0.099	0.090
Days over State Standard	0.09 ppm	16	0	0
Highest 8 Hour Average (ppm)		0.094	0.079	0.069
Days over National Standard	0.070 ppm	59	2	0
Days over State Standard	0.070 ppm	63	2	0
Carbon Monoxide – Costa Mesa				
Highest 8 Hour Average (ppm)		2.4	2.2	1.7
Days over National Standard	9.0 ppm	0	0	0
Days over State Standard	9.0 ppm	0	0	0
Nitrogen Dioxide – Costa Mesa				
Highest 1 Hour Average (ppm)		0.058	0.052	0.060
Days over National Standard	0.100 ppm	0	0	0
Days over State Standard	0.18 ppm	0	0	0
Annual Average (ppm)		0.014	0.012	0.010
Days over National Standard	0.053 ppm	0	0	0
Days over State Standard	0.030 ppm	0	0	0
Sulfur Dioxide – Costa Mesa				
Highest 1- Hour Average (ppm)		0.04	0.003	0.003
Days over State Standard	0.075 ppm	0	0	0
Particulate Matter (PM_{10}) – Saddleback Valley				
Highest 24 Hour Average ($\mu g/m^3$)[b]		41	66	59
Days over National Standard (measured)[c]	150 $\mu g/m^3$	0	0	2
Days over State Standard (measured)[c]	50 $\mu g/m^3$	0	11	1
Annual Average ($\mu g/m^3$)[b]	20 $\mu g/m^3$	20.2	24.8	21.0
Particulate Matter ($PM_{2.5}$) – Saddleback Valley				
Highest 24 Hour Average ($\mu g/m^3$)[b]		25.5	31.5	24.79
Days over National Standard (measured)[c]	35 $\mu g/m^3$	0	0	0
Annual Average ($\mu g/m^3$)[b]	12 $\mu g/m^3$	8.02	7.05	7.36

NOTES:
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
* = Insufficient data available to determine the value.
[a] Generally, state standards and national standards are not to be exceeded more than once per year.
[b] Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.
[c] Measurements are usually collected every 6 days. Days over the standard represent the measured number of days that the standard has been exceeded.
SOURCE: SCAQMD 2016, 2015a, 2014.

TABLE 5
SOUTH COAST AIR BASIN ATTAINMENT STATUS

	Attainment Status	
Pollutant	**California Standards**	**Federal Standards**
Ozone	Extreme Nonattainment	Extreme Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	Attainment

SOURCE: CARB, 2017; USEPA, 2017.

Regulatory Setting

Federal

The federal CAA of 1963 was the first federal legislation regarding air pollution control and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. At the federal level, the USEPA is responsible for implementation of certain portions of the Clean Air Act including mobile source requirements. Other portions of the CAA, such as stationary source requirements, are implemented by state and local agencies.

The CAA establishes federal air quality standards, known as NAAQS and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA which are most applicable to the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions). Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: (1) O_3; (2) NO_2; (3) CO; (4) SO_2; (5) PM10; and (6) lead. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and to adopt a NAAQS for PM2.5. Table 3 shows the NAAQS currently in effect for each criteria pollutant. The proposed project is located within the SCAB, which is an area designated as non-attainment for O_3 and PM2.5 because it does not currently meet NAAQS for certain pollutants regulated under the CAA. Table 5, provides a summary of the attainment status of the Orange County portion of the SCAB with respect to the federal and state standards.

Title II of the federal Clean Air Act pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NOx emissions

have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

State

California Air Resources Board

The California CAA requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. The CAAQS regulate the same criteria pollutants as the NAAQS but also regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. In general, the CAAQS are more stringent than the NAAQS. CARB has primary responsibility for ensuring implementation of the California CAA, responding to the federal CAA planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. Table 3 shows the CAAQS currently in effect for each of the federally recognized criteria pollutants as well as the additional pollutants recognized by the state.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 5, provides a summary of the attainment status of the Orange County portion of the SCAB with respect to the CAAQS.

California Green Building Standard Code

In January 2010, the State of California adopted the 2010 California Green Building Standards Code (CALGreen), which became effective in January 2011. However, the California Green Building Standard Code is not applicable to the proposed habitat restoration project, since no building structures are proposed.

Local

South Coast Air Quality Management District

Criteria Air Pollutants

The SCAQMD attains and maintains air quality conditions in the SCAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of SCAQMD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, CAAA, and CCAA.

Air Quality Management Plan

The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the CAAQS and NAAQS. The SCAQMD and CARB have adopted the 2016 AQMP, which incorporates scientific and technological information and planning assumptions regarding air quality, including the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and emission inventory

methodologies for various source categories. The 2016 AQMP was adopted by the AQMD Governing Board on March 3, 2017.

The purpose of the 2016 AQMP is to bring the Air Basin into attainment with NAAQS for 24-hour PM2.5. SCAQMD has since determined that this deadline was impractical due to drought conditions in the region. In 2016, USEPA approved reclassification of the Air Basin from "moderate" to "serious" non-attainment for the 24-hour PM2.5 standard, which has a new attainment deadline of December 31, 2019. The 2016 AQMP demonstrates that the 24-hour standard will be met by 2019 with no additional reductions beyond already adopted and implemented measures. The 2016 AQMP also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 and 2032 8-hour ozone standard deadline with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_X and VOC reductions. SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The control measures in the 2016 AQMP consist of 8-hour ozone control measures and PM2.5 control measures designed to achieve the ozone and PM2.5 NAAQS by statutory deadlines. The AQMP includes ten PM2.5 control measures, 15 stationary source 8-hour ozone measures and 15 early action measures for mobile sources. In general, the SCAQMD's control strategy for stationary and mobile sources is based on the following approaches: (1) available cleaner technologies; (2) best management practices; (3) incentive programs; (4) development and implementation of near-zero technologies and vehicles and control methods; and (5) emission reductions from mobile sources.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction anticipated under the proposed project would include the following:

Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust.

Rule 1113 – Architectural Coatings. No person shall apply or solicit the application of any architectural coating within the SCAQMD with VOC content in excess of the values specified in a table incorporated in the Rule.

Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule applies to stationary compression ignition engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

Toxic Air Contaminants

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from SCAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD limits emissions and public exposure to TACs through a number of programs. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

The Air Toxics Control Plan (March 2000, revised March 26, 2004) is a planning document designed to examine the overall direction of SCAQMD's air toxics control program. It includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control strategies that are deemed viable and are within SCAQMD's jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

In May 2015 the SCAQMD completed the Multiple Air Toxics Exposure Study IV (MATES IV) (SCAQMD, 2015b). MATES IV is a monitoring and evaluation study conducted in the SCAB and is a follow up to previous air toxics studies. The study is a follow up to the 2008 MATES III study and consists of several elements including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the SCAB (SCAQMD, 2008a). The study focuses on the carcinogenic risk from exposure to air toxics. However, it does not estimate mortality or other health effects from particulate exposures. MATES IV shows that the region around the project area has an estimated carcinogenic risk of approximately 665 per million (SCAQMD, 2015b). These model estimates were based on monitoring data collected at 10 fixed sites within the SCAB.

Significance Thresholds

Neither OCSD nor the City of Newport Beach has developed specific air quality thresholds for air quality impacts. However, as stated in Appendix G of the *CEQA Guidelines*, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. As such, the significance thresholds and analysis methodologies in SCAQMD's *CEQA Air Quality Handbook* are used in evaluating project impacts. The SCAQMD has established daily mass thresholds for regional emissions, which are shown in **Table 6**.

TABLE 6
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

	Mass Daily Thresholds (lbs/day)	
Pollutant	**Construction**	**Operations**
Oxides of Nitrogen (NO_X)	100	55
Reactive Organic Gases (ROG)	75	55
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead[a]	3	3
TACs (including carcinogens and non-carcinogens	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

[a] As the proposed project would not have any major lead emissions sources, emissions of lead would not be analyzed further in the EIR.

SOURCE: SCAQMD, 2015c.

In addition, the SCAQMD has developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards. SCAQMD has developed look-up tables to use as screening criteria to determine if impacts have the potential to be significant. If impacts do not exceed the screening criteria, then impacts would be less than significant, and no further analysis is required. Impacts would be considered significant if the following were to occur:

- Maximum daily localized emissions of NO_X and/or CO during construction or operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the project site greater than the most stringent ambient air quality standards for NO_2 and/or CO (SCAQMD, 2015c). LST screening thresholds for NOx and CO are 109 lbs/day and 1,711 lbs/day respectively.

- Maximum daily localized emissions of PM10 and/or PM2.5 during construction and operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the project site to exceed 10.4 μg/m^3 and 2.5 μg/m^3 over 24 hours respectively for construction and operational activities. (SCAQMD Rule 1303 allowable change in concentration). LST screening thresholds for PM10 and PM2.5 are 14 lbs/day and 9 lbs/day respectively for construction and 4 lbs/day PM10 and 2 lbs/day PM2.5 respectively for operation.

With respect to the formation of CO hotspots, the project would be considered significant if the following would occur:

- The project would cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 parts per million (ppm), respectively. The SCAQMD uses 100,000 vehicles per day through an intersection as a screening level. Therefore, any intersection that does not exceed 100,000 vehicles per day would not have the potential to exceed the CAAQS.

Based on criteria set forth by the SCAQMD, the project would expose sensitive receptors to substantial concentrations of toxic air contaminants if any of the following were to occur (SCAQMD, 2015c):

- The project would emit carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or

- An acute or chronic hazard index of 1.0.

Environmental Evaluation

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

Less than Significant Impact. The proposed project is located within the SCAB, which is under the jurisdiction of the SCAQMD. As such, SCAQMD's 2016 AQMP is the applicable air quality plan for the proposed project. Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections.

The proposed project is the restoration of 9.24-acres of coastal canyon creek, seasonal and alkaline wetlands and riparian habitat located within the 11.32-acre project site. Monitoring of the restoration work, including irrigation to maintain the habitat until it is fully established, will occur following construction for approximately three years. It is anticipated that during these three years a maximum of 5 people per day would access the site for maintenance.

Daily visitors to the project site would be the same people who would be experiencing the Upper Newport Bay. Therefore, the proposed project is not expected to increase the number of visitors to the Upper Newport Bay. However, the proposed project would result in more of the Upper Newport

Bay visitors to walk from Back Bay Drive to the project site. Currently approximately 20 to 25 visitors during the week and 40 to 50 visitors during the weekend visit the project site. With the proposed project, there could be approximately 30 to 35 people during the week (an increase of 10 to 15 visitors) and 55 to 70 people during the weekend (an increase of 15 to 30 visitors). In addition to the visitors, there are also those who visit the project site as part of a guided interpretive walk, including school-aged children as part of the Inside the Outdoors program. Big Canyon is one of the locations that are visited during a guided walk within Upper Newport Bay. The maximum number of people visiting the project site per day as part of an interpretive walk are anticipated to be similar to the existing 100 to 200 people that visit the site per day as part of a guided interpretive walk.

Additionally, as this is not a residential development, it would not result in the creation of new housing or potential residential growth. Because the proposed project would not increase the permanent employment base and would, therefore, not change the regional growth forecasts as identified in the local General Plan or those of the 2016 AQMP, the proposed project would not conflict with, or obstruct, implementation of the AQMP, and this impact would be less than significant.

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

Less than Significant Impact. The proposed project would not violate any air quality standard or contribute substantially to an existing air quality violation for both construction and operational emissions.

Construction

Construction emissions are considered short term and temporary, but have the potential to represent a significant impact with respect to air quality. Particulate matter (i.e., PM_{10} and $PM_{2.5}$) are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of PM can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO_X are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with delivery of construction materials, the exporting of soil and wood chips, vendor trips, and worker commute trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation.

The maximum daily construction emissions for the proposed project were estimated using CalEEMod, which is designed to model construction emissions for land use development projects based on building size, land use and type, and disturbed acreage, and allows for the input of project-specific information. Proposed project-generated emissions of criteria air pollutants (e.g., PM_{10})

and precursors (i.e., ROG and NO_X) were modeled based on general information provided in the proposed project description, and default SCAQMD-recommended settings and parameters attributable to similar land use types to the proposed project and site location.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for controlling fugitive dust. Incorporating Rule 403 into the proposed project would reduce regional respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) emissions from construction activities. 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, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project area, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, and maintaining effective cover over exposed areas. Compliance with Rule 403 was accounted for in the construction emissions modeling.[1] 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.

Construction activities could begin as early as October 2019, with construction occurring periodically over the 5-month construction period. To provide a conservative estimate of emissions, the following phase and activity overlaps were assumed as shown in Table 2.

- Phase 1 (mobilization & invasive plant removal), Activity 1A, site preparation – erosion and sediment control, would not overlap with any other phased activities.
- Overlap 1 includes the following:
  - Phase 1, Activity 1B: clearing and grubbing and
  - Phase 2 (Creek Restoration), Activity 2A: bank and floodplain grading which includes excavation and grading.
- Overlap 2 includes Phase 2, Activity 2A; Phase 2, Activity 2B: stream stabilization which includes on-site filling in upland areas; and Phase 2, Activity 2C: fine site contouring which includes fine site grading.
- Overlap 3 includes Phase 2, Activity 2B; Phase 2, Activity 2C; Phase 3, site replanting for restoration and enhancement, Activity 3A: temporary irrigation for initial planting; and Phase 4: signage.
- Overlap 4 includes Phase 3, Activity 2C; Phase 3, Activity 3A; Phase 3, Activity 3B: soil amendments; and Phase 4.

[1] Note that CalEEMod is designed to incorporate Rule 403 within its "mitigation" scenario. Therefore, the fugitive dust emissions in the "mitigation" scenario in CalEEMod represent the unmitigated conditions with the application of Rule 403 compliance.

- Overlap 5 includes Phase 3, Activity 3B; Phase 3, Activity 3C: planting for riparian alkaline meadow & upland habitats; Phase 4; and Phase 5: pruning, soil amendments and other measures.

Emissions estimates assume the overlap in phase and activities would occur during construction as stated above.

Table 7 summarizes the modeled worst-case daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities (refer to **Appendix B** for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs). As shown in Table 7, even with the overlapping phases, none of the project's emissions would exceed the SCAQMD's daily significance thresholds. Thus, air quality impacts during construction of the proposed project would be less than significant.

TABLE 7
PROPOSED PROJECT: REGIONAL UNMITIGATED CONSTRUCTION EMISSIONS

	Estimated Maximum Daily Emissions (lbs/day)					
Construction Activity	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Activity 1A	2.08	21.70	10.01	0.02	3.76	2.38
Overlap 1	4.88	55.02	27.96	7.83	5.67	3.60
Overlap 2	4.75	53.26	27.40	7.84	3.43	2.14
Overlap 3	5.35	54.66	29.55	0.08	6.33	3.83
Overlap 4	5.90	60.26	29.82	0.08	6.44	4.09
Overlap 5	6.07	61.14	32.29	0.08	6.38	4.18
Maximum Regional Daily Emissions	**6.07**	**61.14**	**32.29**	**7.84**	**6.44**	**4.18**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Refer to Appendix B

Operations

Operation of the proposed project would consist of the short-term maintenance period begins when the installation has been certified as complete. The short-term maintenance period includes a 120-day plant establishment period intended to provide a maintenance, observation, and guarantee period to ensure that plants become properly established and that installation has been properly executed. Following the plant establishment period, maintenance will continue for up to three years and will include irrigation maintenance for providing temporary irrigation for the upland and riparian areas to meet the proposed project goals and success criteria. For this project, operational emissions consist of worker vehicle trips as well as water for irrigation. As discussed above, no new vehicle trips by visitors to the project site are anticipated because daily visitors to the project site would be the same people who are currently experiencing the Upper Newport Bay. The proposed project would not increase vehicle trips to the Upper Newport Bay.

Irrigation is not a contributor to air quality emissions and therefore, for this project, only emissions from worker trips are associated with the temporary operational emissions. **Table 8** identifies the operational emissions associated with the three years of maintenance and monitoring for the proposed project. As shown, annual emissions are well below the SCAQMD's regulatory thresholds, and impacts would be less than significant.

TABLE 8
PROPOSED PROJECT: REGIONAL OPERATIONAL EMISSIONS

	Estimated Maximum Daily Emissions (lbs/day)					
Construction Activity	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area Source	*0*	*0*	*0*	*0*	*0*	*0*
Energy Source	*0*	*0*	*0*	*0*	*0*	*0*
Mobile Source	*0.02*	*0.03*	*0.43*	*<0.1*	*0.16*	*0.04*
Maximum Regional Daily Emissions	*<1*	*<1*	*<1*	*<0.1*	*<1*	*<1*
Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Refer to Appendix B

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. A cumulative impact arises when two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the proposed project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

The project area is located within the SCAB, which is considered the cumulative study area for air quality. Because the SCAB 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 past, present, and reasonably foreseeable future projects in the SCAB as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. However, based on SCAQMD's cumulative air quality impact methodology, SCAQMD recommends that if an individual project results in air emissions of criteria pollutants (ROG, CO, NOx, SOx, PM_{10}, and $PM_{2.5}$) that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the proposed project region is in non-attainment under an applicable federal or state ambient air quality standard. As shown in Tables 7 and 8, the project's construction and operational emissions would not exceed the SCAQMD's daily threshold for any criteria pollutants and would not contribute to a considerable net increase in area emissions. Therefore, the project would result in a less than significant cumulative impact during construction and operational activities.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Neither the construction or operation of the proposed project would expose sensitive receptors to substantial pollutant concentrations.

CO Hotspots

Localized areas where ambient concentrations of CO exceed state and/or federal standards are termed CO hotspots. Emissions of CO are produced in greatest quantities from motor vehicle combustion and are usually concentrated at or near ground level because they do not readily disperse into the atmosphere, particularly under cool, stable (i.e., low or no wind) atmospheric conditions. CO levels in the project area are substantially below the federal and state standards. The maximum CO level in recent years is 2.7 ppm (eight-hour average) compared to the threshold of 9.0 ppm (eight-hour average). Carbon monoxide decreased dramatically in the SCAB with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin for some time and the Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS.

For the purposes of analyzing CO Hotspots, intersections are considered not to result in a CO hotspot if daily traffic at the analyzed intersections exceeds 100,000 vehicles per day. The SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day (SCAQMD, 2003b). This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue.[2] When added to the existing background CO concentrations, the screening values would be 8.7 ppm (one-hour average) and 5.6 ppm (eight-hour average) (SCAQMD 2003b). In order for these intersections to exceed the one-hour threshold the daily traffic would need to exceed 100,000 vehicles per day.

Although a project specific traffic study was not prepared for this project, the operational maintenance activities would be temporary, lasting approximately three years as necessary. During this time, a maximum of 5 employees would access the site as needed. Even if they occurred every day over the three years (which is unlikely considering the type of activities that maintenance would cover), five trips occurring during morning or evening peak hours would not substantially increase the traffic in the project area, and therefore, would remain well below the 200,000 vehicles per day that would be needed to trigger a potential hotspot. Therefore, the project would not result in the formation of a CO hotspot, and impacts would be less than significant.

[2] The eight-hour average is based on a 0.7 persistence factor, as recommended by the SCAQMD.

LST

The daily on-site construction and operational emissions generated by the proposed project were evaluated against SCAQMD's localized significance thresholds (LSTs) for a 5-acre site to determine whether the emissions would cause or contribute to adverse localized air quality impacts. The area proposed to be disturbed through clearing and grubbing as well as selective vegetation removal encompasses 9.24 acres. The nearest sensitive receptors to the project area are the residential buildings located within approximately 75 to 100 feet (25 to 30 meters) to the north and south of the project site. Therefore, the analysis compares the on-site construction and operational emissions to the look-up table thresholds for a 5-acre site at 25 meters within sensitive receptor area (SRA) 20 for Central Orange County Coastal.

As shown in **Table 9**, the daily unmitigated emissions generated on-site by the proposed project's worst-case construction and operational scenarios would not exceed the applicable SCAQMD LSTs. Therefore, localized air quality emissions associated with the project would have a less than significant impact.

TABLE 9
PROPOSED PROJECT: UNMITIGATED LOCALIZED DAILY EMISSIONS

	Estimated Maximum Daily On-Site Emissions (lbs/day)[a,b]			
	NO_X	**CO**	**PM10[c]**	**PM2.5[c]**
Construction Emissions				
Maximum Localized Emissions	60	29	6	4
SCAQMD Threshold	109	1,711	14	9
Significant Impact?	**No**	**No**	**No**	**No**
Operational Emissions				
Maximum Localized Emissions	<1	<1	<1	<1
SCAQMD Threshold	*109*	*1,711*	4	2
Significant Impact?	**No**	**No**	**No**	**No**

Source: Refer to Appendix B

[a] According to SCAQMD's LST methodology, LSTs are only applicable to the on-site construction emissions that are generated by a project and do not apply to emissions generated off-site such as mobile emissions on roadways from worker, vendor, and haul truck trips.

[b] LSTs for a 5-acre site in SRA 20 at a receptor distance of 25 meters.

[c] Construction emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.

TACs

Construction of the proposed project would result in short-term emissions of diesel PM, a known toxic air contaminant (TAC). Diesel PM poses a carcinogenic health risk that is measured using an exposure period of 70 years. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during excavation and backfilling; installation of utilities, materials transport and handling and other miscellaneous activities. SCAQMD has not adopted a methodology for analyzing such impacts, however, recommends that projects for which they are the Lead Agency follow the 2015 Office of Environmental Health Hazard Assessment (OEHHA) methodology to determine health risk for construction activities.

According to OEHHA, carcinogenic health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period or duration of activities associated with the proposed project. OEHHA recommends a health risk assessment be conducted for any project that disturbs more than one acre and lasts more than two months. The construction period for the proposed project would occur over five months and would clear and grub areas encompassing 6.83 acres. The risk analysis determines the risk for sensitive receptors within 1,000 feet of the proposed project. While there are both residential and school receptors within the 1,000-foot boundary of the project site, because the length of construction is only five months, the residential analysis (assuming receptors are less than 2 years old during the construction activities) is a more conservative analysis so school receptors were also analyzed as residential receptors. Additionally, while there is the potential for a fetus to be located within the project vicinity for the last trimester and then for the remainder of construction between birth and 2 years old, due to the breathing rates of children between birth and 2 years, risk is greater assuming all construction activities occur within the birth to two-year time frame. Therefore, as a conservative analysis, residential receptors were analyzed for construction activities starting within both age bins (3rd Trimester and 0-2 years). While health risk analysis is cumulative and must consider operational risk as well as construction risk, the operational activities of the proposed project (intermittent irrigation for a maximum of 3 years) would not result in substantial emissions of diesel particulate matter, and therefore, operational activities are not included in the analysis. Additionally, although the analysis uses a disturbance area of 6.5 acres and not the 6.83 acres that is identified in the project description, the analysis is still considered conservative because it assumes that during each construction phase, all equipment is operating at maximum horse power and maximum hours which, while it may occur occasionally during the construction period (i.e., a maximum of 40 to 60 percent of the time), it will not occur every day as the analysis assumes.

A construction health risk assessment was conducted using AERMOD to model the concentrations and a spreadsheet calculate the risk based on the OEHHA methodology to determine the potential impacts for nearby sensitive receptors (see Appendix B). The regulatory threshold for construction risks is 10 in a million for cancer risk or 1 for non-cancer risk. The proposed project's maximum construction related cancer risk is 6.37 per million at receptor 174 when construction activities are initiated when a fetus is in the 3rd trimester and 9.69 per million when construction activities are initiated when risk is estimated from birth to 2 years. The non-cancer health risk is 0.17 for either age bin at receptor 174. The location of receptor 174, which is the maximum construction risk, is at the residential buildings adjacent to the northeast side of the project site.

As identified, the construction risks associated with the proposed project would not exceed the regulatory threshold of 10 in a million for cancer risk or 1 for non-cancer risk. Therefore, project construction and operational activities would not expose sensitive receptors to substantial emissions of TACs. This impact would be less than significant.

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

Less than Significant Impact. During construction of the proposed project, exhaust from equipment may produce discernible odors typical of most construction sites due to the use of diesel/gasoline and dust. 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.

Operational land uses that are associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Because the project is the restoration of a riparian area, it does not include any of the operational uses that have been identified as being associated with odors. Thus, the proposed project's operational activities are not expected to result in objectionable odors for the neighboring uses. Therefore, impacts associated with objectionable odors would be less than significant.

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3.4.4 Biological Resources

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and 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 (BRTR) prepared by ESA in April 2018. This report is provided in **Appendix C**. The BRTR documents the results of biological resources surveys conducted within the approximately 11.32-acre Phase 2A project area, as well as a 500-foot buffer around the project site excluding developed areas (cumulatively referred to as "study area", and comprising a total of 37.14 acres).

Environmental Evaluation

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.

The study area is not within any USFWS-designated Critical Habitat for any special-status plant or wildlife species.

Two special-status plant species, southern tarplant (CRPR 1B.1) and California boxthorn (CRPR 4.2), were observed in the study area (but outside of the project site) during surveys conducted by Dudek (2015) and confirmed by ESA during a site visit conducted on March 26, 2018. Because these special-status plant species were found outside of the project site and thus outside of the proposed project's footprint, no direct impact to these species would occur as a result of restoration implementation or monitoring activities associated with the project. It is possible that, due to presence of suitable habitat and possible presence of viable seed in the seed bank, special-status plant species could be present within the project site prior to implementation of restoration activities. In particular, southern tarplant is a disturbance tolerant species, and could germinate resulting from disturbance of the project site during construction activities. Construction-related impacts to special-status plant species, if present, would be significant.

One special-status reptile species, orange-throated whiptail, a California Species of Special Concern (SC), has a moderate potential to occur on-site. This species is one of 39 Identified species whose conservation and management is provided for under the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). Orange-throated whiptail is also one of three "Target Species" (including California gnatcatcher and cactus wren) that the NCCP/HCP considers as focal species for conservation planning efforts. The Target species are all closely associated with coastal sage scrub (CSS) habitat which the NCCP/HCP is primarily designed to conserve. The Big Canyon area is within the Orange County Central-Coastal NCCP/HCP plan area but designated as "non-reserve open space" so is not part of the NCCP/HCP Reserve System. As Big Canyon is not part of the Reserve, it is not subject to the level of protection provided for the Reserve under the NCCP/HCP. However, the proposed project is planned within the context provided in the Big Canyon Resource and Recreation Management Plan (RRMP) (IRC & Dudek, 2016). 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. Also, as noted above, the orange-throated whiptail inhabits areas of coastal sage scrub, which occurs in the study area for Phase 2A but outside the areas directly affected by the proposed project. Moreover, construction workers and equipment would be limited to working within existing trails and in areas where exotic vegetation would be removed and restoration/enhancement would occur. Finally, the proposed project is intended to create more native scrub habitat that would then be available for this species within the upland transitional habitat around sections of the perimeter of the Phase 2A site. Thus the project will indirectly benefit this species by adding to the total habitat area available in the Big Canyon Nature Park. Therefore, since the proposed project will likely benefit this species, any temporary adverse effects would be considered less than significant.

One special-status avian species, yellow warbler (Species of Special Concern - SC), was detected at the southern boundary of the project site during 2015 surveys. Three other special-status bird species, including yellow-breasted chat (SC), white-tailed kite (State Fully Protected - FP), and coastal California gnatcatcher (federally listed Threatened - FT, SC), were observed by Dudek during 2015 surveys within the study area but outside the proposed Phase 2A project site. Coastal California gnatcatcher was also detected during ESA's 2018 site visit in habitat located just west of the proposed project. Coastal California gnatcatcher occurs in coastal scrub habitat, which occurs

in the study area but the species does not occur in and would not be directly affected by the proposed project. California gnatcatcher is covered as an Identified Species and recognized as a CSS Target Species under the NCCP/HCP.

In addition, least Bell's vireo (federally and state Endangered – FE, SE) has been observed within the study area but outside the project area in previous years according to data provided in the RMMP (2016) although the exact date and source of that information is unknown. Least Bell's vireo is a conditionally covered Identified Species under the NCCP/HCP that occurs within native riparian habitat. The proposed project is specifically intended to enhance existing riparian habitat and create additional native riparian habitat in the Phase 2A site, which will then be available for this species. Thus the project will indirectly benefit this species by adding to the total habitat area available in the Big Canyon Nature Park.

These avian species, as well as other special-status bird species considered to have a high or moderate potential to occur within the study area, could nest in the riparian or adjacent upland habitat in the project area and could be negatively affected during implementation of the project due to temporary loss of habitat during invasive species removal, floodplain grading, and replanting. However, the project proposes to conduct construction work outside of the nesting season to the extent feasible to minimize such disturbances to nesting birds; thus, indirect impacts to nesting birds from construction activity would be limited to the work area and short term, and only to the extent that work cannot feasibly avoid overlapping some part of the breeding season. Although there may be a temporary disturbance to nesting habitat and permanent removal of non-native stands of trees, there will be an overall benefit to native avian species, as well as other wildlife, through implementation of the proposed project by restoring native habitat to the area, which can be utilized for nesting and foraging. Other net ecological benefits would include removing PSHB-infested trees, which would benefit the general health and integrity of the existing riparian habitat, and improving the overall streambed function and ecology of Big Canyon Creek. To the extent that work cannot be scheduled outside of nesting season, temporary impacts to nesting special-status bird species from implementation of the proposed project, if present, would be potentially significant.

Three special-status mammal species, Southern California saltmarsh shrew (SC), pallid bat (SC), and San Diego desert woodrat (SC), have a moderate or moderate to high potential to occur in the study area. Southern California saltmarsh shrew occurs in salt marsh habitat and San Diego desert woodrat occurs in coastal scrub habitats. Both these habitat types would be avoided by the proposed project, and construction workers and equipment activities would be limited to existing trails and designated restoration areas where exotic vegetation would be removed and restoration/enhancement would occur. Furthermore, San Diego desert woodrat is an Identified Species for which conservation and management are provided under the NCCP/HCP. A potential beneficial indirect effect of the proposed project would include creating native wet alkali meadow habitat and establishing native scrub plant species within the upland transitional habitat that would be available for these species, where exotic species are removed and replaced. As such, the proposed project may benefit these species, and adverse effects would be less than significant.

Pallid bat occurs in a wide variety of habitats including shrublands, woodlands, and forests. Since much of the forested area within the exotic pepper tree groves would be removed, this species could potentially be impacted by the project, if present. However, the project proposes to conduct work outside of the nesting season for birds, which would also avoid the maternity season for bats (i.e., mid-March through August), and avoid disturbances to any bats that may be present. Although there would be a temporary disturbance to potentially suitable habitat and permanent removal of non-native stands of trees, there would also be an overall benefit to native bat species, as well as other wildlife, through implementation of the proposed project by restoring native habitat to the area, which can be utilized for roosting and foraging. To the extent that project work cannot feasibly be scheduled outside of maternity season, impacts to pallid bat from implementation of the proposed project would be potentially significant, if this species is present.

Mitigation Measures

To minimize and avoid significant effects to sensitive biological resources as a result of project implementation, the following mitigation measures are recommended.

BIO-1: Special-Status Plants. The following mitigation shall be implemented for avoidance and minimization of temporary construction-related impacts to special-status plant species within the project site:

a. Within two weeks prior to construction activities, preconstruction surveys shall be conducted by a qualified Project Biologist to confirm presence/absence of special-status plant species within the project site. The locations of any special-status plant species identified during the pre-construction botanical survey, including those with a CRPR of 1, 2, or 3 shall be flagged (or otherwise delineated and marked) by a biologist and shall be avoided. To verify avoidance during construction, a qualified biologist shall be onsite during any ground disturbing activities within 10 feet of a special-status plant species population.

b. If special-status plant species are observed during the preconstruction surveys within the portion of the project site proposed for restoration and if avoidance of the special-status plant species is not feasible, coordination with USFWS and/or CDFW will be required to confirm suitable mitigation prior to ground-disturbing activities. The mitigation strategy may include on-site or off-site restoration, translocation, and/or seed collection, and shall be outlined in a restoration/revegetation plan to be approved by USFWS and/or CDFW. At a minimum, the plan shall include a description of the existing conditions, site selection criteria, site preparation and planting methods, maintenance and monitoring schedule, performance standards, adaptive management strategies, and identification of responsible parties.

BIO-2: Nesting Birds. Impacts to nesting birds would be avoided by conducting all grading and construction activities outside of the bird breeding season (February 15 to August 31; January 15 to August 31 for raptors). 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 pre-construction avian nesting survey no more than 7 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 7 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 areas where construction activities will occur.

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 special-status species (e.g., coastal California gnatcatcher, least Bell's vireo); a 500-foot minimum avoidance buffer for all raptor species; and 300-foot minimum avoidance buffer (or other buffer as determined appropriate by the Project Biologist) for other passerine birds. Buffer distances for other species will 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-3: Special-Status Bats. Impacts to special-status bat species would be avoided by conducting all grading and construction activities outside of the maternity roosting season (mid-March through August). If maternity roosting season cannot be avoided, the following measures would be followed.

a. If grading/construction activities must occur during the maternity season, a qualified biologist shall conduct a pre-construction survey to identify potential active roosts. The pre-construction survey shall occur the night before grading/construction activities to observe if any bats are exiting suitable habitat within 100 feet of the proposed work area. The pre-construction survey will be conducted at sunset for 90 minutes by a qualified biologist with the use of a thermal imaging camera to observe and record any bats. If no bats are observed, work may proceed in the proposed work area the following day and will remain cleared for the duration of the work activity. If active roosts are observed, no grading/construction activities may take place in the proposed work area the following day and not until it can be verified with thermal imaging that bats have left the area or the maternity roosting season is over.

b. Additional pre-construction surveys will be required in new work areas located more than 100 feet away from the previously surveyed work area.

Significance after Mitigation

With implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3, construction impacts to special-status species from project restoration activities would be less than significant. Implementation of MM BIO-1 would reduce potential construction-related impacts to special-status plants to a less than significant level. Also, the proposed project will create more native habitat for these special-status plant species to recruit and spread into, and thus would constitute a potentially beneficial indirect project effect, since the dense continuous canopy of Brazilian pepper trees currently precludes the establishment of these species by outcompeting them for light and other resources. Implementation of MM BIO-2 and MM-BIO-3 would reduce temporary construction-related potential impacts on special status bird and bat species, if present, to a less than significant level. Overall, the project would result in a net long-term benefit to sensitive and special-status species by enhancing habitat quality, including nesting, roosting and foraging area, within the project site.

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 Impact.

Effects on Sensitive Natural Communities

Modifications to vegetation communities within the 11.32-acre project area are summarized in **Table 10**, which total 9.24 acres including mixed arroyo willow/pepper tree grove (2.90 acres) and pepper tree grove (6.34 acres) The project proposes to remove exotic and invasive vegetation by clearing and grubbing in a maximum area of 6.83 acres and will involve grading to pull back the slopes of segments of Big Canyon Creek where it is deeply incised to connect that stream to the floodplain and promote restoration with appropriate vegetation. Removal of Brazilian pepper trees, including root material in the upper soil profile, will create a very uneven surface and will require contouring and, in some cases, backfilling, to smooth out the surface area and to stabilize the creek banks as described in Section 1.2. The maximum area that would be completely cleared and grubbed and partially graded and re-contoured is presently occupied by approximately 6.33 acres of non-native pepper tree groves and up to 0.50 acre of mixed arroyo willow / pepper tree grove. Following exotic removal and surface preparations, a mosaic of habitats comprised of native plant species will replace the existing non-native dominated community (refer to Figures 11 and 12 above and Table 1**0** below). Selective removal of pepper trees and other non-native vegetation is also proposed to occur within the remaining 2.41 acres of mixed arroyo willow /pepper tree grove patch areas (2.40 acres) and pepper tree grove (0.01 acre). Selective removal of Brazilian pepper trees within the mixed woodland habitat would occur using both hand tools and smaller equipment (e.g., small, Kubota-type skid steer, track, or wheel loaders, and compact excavators) to remove logs and debris while avoiding impacts to native vegetation (e.g., healthy willow trees) to the extent practical. Restoration of all areas where exotic vegetation is removed is intended to establish much higher quality native riparian and upland habitat, resulting in a net ecological benefit for plant and wildlife species.

of Temporary access ramps are proposed at two locations and one additional optional location is proposed (shown on Figures 12 and 13, above) to provide equipment access to the project site to remove exotic and invasive vegetation and to implement habitat restoration activities. A total of up to approximately 0.09 acre of pepper tree groves (0.07 ac.) and mixed arroyo woodland / pepper tree grove (0.02 ac.) would be displaced by the ramp placements. One or more of these access ramps may remain in use during the first three years of restoration implementation for maintenance access, and would then be revegetated and maintained for the remainder of the restoration effort and monitoring phase.

Only three special status vegetation communities (mixed-arroyo willow/pepper tree grove, alkali heath marsh alliance, and Menzies' goldenbush scrub alliance) occur within the Phase 2A project area as depicted on Figure 4 above, and indicated below in Table 10. No adverse effects would occur to the alkali heath marsh alliance or to Menzies' goldenbush scrub alliance. In addition, although it is not considered a special-status vegetation community, no adverse effects would occur

to the 0.40 acre of freshwater marsh on-site, which is a riparian community. Selective removal of exotic pepper trees and enhancement would occur within 2.41 acres of the total 2.90 acres of mixed arroyo willow/pepper tree grove community on-site. This work would involve tree removal and may also include substantial pruning or removal of native willow trees if they are badly infested with PSHB. Some incidental damage to native vegetation is also anticipated to occur in order to access, prune and remove the individual exotics and infested willows.

TABLE 10
MODIFICATIONS TO VEGETATION COMMUNITIES IN PHASE 2A PROJECT AREA

	Existing	Clearing and Grubbing Effects	Selective Invasives Removal Effects	Total Effects
Mixed Arroyo Willow*/Pepper Tree Grove	2.90	0.50	2.40	2.90
Freshwater Marsh	0.40	-	-	-
Alkali Heath Marsh Alliance*	0.58	-	-	-
Menzies's Goldenbush Scrub Alliance*	0.28	-	-	-
Pepper Tree Grove	6.34	6.33	0.01	6.34
Bare Ground	0.82	-	-	-
Grand Total	**11.32**	**6.83**	**2.41**	**9.24**

To minimize adverse effects to native vegetation within the mixed-arroyo willow/pepper tree grove, work would be done manually or by using small, lightweight machines to the extent feasible; however, as a conservative estimate of potential disturbance to the existing mixed arroyo willow/pepper tree grove community on-site, for purposes of this analysis, it is assumed that up to a maximum of 2.90 acres would be effected; even though the selective removal would only result in a portion of the 2.90 acres to be entirely affected. Subsequent to the selective removals and pruning, these areas would be enhanced as native vegetation recolonizes these areas via natural recruitment and with re-seeding areas with appropriate native plants, all of which would improve the quality and health of this community, resulting in a net ecological benefit. Therefore, the disturbances to conduct the enhancement work would be "self-mitigating"; thus, adverse effects would be less than significant.

Environmental Study Areas (ESAs)

According to the City of Newport Beach Coastal Land Use Plan (CLUP), Section 4.1.3, Newport Beach has several relatively large, undeveloped areas that contain natural habitats and may be capable of supporting sensitive biological resources. One of these areas is identified as the Mouth of Big Canyon which encompasses the entire canyon between Jamboree Road and Back Bay Drive and encompasses the various phases (i.e., Phases 1, 2A, 2B, and 2C) depicted on Figure 2 in Chapter 2, Project Description. As discussed above, the proposed project includes the habitat restoration of the project site (Phase 2A). Restoration includes the removal of exotic, invasive vegetation and the replacement with native habitat that is intended to establish much higher quality native riparian and upland habitat, thus resulting in a net ecological benefit for plant and wildlife species.

Environmentally Sensitive Habitat Areas (ESHAs) and LCP Policy Consistency

Section 30107.5 of the Coastal Act defines “environmentally sensitive area” as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Section 30240 of the Coastal Act requires that environmentally sensitive habitat areas (ESHAs) be protected against any significant disruption of habitat values. Only uses dependent on those resources are allowed within ESHAs and adjacent development must be sited and designed to prevent impacts that would significantly degrade the ESHA and must be compatible with the continuance of the ESHA. The Coastal Act criteria for determining whether an area qualifies as an ESHA are based upon ecological importance, including the rarity or function of the habitat, and the habitat’s sensitivity. Rarity relates to either the natural limited occurrence of the habitat in the region or of the diminishment of what was an extensive habitat due to cumulative losses. Function relates to the importance of the habitat to the ecosystem, such as functioning as a migration corridor for wildlife. Sensitivity relates to the habitats tolerance to disturbance or degradation.

Several habitat types identified as ESHAs occur in Big Canyon. Within the Phase 2A area (project site), there are four ESHAs that include southern willow scrub, southern arroyo willow forest, freshwater marsh and a version of alkali meadows. The southern willow scrub and southern arroyo willow forest are located within the mixed arroyo willow/pepper tree grove vegetation community as shown on Figure 4 in Chapter 2, Project Description. The freshwater marsh is also shown in Figure 4. The version of alkali meadows is shown as Alkali Heath Marsh Alliance in Figure 4. The proposed project does not include direct effects on the freshwater marsh and alkali meadows; however, the project will result in the restoration of the areas that contain mixed arroyo willow/pepper tree grove vegetation community.

The City of Newport Municipal Code section 21.30B.030 provides regulations regarding designating ESHAs, requiring protection, reporting of ESHAs, ESHA buffers, development design and siting adjacent to ESHAs, limiting uses within ESHAs, and required findings. As identified above, there are onsite ESHAs that meet the characteristics identified in the City’s municipal code. The ESHA shall be protected against significant disruption of habitat values. The proposed project includes restoring the natural habitat on the project site and removing the invasive Brazilian pepper tree forest and other invasive plant species, and therefore, would improve the habitat values on the project site. Appendix C of this IS/MND includes a biological resources technical report that addresses the existing onsite plant and wildlife species and the potential effects associated with the proposed project. The Code identifies the need to provide a minimum of a 50-foot buffer between urban development and ESHAs. The nearest urban development to the project site is approximately 75 to 100 feet from the project site which meets the buffer requirement. The design and siting requirement refers to new urban development which is not applicable to the proposed project because the proposed project is not introducing new urban development but, rather, restoring the native habitat within Big Canyon by removing the invasive species. The Code identifies that land uses for ESHAs shall include limited public access improvements, minor educational, interpretative and research activities and development, and habitat restoration projects. Because the proposed project includes habitat restoration and public access improvements in the form of interpretive signs

and resting areas, the project is considered consistent with the required uses. Finally, the required findings are to demonstrate that the existing resources will not be significantly affected. Because the project includes restoring the native habitat on the project site, the project would not significantly affect the ESHA resources on the project site, but would improve and enhance the value of the resources on the project site.

Furthermore, implementation of the preceding Phase 1 project provided water quality improvements. The currently proposed Phase 2A project will also provide some additional benefits to water quality by improving the hydrological function of Big Canyon Creek, promoting continuous flow in place of stagnant areas that tend to accumulate selenium, and connecting the creek to the adjacent floodplain to facilitate better infiltration. With regard to human activity, the planned restoration will continue to maintain the existing trail system and may provide enhanced viewing opportunities and educational/interpretive displays but will not contribute any additional uncontrolled human activity. Overall, the proposed project would not result in significant adverse effects within the ESHAs on the project site; rather, the proposed project will substantially improve habitat quality and diversity.

Table 11, below, provides a consistency evaluation of the proposed project with regard to each of the City of Newport Beach CLUP policies regarding biological resources and protection of ESHAs that are applicable to the proposed project.

TABLE 11
COASTAL LAND USE PLAN CONSISTENCY ANALYSIS – STUDY AREA NO. 7 BIOLOGICAL RESOURCES

Coastal Land Use Plan Policies 4.1 Biological Resources	Consistency Determination	Analysis
4.1.1-1. Define any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments as an environmentally sensitive habitat area (ESHA). Using a site-specific survey and analysis by a qualified biologist, evaluate the following attributes when determining whether a habitat area meets the definition of an ESHA: A. The presence of natural communities that have been identified as rare by the California Department of Fish and Game. B. The recorded or potential presence of plant or animal species designated as rare, threatened, or endangered under State or Federal law. C. The presence or potential presence of plant or animal species that are not listed under State or Federal law, but for which there is other compelling evidence of rarity, such as designation as a 1B or 2 species by the California Native Plant Society.	Consistent	A. -Riparian habitat containing native willows and other native woodland and scrub vegetation along a coastal stream leading into Upper Newport Bay is considered sufficiently valuable and uncommon or vulnerable to be categorized as ESHA. CDFW also recognizes willow forest as a sensitive community although this mixed community may not be deemed as sensitive. Therefore, the mixed arroyo willow woodland/ pepper tree community in Phase 2A would be ESHA, albeit in a degraded condition due to the presence of exotic Brazilian pepper trees. The location of the onsite habitats that are considered ESHAs are depicted in Figure 4 in Section 2, Project Description. Other vegetation types in Phase 2A, including Menzies' goldenbush scrub (a version of coastal sage scrub), alkali heath marsh alliance, and freshwater marsh dominated by cattails, are each considered rare or vulnerable or otherwise sensitive. These are all components of the ESHA within Phase 2A. However, the planned restoration project will not affect these other communities within the site. B. No State or federally-listed species have been identified in the arroyo willow woodland/ pepper tree community in Phase 2A, but this community may be potentially suitable for the least Bell's vireo. C. Several special-status plants and animals are known from the study area, but outside the project area. Yellow warbler, a California Species of Special Concern has been observed in the area and

TABLE 11
COASTAL LAND USE PLAN CONSISTENCY ANALYSIS – STUDY AREA NO. 7 BIOLOGICAL RESOURCES

Coastal Land Use Plan Policies 4.1 Biological Resources	Consistency Determination	Analysis
D. The presence of coastal streams. E. The degree of habitat integrity and connectivity to other natural areas. Attributes to be evaluated when determining a habitat's integrity/connectivity include the habitat's patch size and connectivity, dominance by invasive/non-native species, the level of disturbance, the proximity to development, and the level of fragmentation and isolation. Existing developed areas and existing fuel modification areas required by the City of Newport Beach Fire Department or the Orange County Fire Authority for existing, legal structures do not meet the definition of ESHA.		California box thorn was noted in an adjacent area. Other non-listed species may have some potential to occur. D. Big Canyon Creek flows through Phase 2A which includes ESHAs as depicted on Figure 4. E. The habitat that would be affected by the planned activity within Phase 2A exhibits poor integrity as it has been overrun by Brazilian pepper trees that have displaced native vegetation and provide only very limited habitat values. The remaining willow trees and native riparian elements are threatened by continued encroachment by this exotic vegetation. The area is connected to Upper Newport Bay but is not considered an important wildlife linkage. There is little natural area upstream on the other side of Jamboree Road other than a golf course which provides open space but limited habitat value for terrestrial wildlife.
4.1.1-2. Require a site-specific survey and analysis prepared by a qualified biologist as a filing requirement for coastal development permit applications where development would occur within or adjacent to areas identified as a potential ESHA. Identify ESHA as habitats or natural communities listed in Section 4.1.1 that possess any of the attributes listed in Policy 4.1.1-1. The ESA's depicted on Map 4-1 shall represent a preliminary mapping of areas containing potential ESHA.	Consistent	A site-specific survey and analysis has been prepared by a qualified biologist. The project involves habitat restoration only. No new development is proposed. Severely degraded ESHA comprised predominantly of non-native trees and up to 0.5 acre containing a mix of native riparian vegetation and non-native trees will be removed but then completely replaced with appropriate mosaic of native vegetation (including special status plant species) along a more stable streambed with better connectivity to the surrounding floodplain. The location of the existing onsite ESHAs are shown in Figure 4. The planned activity would result in restoration of a robust and diverse habitat area with increased potential to attract and support special status wildlife and plants.
4.1.1-3. Prohibit new development that would necessitate fuel modification in ESHA.	Consistent	Project involves habitat restoration only. No new development or other use necessitating fuel modification is proposed.
4.1.1-4. Protect ESHAs against any significant disruption of habitat values.	Consistent	A 0.5-acre area of the ESHA comprised of the mixed arroyo willow / pepper tree woodland will be cleared and grubbed and other areas will be subject to selective removal of exotic pepper trees and other non-native vegetation. Sections of Big Canyon Creek will also be graded, recontoured and stabilized and, thus, would be temporarily disturbed and flows would be diverted during the work. The purpose of the proposed project is to restore and establish an optimal mix of native vegetation types within the disturbed area and, thus, substantially improve habitat values within these areas.
4.1.1-7. Limit uses within ESHAs to only those uses that are dependent on such resources.	Consistent	Uses of the Phase 2A site will be restricted to passive recreation and education with public access restricted to the existing trail system. Entry into ESHA areas, including restored habitats, would be restricted to authorized persons.

TABLE 11
COASTAL LAND USE PLAN CONSISTENCY ANALYSIS – STUDY AREA NO. 7 BIOLOGICAL RESOURCES

Coastal Land Use Plan Policies 4.1 Biological Resources	Consistency Determination	Analysis
4.1.1-8. Limited public access improvements and minor educational, interpretative and research activities and development may be considered resource dependent uses. Measures, including, but not limited to, trail creation, signage, placement of boardwalks, and fencing, shall be implemented as necessary to protect ESHA.	Consistent	The existing trail system would not be changed but the proposed project is expected to include installation of signage, and/or educational/ interpretive displays and may add minor improvements to enhance viewing, particularly for visiting groups.
4.1.1-9. Where feasible, confine development adjacent to ESHAs to low impact land uses, such as open space and passive recreation.	Consistent	The open space and passive recreation uses in Phase 2A will be retained. Viewing and education/ interpretive signage may be improved.
4.1.1-12. Require the use of native vegetation and prohibit invasive plant species within ESHAs and ESHA buffer areas.	Consistent	The purpose of the project is to re-establish appropriate native plant species and a robust ESHA.
4.1.1-15. Apply the following mitigation ratios for allowable impacts to upland vegetation: 2:1 for coastal sage scrub; 3:1 for coastal sage scrub that is occupied by California gnatcatchers or significant populations of other rare species; 3:1 for rare community types such as southern maritime chaparral, maritime succulent scrub; native grassland and 1:1 for southern mixed chaparral. The ratios represent the acreage of the area to be restored/created to the acreage impacted.	Consistent	The proposed restoration project will not modify or impact any of the upland vegetation types noted.
4.1.1-16. For allowable impacts to ESHA and other sensitive resources, require monitoring of mitigation measures for a period of sufficient time to determine if mitigation objectives and performance standards are being met. Mid-course corrections shall be implemented if necessary to meet the objectives or performance standards. Require the submittal of monitoring reports during the monitoring period that document the success or failure of the mitigation. To help insure that the mitigation project is self-sustaining, final monitoring for all mitigation projects shall take place after at least three years with no remediation or maintenance activities other than weeding. If performance standards are not met by the end of the prescribed monitoring period, the monitoring period shall be extended or the applicant shall submit an amendment application proposing alternative mitigation measures and implement the approved changes. Unless it is	Consistent	A habitat restoration plan will be prepared for the project, subject to review and acceptance by the City and CDFW. Implementation of the proposed habitat restoration effort will involve site preparations following clearing, grubbing and removal of exotic vegetation and correcting the incised condition and stabilizing Big Canyon Creek. Planting and seed application will be performed subsequent to installing a temporary irrigation system. Maintenance, monitoring, and reporting will be performed in accordance with the approved restoration plan. Performance standards will be established and methods will be specified to evaluate restoration progress towards achieving project goals and objectives (e.g., native vegetation cover and diversity, resilience/resistance to recolonization by exotics, etc.). Annual reports will be submitted documenting progress towards meeting project goals and objectives based on established performance criteria. Adaptive management is prescribed to address unforeseen circumstances and to make "mid-course corrections" if needed, to achieve performance criteria. Implementation of maintenance and monitoring will be conducted for 5 years after completion of installation.

TABLE 11
COASTAL LAND USE PLAN CONSISTENCY ANALYSIS – STUDY AREA NO. 7 BIOLOGICAL RESOURCES

Coastal Land Use Plan Policies 4.1 Biological Resources	Consistency Determination	Analysis
determined by the City that a differing mitigation monitoring schedule is appropriate, it is generally anticipated that monitoring shall occur for a period of not less than five years.		
4.1.3-1 B. Where pedestrian access is permitted, avoid adverse impacts to sensitive areas from pedestrian traffic through the use of well-defined footpaths, boardwalks, protective fencing, signage, and similar methods.	Consistent	The existing well defined- paths will be maintained and vegetation will be reestablished within the sensitive habitat area. Signage and temporary fencing will be provided ae appropriate during installation and maintenance..
4.1.3-1 C. Prohibit the planting of non-native plant species and require the removal of non-natives in conjunction with landscaping or revegetation projects in natural habitat areas.	Consistent	The proposed project include the restoration of the project site by removing the non-native invasive plant species and replace them with native plants.
4.1.3-1 D. Strictly control encroachments into natural habitats to prevent impacts that would significantly degrade the habitat.	Consistent	The proposed project includes interpretive signs and resting areas along existing walking paths and no public encroachments within the restoration area are proposed.
4.1.3-1 E. Limit encroachments into wetlands to development that is consistent with Section 30233 of the Coastal Act and Policy 4.2.3-1 of the Coastal Land Use Plan.	Consistent	The implementation of the proposed project includes a restoration of habitat on the project site. Because the project is limited to restoration, this activity is consistent with Section 30233 of the coastal Act.
4.1.3-1 F. Regulate landscaping or revegetation of blufftop areas to control erosion and invasive plant species and provide a transition area between developed areas and natural habitats.	Consistent	The project site does not include blufftop areas; however, there are blufftop areas adjacent to the project site that conveys surface water through a pipeline to the northern portion of the project site. The proposed project includes erosion control improvements to this pipeline terminus through the addition of rip rap. No specific landscaping is proposed to control erosion of the blufftop areas because the project would not impact the blufftop areas.
4.1.3-1 N. Prohibit invasive species and require removal in new development.	Consistent	The proposed restoration activities include the removal of invasive species. The project includes a periodic maintenance plan to prevent the establishment of invasive species.

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 Impact.

The project has been designed to avoid permanent impacts to native riparian habitat, including federally protected wetlands, and non-wetland jurisdictional waters. However, the project proposes to restore segments of Big Canyon Creek that have been eroded and incised, and that have thus

partly isolated the channel from the floodplain, thus degrading the riparian corridor which would benefit from periodic inundation. The proposed project intends to reduce the erosion and incising of the channel by grading back the incised bank to restore connectively with the floodplain. Thus, temporary effects to waters, wetlands, and associated riparian habitat as a result of restoration implementation are unavoidable. However, the resulting restored habitat would provide superior ecological benefits and would not result in placement of fill or any loss of federally protected jurisdictional areas.

Temporary effects to jurisdictional areas would occur from implementation of the riparian habitat restoration. Grading of the channel bank would pull back the upper banks along approximately 660 linear feet of channel within the pepper tree grove areas (Figure 4). Anticipated excavation for the proposed project is based on the grading for the stream restoration along this 660 linear feet extending up to an average of about 30 feet on each side of the channel to an average depth of 1.5 feet. Following clearing and removal of invasive pepper trees, including the bulk of associated root material in the upper 2 to 3 feet of soil, various measures would be implemented to stabilize and then revegetate the channel and adjacent areas.

Grading will occur within the limited area along the channel segments. As shown in **Table 12**, there are three jurisdictional types that have been evaluated. The onsite jurisdictional areas of the U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) wetlands and non-wetlands waters are illustrated on Figure 8A in Appendix C. The wetland/riparian area subject to California Department of Fish and Wildlife (CDFW) jurisdiction is illustrated on Figure 8b in Appendix C and coincides with the area defined as wetlands by the California Coastal Commission (CCC). The total effects of each jurisdictional area includes areas that are proposed to be cleared and grubbed and areas where selective invasive species removal would occur. As a conservative estimate of potential disturbance to the areas where selective invasive species removal would occur, it is assumed that all of the area would be affected; even though the selective invasive species removal would only result in a portion of the area actually being affected.

TABLE 12
EFFECTS TO JURISDICTIONAL AREAS

	Acres[a]			
Jurisdiction Types	**Existing**	**Clearing and Grubbing Effects**	**Potential Effects from Selective Invasives Removal**	**Total Effects**
USACE/RWQCB Wetlands	6.13	4.04	1.26	5.30
USACE/RWQCB Non-Wetland Waters	2.93	2.18	0.75	2.93
CDFW / CCC Wetland/Riparian	10.47	6.79	2.40	9.19

[a] Minor differences in the total acreage effects in jurisdictional areas compared to the total acreages of plant communities shown in Table 10 are due to slight differences in the configuration of vegetation types (which sometimes extend beyond jurisdictional limits) as compared with how jurisdictional areas are delineated. However, the total areas are very closely matched.

SOURCE: ESA, 2018

Banks higher than 2 feet high would be contoured back at a gentle slope to intercept the existing valley floor not more than 30 feet either side of the channel. This would create hydrologically-connected floodplain areas that would be seasonally inundated. The grading would create a gentle slope where riparian vegetation would be planted that would reduce potential bank erosion and improve water quality through natural filtration and infiltration. The proposed creek restoration would also improve benthic macro-invertebrate habitat through reduced erosion, native planting, improved water quality and greater channel stability. Because of the extensive presence of invasive non-native species, the majority of impacts are considered beneficial in that they would result in improved riparian health and restored/enhanced native habitats, and no net loss of waters of the United States or wetlands would occur. As required by the USACE, CDFW and RWQCB, the project will require approvals from each agency. The USACE will review the project in relation to Section 404 of the Clean Water Act, and the project will be required to obtain a 404 permit from USACE. The CDFW will review the project in relation to Section 1600 of the California Fish and Game Code. This Code requires applicants, whose projects result in lake or streambed alterations, to obtain an agreement with CDFW to alter a lake or streambed. Finally, the RWQCB will review the project in relation to Section 401 of the Clean Water Act which requires a water quality certification from RWQCB.

Although effects of the project are unavoidable, no substantially adverse effects will occur in any marsh, riparian, or other coastal wetland habitat area because the proposed activity will not remove, fill, or reduce the functions or values associated with any federal wetlands or waters of the U.S. The process of clearing and grubbing the undesirable exotic vegetation and recontouring the channel and floodplain areas to improve hydrological connectivity will involve temporary diversion of flows during the work, but once completed, the hydrologic functions are intended to be much improved over the existing incised condition of the channel.

As such, effects to jurisdictional wetlands would be less than significant. Overall, the project would result in a net benefit by enhancing and restoring jurisdictional wetlands.

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?

Less than Significant with Mitigation Incorporated. The study area does not function as a regional wildlife movement corridor or habitat linkage. However, the study area supports habitat for migrating birds. The proposed project could temporarily disrupt foraging and nesting opportunities within the project area for migratory birds during implementation of the restoration (e.g., invasive species removal, floodplain grading, and planting in the riparian habitat restoration area). Thus, temporary adverse effects would be potentially significant.

Mitigation Measures

Implementation of Mitigation Measure BIO-2 is required.

Significance after Mitigation

Implementation of Mitigation Measure BIO-2 would reduce adverse effects to a less than significant level. Once the project is complete, the restored and enhanced habitat would result in a net long-term benefit by providing higher functioning habitat that can provide cover and forage for migrating wildlife. Project construction would avoid the avian breeding season or nesting surveys would be required; thus, the project is not expected to adversely affect native wildlife nursery sites.

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

Less than Significant Impact.

Local Policies and Ordinances

The proposed project would not conflict with the protection of biological resources under the City of Newport Beach Municipal Code. Also, it was determined that the Brazilian pepper trees and other exotic trees within Big Canyon Phase 2A are not subject to the City's tree removal policy, as they are in a designated natural open space area. Further, the City does not inventory, has never maintained them, and has provided direction that these trees will not be subject to the Council Policy G-1. Therefore, removal will not conflict with the policy.

Adopted Plans

The proposed project, while not currently included in the Orange County Central-Coastal NCCP/HCP, Reserve System would be designed to meet NCCP/HCP standards, and is consistent with the Resource and Recreation Management Plan (RRMP) for the Big Canyon Nature Park in the event the City elects to incorporate the Nature Park into the NCCP/HCP Reserve in the future.

The City of Newport Beach General Plan includes Goal NR 16, which is the protection and management of Upper Newport Bay and Policy NR 16.2, Big Canyon Creek Restoration Project. This goal and policy includes the coordination of the Big Canyon Creek Restoration Project so that its outcomes are consistent with goals for Upper Newport Bay established by Orange County and the Department of Fish and Game. The proposed project includes the removal of exotic, invasive plant species and the restoration of the site with native plant species. Removal of the onsite pepper tree grove areas and restoration of this community to a higher quality native riparian and upland habitat would increase the ecological value of this community, and will provide better functioning habitat to support special-status species. Overall, the proposed project will contribute to the protection and management of the Upper Newport Bay ecosystem and would be consistent with the City's Goal NR 16 and Policy NR 16.2.

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 proposed project, while not currently included in the Orange County Central-Coastal NCCP/HCP, would be designed to meet NCCP/HCP standards, and is consistent with the RMMP for the Big Canyon Nature Park in the event the City elects to incorporate the Nature Park

into the NCCP/HCP in the future. Therefore, the proposed project would not conflict with the provisions of the NCCP/HCP.

References

ESA, Biological Resources Technical Report, Big Canyon Coastal Habitat Restoration and Adaptation Project – Phase 2A, July 2018.

3.4.5 Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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/Archaeological Research Plan prepared by ESA in April 2018 (**Appendix D)**.

Environmental Evaluation

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 or archaeological sites 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 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 within 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 information, 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. If unknown archaeological resources are encountered and are determined to be historical resources as defined at 15064.5, impacts to the resources would be considered significant.

The City of Newport Beach Municipal Code section 21.30.105, Cultural Resource Protection, provides a regulation to ensure that archaeological/paleontological cultural resources are afforded protection at sites known to contain or are suspected of containing archaeological cultural resources. As identified above, the project site does not contain known resources; however, due to the occurrence of resources in the vicinity of the project site, there is a potential, though small, that resources could be found. This Initial Study/MND includes an archaeological research plan that addresses archaeological/paleontological resources. As identified in Code section 21.30.105, there could be a need to have a qualified archaeologist to monitor all grading activities. As identified

below, Mitigation Measures CR-1 and CR-2 include monitoring by a qualified archaeologist and allows a Native American to observe all ground-disturbing activities on the project site. The Archaeological Research Plan together with the implementation of these measures would result in project's consistency with the requirements of this City Code.

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 National Historic Preservation Act (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 as having affiliation with the project area and consulted as part of Assembly Bill 52. The Native American representative shall be allowed to participate in the cultural resources sensitivity training discussed in Mitigation Measure CR-1. 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

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. If buried archaeological resources are encountered and determined to be significant pursuant to CEQA Guidelines Section 15064.5, impacts to the resources would be considered significant.

In addition, as discussed above, the proposed project is required to meet the City of Newport Beach Municipal Code section 21.30.105, Cultural Resource Protection, that provides a regulation to ensure that archaeological/paleontological cultural resources are afforded protection at sites known to contain or are suspected of containing archaeological/paleontological cultural resources. As identified above, the Archaeological Research Plan together with the implementation of Mitigation Measures CR-1 and CR-2 would result in project's consistency with the requirements of Code section 21.30.105.

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 checked 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.

As discussed above, the proposed project is required to meet the City of Newport Beach Municipal Code section 21.30.105, Cultural Resource Protection, that provides a regulation to ensure that archaeological/paleontological cultural resources are afforded protection at sites known to contain or are suspected of containing archaeological/paleontological cultural resources. The implementation of Mitigation Measure CR-3 would reduce the project's potential effect on paleontological resources and result in project's consistency with the requirements of Code section 21.30.105.

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.

References

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Society of Vertebrate Paleontology, 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, 2010. Available at: https://vertpaleo.org/PDFS/68/68c554bb-86f1-442f-a0dc-25299762d36c.pdf, accessed May 2018.

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3.4.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY and SOILS — 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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Environmental Evaluation

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 EIR, 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, including the Newport-Inglewood fault zone, the San Joaquin Hills fault zone, and the Elysian Park fault zone. The nearest AP zone originates from the Newport-Inglewood fault zone located offshore (City of Newport, 2006). However, the project area is not within a designated Alquist-Priolo Earthquake Fault Zone (AP Zone). Therefore, the proposed project would not be exposed to a rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

No Impact. The project area lies within a region that is seismically active. In the event of an earthquake in Southern California, some seismic ground shaking would likely be experienced in the project area. As discussed above, the Newport-Inglewood fault zone is a known active fault near the project area and is capable of producing earthquakes. Ground shaking could result in damage to new graded areas and erosion features, which in turn could affect the effectiveness of the project area restoration. However, the proposed project would not require or involve the construction of any new habitable facilities or infrastructure with foundations. Therefore, relative to existing conditions, the proposed project would not expose people or structures to new potential substantial adverse effects related to strong seismic ground shaking. There would be no impact.

iii) Seismic-related ground failure, including liquefaction?

No 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. Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations. Based on a review of the Newport Beach General Plan EIR, the project site includes areas that are susceptible to liquefaction (City of Newport Beach, 2006). However, the proposed project would not require or involve the construction of any new habitable facilities or infrastructure with foundations. Therefore, relative to existing conditions, the proposed project would not expose people or structures to new potential substantial adverse effects related to seismic ground failure due to liquefaction. There would be no impact.

iv) Landslides?

No Impact. Based on a review of the Newport Beach General Plan EIR, the project site contains areas that could be susceptible to landslides. As mentioned above, the proposed project would not introduce physical or habitable structures; therefore, relative to existing conditions, the proposed project would not expose people or structures to new potential substantial adverse effects related seismically induced landslides. There would be no impact.

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 more than one acre of soil to erosive elements such as wind and rain during construction activities. The project stormwater pollution and sediment control will be managed through a project specific Stormwater Pollution Prevention Plan (SWPPP) that conforms with the National Pollutant Discharge Elimination System (NPDES) program (see **Appendix F**). The project specific SWPPP elements will include check dams in Big Canyon Creek, a rock construction entrance, and biodegradable wattles. The construction entrances will remain in place and check dams in Big Canyon Creek will not be removed until the entire site is stabilized through the establishment of vegetative cover and protected with biodegradable wattles and biodegradable rolled erosion control products. The implementation of these construction features would reduce potential surface water quality impacts during construction activities to less than significant.

Once constructed, the potential for erosion or loss of topsoil is substantially reduced. The project would include restoration of the on-site riparian habitat through the creation of native, alkali wet and high meadow communities. 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 project area contains areas that could contain unstable soils, which result in damage to new graded areas and preventative erosion features. In turn, potential impacts could negatively affect the effectiveness of the project area restoration. However, the proposed project would not require or involve the construction of any new physical facilities or infrastructure with foundations. Therefore, the proposed project does not have the potential to locate any new facilities on a geologic unit or soils that are unstable. Restoration activities would work to stabilize soils, and therefore, relative to existing conditions, the proposed project would not cause soils to become unstable or result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be 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?

No Impact. Expansive soils contain a significant amount of clay particles that have the ability to take on water (swell) and release water (shrink). The moisture content of soils can fluctuate seasonally with precipitation, but can also vary from irrigation, leakage from waterbearing structures, and changes in site drainage. The shrink-swell behavior of expansive soils can place significant pressure and stress on buildings and foundations. Structural damage can result if a building is built on expansive soils without proper mitigation through site preparation or foundation design. 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. The proposed project does not involve construction of new physical facilities such as buildings; and therefore would not result in locating structures on expansive soils which would create substantial risks to life or property. No impacts would occur.

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.

References

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3.4.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. According to the International Panel on Climate Change (IPCC) warming of the climate system is now considered unequivocal (IPCC, 2007). Natural processes and human actions have been identified as the causes of this warming. The IPCC has concluded that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, increasing GHG concentrations resulting from human activity such as fossil fuel burning and deforestation are believed to be responsible for most of the observed temperature increase. Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. Certain gases in the atmosphere naturally trap heat by impeding the exit of solar radiation that is reflected back into space after striking the earth. This is sometimes referred to as the "greenhouse effect" and the gases that cause it are called "greenhouse gases." Some GHGs occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and increasing average global temperatures.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be intensified. CO_2, CH_4 and N_2O occur naturally, and through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing[3] associated with agricultural practices and landfills. Other human-generated GHGs include fluorinated gases such as SFCs, PFCs and SF_6, which have much higher heat-absorption potential than CO_2, and are byproducts of certain industrial processes.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound

[3] Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

basis, how much a gas contributes to global warming relative to how much warming would be caused by the same mass of CO_2. For example, CH_4 and N_2O are substantially more potent GHGs than CO_2, with GWPs of 25 and 298 times that of CO_2, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO_2 equivalents (CO_2e). CO_2e is calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e, both from residential/commercial developments and human activity in general.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs 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 accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. These agencies include CARB, the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the California Natural Resources Agency, the California Energy Commission, and the Public Utilities Commission. The CAT provides periodic reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment. The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that became available and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 (40 percent below 1990 levels) and 2050 reduction targets (80 percent below 1990 levels).
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

In 2016 SB 32 codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. Additionally, companion legislation AB 197, was passed which provides additional direction for developing the Scoping Plan. CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The Updated Scoping Plan is a package of economically viable and technologically feasible actions designed to achieve its 2030 target, and make progress towards a low- to zero-carbon economy. The Plan underscores a balanced mix of strategies to achieve the GHG target.

California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions and is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. CARB has determined the target, based on GWP values from the IPCC Fourth Assessment Report (AR4), for the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO2e. CARB updated the State's 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's updated 2020 BAU emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO2e. Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO2e would be 78.4 MMTCO2e, or a reduction of GHG emissions by approximately 15.4 percent.

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197; both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities. CARB is in the process of preparing the second update to the Scoping Plan to reflect the 2030 target established in Executive Order B-30-15 and SB 32. The 2017 Scoping Plan Update discusses a Proposed Scenario and four alternatives. CARB states that the Proposed Scenario "is the clear choice to achieve the State's climate and clean air goals." (CARB, 2017b) Under the Proposed Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from requiring 20 percent reduction of GHG emissions from the refinery sector, electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the Low Carbon Fuel Standard (LCFS), implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives are designed to consider various combinations of

these programs as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued.

Continuation of the Cap-and-Trade regulation (or carbon tax) is expected to cover approximately 34 to 76 percent of the 2030 reduction obligation (CARB, 2017b). Under the Proposed Scenario, the short-lived GHG strategy is expected to cover approximately 13 to 26 percent. The Renewables Portfolio Standard with 50 percent renewable electricity by 2030 is expected to cover approximately 10 to 11 percent. The mobile source strategy and sustainable freight action plan includes maintaining the existing vehicle GHG emissions standards, increasing the number of zero emission vehicles and improving the freight system efficiency, and is expected to cover approximately 9 to 11 percent. The doubling of the energy efficiency savings, including demand-response flexibility for 10 percent of residential and commercial electric space heating, water heating, air conditioning and refrigeration, requires the CEC in collaboration with the California Public Utilities Commission (CPUC) to establish the framework for the energy savings target setting. The CEC has proposed a schedule for establishing this framework and target setting by November 2017, which will outline the necessary actions that will need to occur in future years (CEC, 2016). The CEC states that workforce education and training institutions will be required to engage the building industry, map industry priorities for efficiency to major occupations that will provide services, identify workforce competency gaps, and quantify the work needed to build a workforce to implement high-quality efficiency projects at scale (CEC, 2016). Under the Proposed Scenario, CARB expects that the doubling of the energy efficiency savings by 2030 would cover approximately 7 to 8 percent of the 2030 reduction obligation. The other strategies would be expected to cover the remaining percentage of the 2030 reduction obligation.

Senate Bill 375

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for the State's Metropolitan Planning Organizations, including the Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region in which the City of Los Angeles is located. Of note, the reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

Under SB 375, the reduction target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

South Coast Air Quality Management District and Significance Thresholds

As a method for determining significance under CEQA, SCAQMD developed a draft tiered flowchart in 2008 for determining significance thresholds for GHGs for industrial projects where SCAQMD is acting as the lead agency. In December 2008, SCAQMD adopted a 10,000 $MTCO_2e$/year threshold for industrial facilities, but only with respect to projects where SCAQMD is the lead agency. SCAQMD has not adopted a threshold for residential or commercial projects at the time of this writing. Additionally, SCAQMD has proposed, but not adopted, a 3,000 MT/year CO_2e threshold for mixed use developments. While the proposed project does not fit neatly into either category, the more stringent of the two thresholds is used to determine significance.

Environmental Evaluation

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

Less than Significant Impact. According to SCAQMD methodology, because GHG emissions are a cumulative impact, project significance is determined by the combined amortized construction and operational emissions. Therefore, the amortized construction emissions are added to the operational emissions and compared to the SCAQMD threshold to determine significance.

Construction-related GHG emissions for the proposed project were estimated using CalEEMod Version 2016.3.2 with the same assumptions as the air quality analysis as detailed in Appendix E. The proposed project is the restoration of a portion of the Big Canyon Nature Park. Proposed project-generated emissions were modeled based on general information provided in the proposed project description and default SCAQMD-recommended settings and parameters attributable to the proposed land use types and site location. Construction activities could begin as early as October 2019 and are estimated to last approximately five months. Emissions for each phase were estimated by CalEEMod directly.

Operation of the natural habitat and park area would result predominantly in mobile source emissions workers during the three years of monitoring and from the use of water for irrigation. After three years the project site is anticipated to function on its own without the need for additional maintenance or irrigation. While operational activities are temporary in nature, from a conservative standpoint, emissions from GHGs during these three years are compared to the regulatory thresholds to determine significance. As discussed in Section 3.4.3, Air Quality, Impact a), daily visitors to the project site would be the same people who would be experiencing the Upper Newport Bay. Therefore, the proposed project is not expected to increase the number of visitors to the Upper Newport Bay, and GHG emissions from visitors to the project site would not increase with the proposed project.

The proposed project's total estimated GHG emissions during construction would be approximately 421 $MTCO_2e$ over the entire construction period. This would equal approximately 14 $MTCO_2e$ per year after amortization over 30 years per SCAQMD methodology. Operational emissions would amount to approximately 33 $MTCO_2e$ annually without the inclusion of the amortized construction emissions. Therefore, total project emissions (operational plus amortized construction) would result in 47 $MTCO_2e$ per year. As the amortized project emissions are less than

the 3,000 metric ton SCAQMD threshold, the proposed project would result in less than significant impacts.

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

Less than Significant Impact. The proposed project would not conflict with any plan, policy, or regulation aimed at reducing the emissions of greenhouse gas emissions.

Consistency with CARB Scoping Plan

The CARB Scoping Plan was designed to reduce GHG emissions from new land use projects. The proposed facilities would be subject to the Scoping Plan requirements. Out of the Recommended Actions contained in CARB's Scoping Plan, the actions that are most applicable to the proposed program would be W-1 (Increased Water Use Efficiency). The proposed project would have a temporary use of water over the construction and operational maintenance period. After the three years, the project site would be self-sufficient with vegetation specific to the local area which would eliminate the need for artificial irrigation and would provide for a healthy ecosystem for local wildlife. Therefore, the proposed program would be consistent with the Scoping Plan measures through the temporary remediation activities that would occur at the site.

Consistency with SB 375

The key goal of the Sustainable Communities Standard (SCS) is to achieve GHG emission reduction targets through integrated land use and transportation strategies. The focus of these reductions is on transportation and land use strategies that influence vehicle travel from passenger vehicles. The type of project proposed (i.e., proposed habitat restoration project) was not the focus of SB 375 since it is not a land use program that increases passenger vehicles. Therefore, the proposed project would not conflict with the overall goals of SB 375.

The proposed project would not conflict with any plan, policy, or regulation aimed at reducing the emissions of greenhouse gas emissions and impacts are less than significant.

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3.4.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

Environmental Evaluation

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 occur for approximately five months within the project site. The proposed construction activities would require the use of equipment, such as loaders, backhoe, grader, dozer, trucks, water 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 construction staging area/material stockpile area located in the western portion of the project site as depicted in Figure 12. 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 maintenance of the revegetation areas. This maintenance includes temporary irrigation to establish the upland and riparian areas to meet the proposed project goals and success criteria for the plant species. Long-term maintenance also includes control of exotic weeds. A comprehensive weed control and eradication program will be implemented. In addition, an Integrated Pest Management approach will be taken toward pest control, with natural measures and prevention playing primary roles in suppressing or reducing pest species populations as discussed in Section 2.7.2 of this IS/MND. Trash will also be removed by a landscape contractor on an as-needed basis. If maintenance activities result in the use of limited amounts of hazardous materials, this use would be subject to federal, State, and local health and safety requirements for handling, storage, and disposal. Therefore, hazardous material impacts 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 could 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 200 feet (0.05 miles) north of the project site. In addition, Corona Del Mar High School is located approximately 650 feet (0.13) 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, backhoe, grader, dozer, trucks, water trucks and other powered equipment. 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 expected 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 consist of restored native vegetation and would not include the operation of any built facilities that require the use of hazardous materials. However, project operation could involve use of hazardous materials onsite during vegetation maintenance activities. An inventory of potential chemicals used on site would be reported to the City of Newport Beach Fire Department. All hazardous materials would be stored and used in compliance with existing federal, State and local regulations. Compliance with all applicable federal, State and local regulations would reduce potential impacts to the public or the environment regarding hazardous waste emissions within one-quarter mile of a school. Impacts would be less than significant.

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. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to develop and annually update the Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The information contained in the Cortese List is provided by Cal EPA's Department of Toxic Substance Control (DTSC) and other state and local government agencies. 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.). 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, 2018). There was a formerly leaking underground storage tank on the east side of Jamboree Road at the Big Canyon Country Club, but the case has closed as of May 15, 2001 (SWRCB, 2015). 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 (SWRCB, 2015; DTSC, 2018). 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 (TFA, 2018). 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 (City of Newport Beach, 2006; City of Newport Beach, 2011). The project site is located west of Jamboree Road, a designated emergency evacuation route and east of Back Bay Drive.

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 restoration area (see Figure 12). 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?

Less than Significant 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, 2012). The City of Newport identifies residential properties to the north and south of the project area as having Fuel Modification/Hazard Reduction Zones surrounding their properties. These Zones are a form of vegetation management, which is proven to be a major factor in reducing the chances of buildings igniting from wildfires and from wildland areas being ignited from burning buildings

(City of Newport Beach, 2016). The implementation of the proposed project would result in the removal of the Brazilian pepper trees that are located on the project site and replace the exotic, invasive trees with native habitat. The removal of the pepper trees will substantially reduce the amount of vegetation on the project site, and therefore would actually reduce the potential for wildland fire impacts. As a result, implementation of the proposed project would result in less than significant wildland fire impacts.

References

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City of Newport Beach, 2011. City of Newport Beach Emergency Operations Plan. Available at: http://www.newportbeachca.gov/home/showdocument?id=17901, accessed May 2018.

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Department of Toxic Substance Control (DTSC), 2018. DTSC's Hazardous Waste and Substance Site List – Site Cleanup (Cortese List). Available at http://www.dtsc.ca.gov/ SiteCleanup/Cortese_List.cfm, accessed May 2018.

DTSC, 2018. EnviroStor Database, Newport beach. Available at: https://www.envirostor. dtsc.ca.gov/public/map/?myaddress=newport+beach, accessed May 2018.

John Wayne Airport, 2013. John Wayne Airport, Orange County. Airport Land Use Commission (ALUC). Available at: http://www.ocair.com/commissions/aluc, accessed May 2018.

State Water Resources Control Board (SWRCB), 2015. GeoTracker, Big Canyon Country Club (T0605900051). Available at: https://geotracker.waterboards.ca.gov/profile_report.asp? global_id=T0605900051, accessed May 2018.

Toll Free Airline (TFA). 2018. Orange County Public and Private Airports, California. Available at: http://www.tollfreeairline.com/california/orange.htm, accessed May 2018.

3.4.9 Hydrology and Water Quality

	Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*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 the site or 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?	☐	☐	☒	☐
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 that would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water that 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)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

The project area consists of the upper portion of the Big Canyon Nature Park, owned by the City of Newport Beach. 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.

Big Canyon Creek's watershed of approximately two square miles is highly urbanized and completely developed and contributes significant water flow to the Project Area. The Creek drains this watershed directly into Upper Newport Bay. The headwaters are located near the San Joaquin

Reservoir east of MacArthur Boulevard. Big Canyon Creek is in a natural, un-channelized condition within the project area. The natural function of Big Canyon includes accommodating storm events and flooding; during large floods, such as a 100-year flood, the entire canyon floor is inundated.

Creek and Floodplain 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 and contribute sediment to the wildlife areas downstream. 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 discharges through an existing storm drain outfall located in the northwestern portion of the project site to a scour pond in the creek's riparian corridor. This project addresses this mosquito breeding habitat by eliminating the scour pond and providing a swale to direct flow from the storm drain to the proposed recontoured and stabilized channel. The planned restoration will maintain positive drainage to the extent feasible with the stream channel and adjacent floodplain to minimize the potential for favorable mosquito breeding habitats.

Water Quality Improvements

Big Canyon Creek, which drains the Big Canyon Watershed, is one of the few perennial streams that discharge to Upper Newport Bay. 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. Concentrations of selenium above water quality criteria for selenium (California Toxics Rule chronic freshwater criteria) have been measured in dry weather flows in Big Canyon Creek. The City 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. The City has also implemented selenium reduction measures as part of Phase 1 (Figure 3). These dry weather diversions and selenium reduction measures have significantly reduced the concentration of selenium in dry weather flow in Big Canyon Creek. Further monitoring is planned by the City to confirm the effectiveness of these mitigation measures and to plan and implement additional measures if needed.

To reduce the impact on the biological community of selenium concentrations in dry weather flows, the proposed project will improve the channel grading to promote continuous flow and reduce potential ponding of dry weather flows. Selenium in the water column will accumulate and may become more bio-available if water is not continuously flowing and is allowed to pond and potentially change reduction–oxidation reaction conditions with associated increased biological assimilation. By designing the stream restoration to restore and maintain drainage and continuous flow, the potential for selenium transformation to a more biologically assimilated form is minimized.

Restoration of the stream channel will include biotechnical stabilization of the bed and bank using native vegetation, creation of continuous flow, and restoration of native vegetation. The current condition within the pepper tree groves inhibits native riparian vegetation from naturally stabilizing the streambanks and contains areas of ponded water of poor quality. Improved connectivity between the channel and floodplain will also provide for improved habitat for macro-invertebrate benthic communities, fish and other local wildlife that use these communities as a food source.

Environmental Evaluation

The following hydrology and water quality evaluation is based on the documentation within Appendix F that includes hydrology information, water quality report and SWPPP information.

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

No Impact. The implementation of the proposed project would improve the water flow within the existing channel by restoring the stream and maintaining the drainage and continuous flow within the channel. Maintaining flow, would minimize the potential for selenium to transform to a more biologically assimilated form. The project would result in an improvement to the quality of water within the stream and would not violate any water quality standards or waste discharge requirements. Therefore, the proposed project would result in a no impact related to water quality standards and 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)?

Less than Significant Impact. Construction and operational activities would not require the direct use of groundwater supplies; however, these activities would indirectly use groundwater because the City of Newport Beach water supplies that are available in the project vicinity include groundwater and imported water. Construction activities would use water for dust control while operational activities would only use water for irrigation during the approximate three-year native plant establishment within the project area. The approximate annual use of water for plant establishment is approximately two to three-acre feet per acre. There are approximately nine acres within the project site that would require irrigation; and therefore, a worst case estimate is 18 to 27 acre feet per year for approximately three years. The City's projected annual groundwater supply

for the year 2020 is 10,980 acre-feet and projected total annual water supply is 15,686 acre-feet. The use of 18 to 27 acre-feet represents 0.2 to 0.3 percent of the City's projected annual supply of groundwater and represents 0.1 to 0.2 percent of the City's total annual water supply. The project's water use would be nominal and short term. Therefore, the proposed project would result in a less than significant impact 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 proposed project includes creek restoration activities that will restore the existing floodplain, stabilize the streambank and restore habitat. Floodplain restoration and streambank stabilization activities will result in flood flow attenuation and stabilization of segments of the stream bank of the main channel that have been subject to scouring. The Proposed Project restoration will minimize erosion impacts that have resulted in un-vegetated channels and loss of connectivity between the channel and floodway. Segments of the creek that are locally incised, or too steep to support vegetation, will be graded by laying back the upper slopes to create flatter slopes to better connect to the floodplain. Stream banks will also be stabilized where larger invasive pepper trees will be removed using natural bioengineering techniques. The hydraulic analysis of the proposed project features that provide for flood control conveyance show that erosive stresses in the restored channel will be below the erosion threshold for the propose biotechnical treatments during a 10- to 25-year flood (see Appendix F). The project includes the restoration of the riparian habitat located along the stream corridor through the removal of invasive trees, soil remediation to reduce plant-limiting sodium levels, and replacement with native riparian species. Alkali wet (low) and high alkali meadow communities will be created adjacent to the restored riparian habitat corridor and the newly connected floodplain. The implementation of the features of the project will reduce the potential for erosion and siltation compared to existing conditions; and therefore, the proposed project would result in less than significant impacts related to the alteration of the existing drainage channel and causing erosion and siltation.

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 proposed project does not include the addition of impervious surfaces or other similar features on the project site that would increase surface runoff. Furthermore, the project includes removal of the extensive non-native pepper trees groves that have greatly limited ground cover, and replacement with native plants (including ground cover) that will reduce runoff volumes by promoting infiltration and evapotranspiration, and reduce runoff velocities that can result in erosion. Additionally, increasing connectivity between locally incised reaches of the creek and the floodplain will attenuate peak storm flows that can impact downstream sections of the creek. The Proposed Project will, therefore, reduce peak surface water flow runoff that may cause flooding. As a result, the implementation of the proposed project would result in less than significant impacts related to increases in surface water rates or flow that could cause flooding.

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?

Less than Significant Impact. The proposed project would alter the existing drainage through the project site so that storm water flows would be continuous and prevent storm water to pond. The project includes grading of the stream area by laying back the upper slopes to create flatter slopes and better connection to the existing floodplain. The project would result in the removal of a substantial number of pepper trees from the project site, thus resulting in an increase in the capacity of the existing floodplain area of the site. As a result, the project would result in a less than significant on the existing capacity of the existing stream's stormwater conveyance system.

In addition, the Project would result in positive water quality improvement for both stormwater and dry weather flows. To reduce the impact on the biological community of selenium concentrations in dry weather flows, the proposed project will improve the channel grading to promote continuous flow and reduce potential ponding of dry weather flows. Selenium in the water column can accumulate and become more bio-available if water is not continuously flowing. By incorporating a design that would restore and maintain drainage and continuous flow, the proposed project would minimize the potential for selenium to transform to a more biologically assimilated form. As a result, the proposed project would result in a less than significant impact related to providing additional sources of polluted runoff.

f) Otherwise substantially degrade water quality?

No Impact. Water quality sampling was conducted in April, May and July of 2017 within Big Canyon following the implementation of Phase 1 of the Habitat Restoration and Water Quality Improvement Project (see Appendix F). Within the Phase 1 area (Location BC Jam-3), total selenium substantially reduced due to the water quality improvements (Burns & McDonnell, 2018). Therefore, lower concentrations of selenium are conveyed to the Phase 2 area compared to the concentrations that were being conveyed prior to the Phase 1 water quality improvements.

The proposed restoration within Phase 2 would continue to provide water quality improvements for both stormwater and dry weather flows. To reduce the impact on the biological community of selenium concentrations in dry weather flows, the proposed project will improve the channel grading to promote continuous flow and reduce potential ponding of dry weather flows. Selenium in the water column will accumulate and may become more bio-available if water is not continuously flowing and is allowed to pond and potentially change reduction–oxidation reaction conditions with associated increased biological assimilation. By designing the stream restoration to restore and maintain drainage and continuous flow, the potential for selenium transformation to a more biologically assimilated form is minimized. 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. The project site does not contain housing units. The elevation of the residential properties adjacent to the project site are located substantially above the project site and residential properties are not located within a 100-year flood hazard area according to Flood Insurance Rate Map for Newport Beach (Federal Emergency Management Agency, 2016).

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

No Impact. The proposed project does not include the addition of structures on the project site other than directional signs for public access. The project would alter existing flows through the project site with the proposed habitat restoration. One-hundred year flows from Big Canyon Creek would be directed through the restored creek section and the downstream channels. The current locally scoured creek channel segments in Phase 2A would be restored to include a better connected floodplain. Stream banks would be stabilized using bio-engineering techniques where large non-native pepper trees and root systems would be removed and where additional protection would be needed to address scouring during high storm flows. The planned restoration would include removal of invasive plants and re-vegetation with native plants that would also improve overall hydrology. Because the proposed project would not include structures that impede flood flows and would instead improve flood flows through the project site, the proposed project would result in no impact on existing 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?

No Impact. Implementation of the proposed project does not include the placement of structures on the project site; however, the project includes the improvement of the existing creek channel to allow storm flows to be conveyed downstream. The proposed improvement would not result in an increase in inundation areas downstream. Based on a review of the Dam Failure Inundation Map for Newport Beach (City of Newport Beach, 2014a), the project site is located within the Big Canyon Reservoir Failure Inundation Pathway. Although the project site is located within the inundation pathway, the project would not increase the exposure of people to flood waters from a levee failure because the project site currently includes public pedestrian trails and the project would retain the existing trails onsite. As a result, the project would result in a less than significant impact related to the exposure of people or structures to flood risks associated with a levee failure.

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

No Impact. A seiche is an oscillation in the water level of an enclosed water body. The nearest enclosed water body is the San Joaquin Reservoir located east of the project site. The Newport Back Bay is located downstream of the San Joaquin Reservoir inundation pathway. Because the proposed project would not include structures and would retain the existing public trail on the

project site, the proposed project would not increase the potential for seiche impacts onto the project site. Therefore, the proposed project would result in no impacts related to seiche.

Based on a review of the Tsunami Inundation Map for Newport Beach (City of Newport Beach, 2014b), the project site is located outside of the tsunami inundation area. Therefore, implementation of the proposed project would not result in any tsunami inundation impacts.

The project site is located downslope of the bluffs located to the north and south. Based on a brief review of the slopes adjacent to the project site, no substantive slope failure was visible. Because the proposed project would not would not include structures, would retain the existing public trail on the project site, and would not alter the terrain directly adjacent to the existing slopes, the project would not increase the potential for mudflows onto the project site. Therefore, the project would result in no impacts related to mudflow.

References

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City of Newport Beach. 2014a. Natural Hazards Mitigation Plan, Section 7 – Floods, Map 7-10: Dam Failure Inundation Map. Available at: http://www.newportbeachca.gov/Home/ShowDocument?id=19735. Accessed July 3, 2018.

City of Newport Beach. 2014b. Natural Hazards Mitigation Plan, Section 7 – Floods, Map 7-7: Tsunami Inundation Map at Mean Sea Level and Mean Higher High Water Level. Available at: http://www.newportbeachca.gov/Home/ShowDocument?id=19735. Accessed July 3, 2018.

ESA, 2018. Memorandum – Geomorphic and hydrologic basis of design for Big Canyon Creek Restoration Phase 2A.

Federal Emergency Management Agency. 2016. Flood Insurance Rate Map, Panel Number 06059C0269K. Available at: http://newportbeachca.gov/home/showdocument?id=43916, July 3, 2018.

3.4.10 Land Use and Land Use Planning

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

Environmental Evaluation

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 and riparian habitat 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. The existing public access trails would remain on the site. 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?

Less than Significant 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 2017; 2018). The OS land use and zoning designations are 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 erosion within the creek, the project's objectives align with applicable land use plans regarding the OS designations and zoning of the site.

Further, as discussed above in Section 3.4 Impact e) in Biological Resources, the proposed project would not conflict with the City of Newport Beach Municipal Code, Council Policy G-1, *Retention, Removal, and Maintenance of City Trees*. City staff determined that the Brazilian pepper trees and other exotic trees within Big Canyon Phase 2A are not subject to the City's tree removal policy, as they are in a designated natural open space area. Further, the City does not inventory, has never maintained them, and has provided direction that these trees will not be subject to the Council Policy G-1. Removal of the existing onsite exotic, invasive trees will not conflict with the policy.

Therefore, the project would result in a less than significant impact related to plans, policies, and regulations.

c) Conflict with any applicable habitat conservation plan or natural community 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 LCP Coastal Land Use Plan. The proposed project, while not currently included in the Orange County Central-Coastal NCCP/HCP, has been designed to NCCP/HCP standards and may be petitioned to be designated in the future. The proposed restoration of riparian habitat, restoration and creation of a mosaic of native and sustainable habitats, stabilization of the creek and floodplain, and inclusion of preventative erosion features will provide a higher quality habitat and improve the hydrology and 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.

References

City of Newport Beach, 2017. City of Newport Beach, Local Coastal Program, Coastal Land Use Plan. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/local-coastal-program/coastal-land-use-plan, accessed May 2018.

City of Newport Beach, 2018. City of Newport Beach, Zoning Map. Available at: http://www.newportbeachca.gov/Home/ShowDocument?id=660, accessed May 2018.

3.4.11 Mineral Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

Environmental Evaluation

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" (CA Department of Conservation, 1995). 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 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 Section 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 (City of Newport Beach, 2006). According to the City of Newport Beach General Plan, there is one oil well located approximately 1,200 feet southwest of the project site, adjacent to Back Bay Drive. However, this specific oil well is not located within the Newport Oil Field or the West Newport Oil Field; special areas designated as containing important oil resources. Further, implementation of the proposed project would not interfere with oil extraction at this well site. 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.

References

California Department of Conservation, 1995. Division of Mines and Geology, Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, California, Part III, Orange county. Available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_94-15/OFR_94-15_Text.pdf, accessed May 2018.

City of Newport Beach, 2006. City of Newport Beach General Plan 2006 Update, Volume I, Draft Environmental Impact Report, Chapter 4.5. Available at: http://newportbeachca.gov/ PLN/General_Plan/GP_EIR/Volume_1/10_Sec4.5_Geology_Soils_Mineral_Resources.pdf, accessed May 2018. EIR.

3.4.12 Noise

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
12. NOISE — Would the project result in:				
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 of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) 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 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?	☐	☐	☐	☒
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 de-emphasis 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 periodic maintenance. The periodic maintenance would be provided by contractors that would travel to the project site within maintenance vehicles and conduct selective removal of invasive plant species through the use of manual techniques such as shovels, hoes, racks, and other hand tools.

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 13**.

TABLE 13
GENERAL 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 the limited hours of construction activity. 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.

Noise Criteria

A project would normally have a significant impact on noise levels from construction if: construction activities are undertaken outside of the construction hour limits identified in the City of Newport Beach Municipal Code.

Environmental Evaluation

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 impacts to the project site. It is concluded the impact would be less than significant. See details below.

Construction Noise

Onsite Construction Noise

Construction of the proposed project would require the use of medium-sized equipment at the project site. During each stage of construction, there would be a different mix of equipment. As such, construction activity noise levels on and adjacent to the project site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment.

Individual pieces of construction equipment anticipated during project construction could produce maximum noise levels of 74 dBA to 90 dBA L_{max} at a reference distance of 50feet from the noise source, as shown in **Table 14 and Appendix G**. A distance of 50 feet from the noise source is identified because the distance is provided in the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). These maximum noise levels would occur when equipment is operating at full power. The estimated usage factor for the equipment is also shown in Table 14.

TABLE 14
CONSTRUCTION EQUIPMENT USAGE AND NOISE LEVELS

Equipment[a]	Maximum Noise Level at 50' (dBA L_{max})[b]	Equipment Quantity[a]	Usage Hours per day[a]	Estimated Combined Noise Level at 50' (dBA Leq)[c]
1A: Site Preparation Clearing and Grubbing				82
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Rubber-tired Dozer	82	1	9	
1B Clearing and Grubbing				85
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Rubber-tired Dozer	82	1	9	
Other Materials Handling Equipment	85	1	9	
Off-Highway Trucks	76	1	4	
2A: Excavation and Grading				**84**
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Compactor	83	1	5	
Grader	85	1	8	
Off-Highway Trucks	76	1	4	
2B: Onsite Filling in Upland Areas				**81**
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Compactor	83	1	5	
Off-Highway Trucks	76	1	4	
2C: Fine Site Grading				83
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Grader	85	1	8	
Off-Highway Trucks	76	1	4	
3A: Temporary Irrigation				69
Off-Highway Trucks	76	1	4	
3B: Soil Amendments				77
Rubber-tired Loader	79	1	9	
Off-Highway Trucks	76	1	4	

TABLE 14
CONSTRUCTION EQUIPMENT USAGE AND NOISE LEVELS

Equipment[a]	Maximum Noise Level at 50' (dBA L_{max})[b]	Equipment Quantity[a]	Usage Hours per day[a]	Estimated Combined Noise Level at 50' (dBA Leq)[c]
3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats				79
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Off-Highway Trucks	76	1	4	
4: Raise Viewing Area and Trail Upgrades				81
Backhoe	80	1	9	
Rubber-tired Loader	79	1	9	
Compactor	83	1	5	
Off-Highway Trucks	76	1	4	
5: Pruning, Soil Amendments and Other Measures				79
Rubber-tired Loader	79	1	9	
Backhoe	80	1	9	
Off-Highway Trucks	76	1	4	

[a] ESA 2018.
[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.
[c] ESA 2018. The estimated noise level is the combined noise level of all pieces of equipment for the phase.

SOURCE: ESA 2018.

During project construction, the nearest off-site sensitive receptors that would be exposed to increased noise levels would be the existing residential uses north of the project site. These uses are approximately 60 feet from the portion of the project site that will undergo construction activities. The nearest offsite residential uses south of the project site are approximately 80 feet from the portion of the project site that will undergo construction activities.

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 project's estimated construction noise levels were calculated for a scenario in which 11 pieces of construction equipment was assumed to be operating simultaneously and some of them located at the construction area nearest to the affected receptors to present a conservative impact analysis. The estimated noise levels at the off-site sensitive receptors were calculated using the FHWA's RCNM, and were based on the concurrent operation of 11 pieces of equipment (i.e., 2 rubber-tired loaders, 2 backhoes, 2 compactors, 2 graders, and 3 off-highway trucks) which is considered a worst-case evaluation because the project would use less overall equipment on a daily basis at the same distances from the sensitive receptors, and as such would generate lower noise levels.

Table 15 shows the estimated construction noise levels that would occur at the nearest off-site sensitive uses during a peak day of construction activity at the project site.

TABLE 15
ESTIMATED CONSTRUCTION NOISE LEVELS AT OFFSITE SENSITIVE USES

Offsite Sensitive Land Uses	Location	Approximate Distance to Project Construction Site (ft.)[1]	Estimated Maximum Construction Noise Levels (dBA L_{eq})
Single-family residential uses	North of the project site	60	66
Multiple family residential uses	South of the project site	80	81

[1] The distance represents the nearest construction area on the project site to the property line of the offsite receptor.
SOURCE: ESA, 2018.

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 Construction Noise

Delivery truck and haul truck trips would occur throughout the construction period. Trucks traveling to the project site would travel along Jamboree Road, San Joaquin Hills Drive, and Back Bay Drive to the access road within Big Canyon. Construction activities will require the use of haul trucks for vegetation and soil removal as well as delivery of materials. The haul trucks and delivery trucks would be used during the non-peak hours (i.e., after 9 am and prior to 4 pm). Nominal daily delivery trucks would occur during the construction. The construction activities would require the use of 13 round-trip haul trucks (26 one-way trips) for vegetation removal per day and the use of 10 round-trip haul trucks (20 one-way trips) per day for soil removal. The operations of removing vegetation and soil would not overlap. Therefore, a maximum of 13 round-trip haul truck trips per day (26 one-way trips) over a period of 6 hours each day would result in a maximum average of 2 to 3 round-trip haul truck trips per hour (4 to 6 one-way trips per hour). 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. It is anticipated that a maximum of approximately 24 employee vehicle trips during peak hour (48 one-way trips so that 24 trips in morning peak hour and 24 trips in the evening peak hour) and 13 truck trips during non-peak hour (26 one-way trips) would occur per day. The addition of 24 employee vehicle trips during each peak hour and an average of 2 to 3 round trip truck trips per hour (4 to 6 one-way trips per hour) during the non-peak hours would not substantially increase traffic noise along the roadways that are used and therefore, the proposed project would result in less than significant off-site construction noise.

Operational Noise

On-Site Operational Noise

After the completion of the project construction activities, there would be no daily generated noise sources on the project site. The potential noise generated activities would be periodic landscape and trail maintenance activities throughout a year. It is assumed that maintenance activities would occur within the hours indicated in the City's noise ordinance, Section 10.28.040 (Construction

Activity – Noise Regulations). The periodic maintenance would include selective removal of invasive plant species through the use of manual techniques such as shovels, hoes, rakes, and other hand tools. Therefore, on-site operational noise would be less than significant.

Off-Site Operational Noise

After the completion of the project construction activities, occasional maintenance activities throughout a year could occur. The maintenance activities would result in less employee trips and less truck trips compared to the trips identified above for construction activities. Because off-site construction noise levels would result in less than significant noise impacts, the use of fewer employees and fewer trucks for periodic maintenance activities would also result in less than significant noise impacts.

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

Less than Significant Impact. Ground-borne vibration would be generated from the operation of construction equipment at the project site; however, no impact activities, such as pile driving, blasting, etc. would be used for this project. Once completed, there would be no operational sources causing ground-borne vibration.

The closest off-site structures to the project construction area are multi-family residential structures 60 feet north of the project site.

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 16**.

TABLE 16
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 17**. Near the project site, there are Category 2 (residential dwellings) land uses located 60 to 80 feet to the north and south, respectively, from the area of work.

TABLE 17
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 18** and Appendix G.

TABLE 18
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV (in/sec) at 25 feet[a]	Approximate RMS (VdB) at 25 feet[a]	Approximate PPV (in/sec) at 60 feet[b]	Approximate RMS (VdB) at 60 feet[b]
Large Bulldozer	0.089	87	0.024	75.5
Loaded Trucks	0.076	86	0.020	74.2
Small Bulldozer	0.003	58	0.001	46.1

[a] Data obtained from Federal Highway Administration's (FHWA) Roadway Construction Noise Model User's Guide, 2006.
[b] ESA 2018.

Structure Damage

Construction activities associated with the proposed project could have the potential to impact the surrounding off-site structures. The closest residential structure to the north is a non-engineered timber structure and is located approximately 60 feet from construction equipment. Therefore, the vibration impact threshold would be 0.2 in/sec PPV. The proposed construction activities are anticipated to use small construction equipment such as a small bulldozer; however, this analysis assumes the use of a mix of equipment similar to those in Table 18. The use of a large bulldozer

would create the greatest amount of vibration at 60 feet. The PPV value of a large bulldozer at 60 feet would be 0.024 in/sec PPV, which does not exceed the impact threshold of 0.2 in/sec PPV. Therefore, construction activities associated with the proposed project would result in less than significant structural damage impacts due to vibration.

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 60 feet would be 75.5 VdB which would not exceed the human annoyance vibration threshold of 80 VdB. Therefore, the project construction activities would result in less than significant human annoyance impacts due to vibration.

Operation

Once construction activities have been completed, periodic maintenance activities would not result in any vibration impacts. Therefore, the project operational activities would result in no human annoyance impacts due to vibration.

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 generating activities include occasional maintenance activities throughout the year. It is assumed that periodic maintenance activities would occur within the construction hours indicated in the City's noise ordinance, Section 10.28.040 (Construction Activity-Noise Regulations). The periodic maintenance would include selective removal of invasive plant species through the use of manual techniques such as shovels, hoes, racks, and other hand tools. Therefore, permanent increases in on-site operational noise 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 Incorporated. The project would temporarily 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 activities occurring under each of these phases would require the use of small construction equipment (e.g., small excavators, small backhoes, small loaders, small tractors, etc.) along with the use of small power tools, generators, and other sources of noise. During each construction phase and activity, 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. In addition, 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.

During the project's construction activities, the nearest off-site sensitive receptors to the construction site would be the existing multi-family residential uses to the north, which would be approximately 60 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. Although the noise impact is potentially significant, similar construction activities occurred during the construction of Phase 1 east of the project site. According to City staff, no noise complaints were received by the City during the construction of Phase 1.

Mitigation Measures

NOI-1: 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-2: 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-3: 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-4: 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-1 through NOI-4, 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. This reduction would result in a less than significant temporary noise increase and thus, 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. No impacts would occur.

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. No impacts would occur.

References

City of Newport Beach, 2006. City of Newport Beach General Plan. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-repor, accessed May 2018.

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3.4.13 Population and Housing

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

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 maximum total of about 24 employees per day that would be employed temporarily during construction due to overlapping construction phases. 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 impacts 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 impacts would occur.

References

None.

3.4.14 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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?	☐	☐	☐	☒

Environmental Evaluation

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 (City of Newport Beach, 2018a). The proposed project would remove exotic and invasive plants, restore and create habitat, provide preventative erosion features, improve water quality, and provide trail improvements to encourage public access and educational/recreational opportunities. The proposed project could increase the use of the project area by providing trail improvements. 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 on-site access would provide the fire department improved access within the project site for emergencies. The proposed project would clear existing underbrush and provide more riparian and alkali meadow habitat, thus reducing fire risk. Because the proposed project is not altering the use of the project site (i.e., natural habitat and public access), 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 (City of Newport Beach, 2018b). The proposed project would remove exotic and invasive plants, restore and create habitat, provide preventative erosion features, improve water quality, and provide trail improvements to encourage public access and educational/recreational opportunities. The proposed project could increase the use of the project area by providing trail improvements. 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 on-site 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., natural habitat and public access) 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 (City of Newport Beach, 2006a). 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 11.32 acres in 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" (City of Newport Beach, 2006). The project area is designated as Park Service Area 7 in the City of Newport Beach General Plan (refer to Table R1 within the Recreation Element [City of Newport Beach, 2006b]). This service area provides an excess/surplus of 39.7 acres of park area. The project site will continue to provide passive parkland as part of Big Canyon Park. Further, the proposed project would enhance the recreational activities in the park by providing trail improvements through the provision of interpretive signs and rest areas to be used by recreational users of Big Canyon Park. The official trail would allow access for the public to learn and enjoy the native habitats located within the park. These proposed improvements 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.

References

City of Newport Beach, 2006a. General Plan 2006 Update, Volume I, Draft Environmental Impact Report, Chapter 4.11. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-repor, accessed May 2018.

City of Newport Beach, 2006b. City of Newport Beach General Plan. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-repor, accessed June 2018.

City of Newport Beach, 2018a. Fire Stations. Available at: http://newportbeachca.gov/government/departments/fire-department/fire-operations-division/fire-stations, accessed May 2018.

City of Newport Beach, 2018b. Newport Beach Police Department. Available at: http://www.nbpd.org/, accessed May 2018.

3.4.15 Recreation

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

Environmental Evaluation

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 11.32 acres in the 60-acre Big Canyon Nature Park. The proposed project would enhance the recreational activities in the park by providing trail improvements by adding interpretive signs and rest areas. 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 providing trail improvements and 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 resulting 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. As described above, the project area is designated as Park Service Area 7 in the City of Newport Beach General Plan (City of Newport Beach, 2006b). This service area provides an excess/surplus of 39.7 acres of park area. The project site will continue to provide passive parkland as part of Big Canyon 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.

References

City of Newport Beach, 2006b. City of Newport Beach General Plan. Available at: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-repor, accessed June 2018.

3.4.16 Transportation and Traffic

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/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?	☐	☐	☐	☒

Environmental Evaluation

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, a maximum of approximately 24 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 proposed use of solarization for infected wood chips is a process to reduce a nominal amount of trips. The haul trucks would be used during the non-peak hours (i.e., after 9 am and prior to 4 pm). The construction activities would require the use of 13 round-trip haul trucks (26 one-way trips) for vegetation removal per day and the use of 10 round-trip haul trucks (20 one-way trips) for soil removal. These round trips do not take the trip reductions from solarization into account so that a worst-case impact evaluation can be analyzed. The operations of removing

vegetation and soil would not overlap. Therefore, a maximum of 13 round-trip haul truck trips per day (26 one-way trips) over a period of 6 hours each day would result in a maximum average of 2 to 3 round-trip haul truck trips per hour (4 to 6 one-way trips 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 24 employee trips during each peak hour and an average of about 2 to 3 round-trip truck trips per hour (4 to 6 one-way trips per hour) during the non-peak hours would not result in substantial traffic effects at intersections or roadways in the project vicinity.

During operation of the proposed project, daily visitors to the project site would be the same people who would be experiencing the Upper Newport Bay. Therefore, the proposed project is not expected to increase the number of visitors to the Upper Newport Bay, and daily vehicular trips specifically to the project site would not increase with the proposed project.

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 a maximum of 24 employee trips during the peak hour and 2 to 3 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, 2017). Because the project would generate a maximum of 13 trucks entering and 13 trucks exiting the site and up to 24 employee vehicles entering and 24 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 habitat restoration and enhancement improvements 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. Therefore, the proposed project would result in no impacts to air traffic patterns.

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. Construction vehicles are proposed to access Back Bay Drive and maintenance vehicles could access Back Bay Drive or Jamboree Road. Truck ramps are provided for entrance and exits at the southwestern portion and southeastern portions of the project site. Further, there is an optional access route located at the mid-western portion of the project site (see Figure 12). 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 trail improvements on the project site would encourage public 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. The proposed project would provide trail improvements. The official trails 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 providing trail improvements and educational opportunities through the installation of interpretive signs along the trail.

References

Orange County Transportation Authority, 2017. Congestion Management Program, 2017. Available at: http://www.octa.net/pdf/2017%20Final%20CMP.pdf, accessed May 2018.

3.4.17 Tribal Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Tribal Cultural Resources — Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Environmental Evaluation

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k),

No Impact. The California Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on March 18, 2018 to request a search of the SLF for the project area. In a letter dated March 20, 2018 (see **Appendix H**), the NAHC indicated that "sites have been located within several of the quadrangles" provided and they may be impacted by the project. No specific information regarding the types of resources or their locations was provided; however, the NAHC indicated that the Juaneño Band of Mission Indians, Acjachemen Nation should be contacted. This was done as part of the AB 52 outreach discussed below.

Per revisions to CEQA that were required with the approval of AB 52, the City notified the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notification of projects within the City's jurisdiction, pursuant to Public Resources Code Section 21080.3.1 (see Appendix H). The City sent letters on March 19, 2018, to the following three tribal representatives: Mr. Andy Salas, Chairperson of the Gabrieleño Band of Mission Indians – Kizh Nation; Ms. Joyce Stanfield Perry, Tribal Manager of the Juaneño Band of Mission Indians, Acjachemen Nation; and Mr. Anthony Morales, Chairperson of the San Gabriel Band of Mission Indians (see Appendix H). The letters provided a brief description of the project and invited the tribal representatives to consult. One response was received.

By letter dated March 29, 2018, Mr. Andy Salas of the Gabrieleño Band of Mission Indians – Kizh Nation requested consultation pursuant to Public Resources Code 21090.3.1, indicating that the project occurs within the tribe's ancestral territory (see appendix H). Mr. Salas provided the City with documentation supporting this. As part of consultation, the tribe also requested a field visit to the project site. On May 17, 2018, Robert Stein with the City, Andy Salas and Matt Teutimez with the Gabrieleño Band of Mission Indians – Kizh Nation, and representatives from ESA conducted a walkover of the project site. Mr. Salas indicated that while permanent encampments were not likely to occur within the canyon, there may have been temporary day camps in the project area. Mr. Salas further indicated that monitoring during Phase 2 construction activities would be sufficient for protecting any cultural resources that might be encountered during project implementation. Monitoring by both an archaeologist and Native American representative are included as mitigation (Mitigation Measures CR-1 and CR-2) in Section 3.4 Cultural Resources.

As a result of Native American outreach and consultation, no known tribal cultural resources have been identified within the project area. Further, the cultural resource study conducted for the project, summarized in Section 3.4, Cultural Resources, did not identify any prehistoric archaeological resources within the project area. Therefore, the project will have no impact on tribal cultural resources per the definition under subsection (a), and mitigation is not required.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. As discussed above, no tribal cultural resources have been identified within the project area through tribal outreach and consultation conducted pursuant to AB 52. Further, the cultural resource study conducted for the project, summarized in Section 3.4, Cultural Resources, did not identify any prehistoric archaeological resources within the project area. Therefore, the project will have no impact on tribal cultural resources per the definition under subsection (b), and mitigation is not required.

References

Appendix H, Assembly Bill 52 Native American Consultation Information.

3.4.18 Utilities and Service Systems

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
18. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed 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 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Evaluation

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 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 does not include the generation of wastewater and therefore will 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 permanent potable water supply for the project site. The proposed project will include temporary irrigation for new restoration plantings. The temporary irrigation pipes will extend from the existing irrigation that is located within Phase 1. This extension would occur within

the project site and no environmental effects in addition to those addressed with the proposed restoration would occur.

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 includes improvements to the water quality of the existing on-site creek as a natural treatment system, but would not require the addition of a storm drain conveyance or the expansion of any stormwater drainage facilities. With the implementation of the proposed restoration and enhancement of existing habitat, 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?

Less than Significant Impact. The City of Newport Beach water supplies that are available in the project vicinity include groundwater and imported water. Construction activities would use water for dust control while operational activities would only use water for irrigation during the approximate three-year native plant establishment within the project area. The approximate annual use of water for plant establishment is approximately two to three-acre feet per acre. There are approximately nine acres within the project site that would require irrigation; and therefore, a worst case estimate is 18 to 27 acre feet per year for approximately three years. The City's projected annual water supply is 15,686 acre-feet in the year 2020. The use of 18 to 27 acre-feet represents 0.1 to 0.2 percent of the City's total annual water supply. The project's water use would be nominal and short term. Therefore, the proposed project would result in a less than significant impact on the City's existing water entitlements.

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?

No Impact. Construction and operation of the proposed project does not include the generation of wastewater, and therefore, will not impact existing wastewater treatment facilities. Therefore, the proposed project would result in no 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 Prima Deshecha Landfill in San Juan Capistrano, and is the only landfill that serves both commercial and public haulers (Orange County Waste and Recycling,

2018). The Landfill is permitted as a Class III landfill to receive a daily maximum of 400 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 2067. The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies.

Project implementation would result in the need for disposal of vegetative 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 at the designated haul routes discussed above in Section 3.4.16, Impacts a) and d). The total estimated vegetation removal is approximately 7,500 cubic yards and the total estimated soil removal is approximately 1,500 cubic yards. 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 Prima Deshecha Landfill in San Juan Capistrano a Class III municipal solid waste landfill open to commercial and public disposal. The disposal of the onsite vegetation would comply with federal, state, and local statutes related to solid waste. No impact to these regulations would occur with project implementation.

References

City of Newport Beach, 2006. City of Newport Beach General Plan, Volume I, Environmental Impact Report, Chapter 4.14. Available at: http://newportbeachca.gov/PLN/General_Plan/GP_EIR/Volume_1/19_Sec4.14_Utilities_and_Service_Systems.pdf, accessed May 2018.

Orange County Waste and Recycling, 2018. Prima Deshecha Landfill. Available at: http://www.oclandfills.com/landfill/active/deshecha, accessed June 2018.

3.4.19 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
19. MANDATORY FINDINGS OF SIGNIFICANCE —				
a) Does the project 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) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

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. The study area is not within any USFWS-designated Critical Habitat for any special-status plant or wildlife species. However, multiple avian species, as well as other special-status bird species and pallid bats are considered to have a high or moderate potential to occur within the study area, and could nest in the riparian or adjacent upland habitat, and trees in the project area. These species could be negatively affected during implementation of the project due to temporary loss of habitat during invasive species removal, floodplain grading, and replanting. Therefore, the project has the potential to degrade the quality of the environment associated with nesting and roosting habitat for avian species and pallid bats, respectively. This potential degradation could result in a significant impact on nesting birds or pallid bats if construction would occur within the nesting and roosting season.

Furthermore, 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 within 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. Additionally, **t**he results of the paleontological records checked at the Natural History Museum of Los Angeles County indicate that the project area is sensitive for paleontological resources. This potential impact on unknown archaeological and paleontological resources would be considered significant.

Mitigation Measures

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

Significance After Mitigation

Implementation of the above referenced mitigation measures would reduce the project impacts on biological and cultural 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. The proposed project would result in several potentially significant project-level impacts regarding Biological Resources, Cultural Resources and Noise. The project's contribution to cumulative impacts to Biological Resources, Cultural Resources and Noise would be cumulatively considerable, and therefore, could result in significant cumulative impacts.

Mitigation Measures

Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, CR-1, CR-2, CR-3, NOI-1, NOI-2, NOI-3 and NOI-4 is required.

Significance After Mitigation

Implementation of the above referenced mitigation measures would reduce the project's contribution to potential cumulative impacts to less than cumulatively considerable. Therefore, the proposed project would result in less than significant cumulative impacts after the implementation of the above mitigation measures.

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

Less than Significant with Mitigation. The proposed project would result in potentially significant project-level impacts related to Biological Resources, Cultural Resources, and Noise. Mitigation Measures BIO-1, BIO-2, BIO-3, CR-1, CR-2, CR-3, NOI-1, NOI-2, NOI-3 and NOI-4 are required and would reduce potential impacts to less than significant. As a result, the proposed project would not adversely affect human beings.

References

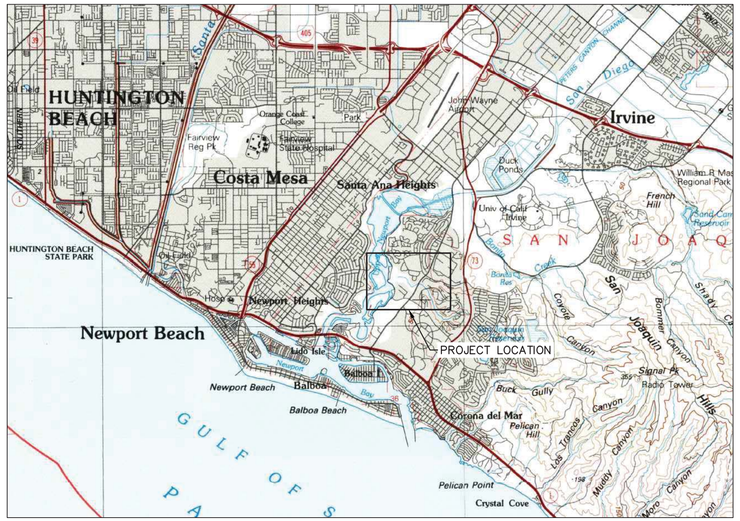
None.

Appendix A
60% Design Plans

BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT PHASE 2A

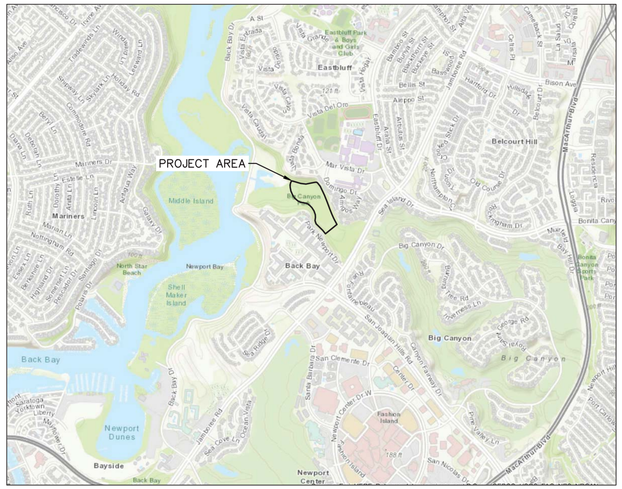
AUGUST 16, 2018

NEWPORT BEACH, CALIFORNIA



LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE

DATUMS

HORIZONTAL:
NORTH AMERICAN DATUM 1983
CA STATE PLANE ZONE 6 US FEET

VERTICAL:
NORTH AMERICAN VERTICAL DATUM 1988 FEET

ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
(E)	EXISTING
(N)	NEW
N.T.S.	NOT TO SCALE
PIP	PROTECT IN PLACE
RSP	ROCK SLOPE PROTECTION
TBD	TO BE DETERMINED

INDEX OF SHEETS

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4	C2	SITE CLEARING AND GRUBBING PLAN
5	C3	SITE GRADING PLAN
6	C4	EROSION CONTROL PHASING PLAN
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10	L1	SITE PLANTING PLAN
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13	L4	IRRIGATION CONNECTION PLAN
14	L5	IRRIGATION PLAN
15	L6	IRRIGATION NOTES AND SCHEDULE
16	L7	IRRIGATION DETAILS

DEFINITIONS

PROJECT OWNER: NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

CONTACT: PETER BRYANT, NBC PRESIDENT
PH: (949) 933-9654

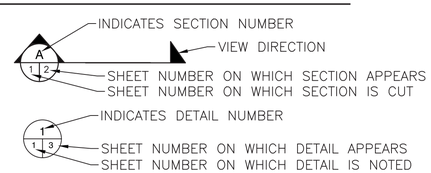
PROJECT DESIGNER: ENVIRONMENTAL SCIENCE ASSOCIATES
550 WEST C STREET, SUITE 750
SAN DIEGO, CA 92101

ENGINEER
CONTACT: DAVID POHL, PhD, PE, LEED AP
PH: (619) 719-4200

LANDSCAPE ARCHITECT
CONTACT: TRACY JOHNSON, PLA (6091)
PH: (503) 274-2010

LEGEND

- LIMITS OF WORK
- ACCESS ROUTE
- SEWER EASEMENT
- S — SEWER PIPELINE
- OHP — OVERHEAD POWERLINE
- STAGING AREA
- S — SEWER MANHOLE
- OTHER MANHOLE



VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

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SHEET TITLE: TITLE SHEET

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED

DESIGNED J. JACKSON
DRAWN J. JACKSON
IN CHARGE A. BORGONOVO C 53102
SCALE AS NOTED
DATE 8/16/2018
SHEET G1

GENERAL NOTES

GENERAL

1. THESE NOTES HIGHLIGHT KEY REQUIREMENTS OF THE SPECIFICATIONS AND PROVIDE ADDITIONAL PROJECT INFORMATION.
2. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS AND PERMITS ISSUED FOR THE PROJECT.
3. CONTRACTOR SHALL HAVE COPIES OF THE APPROVED PLANS, SPECIFICATIONS, AND PERMITS ON SITE AND READILY AVAILABLE AT ALL TIMES.
4. THE OWNER HAS OBTAINED PERMITS FROM RESOURCE AGENCIES FOR THIS PROJECT. COMPLY WITH ALL PERMIT REQUIREMENTS AND SCHEDULE RESTRICTIONS FOR PROTECTION OF WATER QUALITY, WILDLIFE AND VEGETATION.

SITE ACCESS

5. ACCESS TO THE SITE IS ON PUBLIC ROADS. COORDINATE WITH THE CITY FOR APPROVED HAUL ROUTES AND TRAFFIC PERMITS AND APPROVALS.

SITE PROTECTION AND EXISTING UTILITIES

6. PROTECT ALL IMPROVEMENTS AND VEGETATION FROM DAMAGE. ANY DAMAGED FACILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
7. INSTALL EXCLUSION FENCING AT PERIMETER OF ALL VEGETATION TO BE PRESERVED.
8. UTILITIES: LIMITED INFORMATION EXISTS ON EXISTING UTILITIES. KNOWN UTILITIES ARE SHOWN ON THE DRAWINGS. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL MAKE ITS OWN ASSESSMENT REGARDING THE PRESENCE OF EXISTING UTILITIES AND VERIFY ALL UTILITY INFORMATION AS REQUIRED BY LAW.
9. PRIOR TO ANY GROUND DISTURBANCE, CONTRACTOR SHALL LOCATE ALL UNDERGROUND AND OVERHEAD UTILITIES IN ACCORDANCE WITH SPECIFICATIONS AND STATE LAW.
10. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 PRIOR TO START OF ANY CONSTRUCTION.
11. BASE MAP SOURCE: EXISTING TOPOGRAPHIC CONTOURS ARE BASED ON ORANGE COUNTY LIDAR FLOWN IN 2011 BY USGS. THE SURVEY REPORT IS AVAILABLE HERE: https://coast.noaa.gov/htdata/lidar1_z/geoid12a/data/4793/supplemental/ca2011_usgs_orange_m4793_surveyreport.pdf
12. SPOT ELEVATIONS WITHIN THE SITE ARE BASED ON GROUND SURVEY CONDUCTED BY ENVIRONMENTAL SCIENCE ASSOCIATES IN 2018.
13. HORIZONTAL PROJECT DATUM: CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 6. NORTH AMERICAN DATUM (NAD83, 1992).
14. VERTICAL PROJECT DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD88).
15. SURVEY AND GRADE CONTROL: THE CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY CONTROL AND LAYOUT NEEDED TO PERFORM THE WORK. THE CONTRACTOR'S SURVEYING METHODS SHALL BE IN ACCORDANCE WITH STANDARD SURVEY PRACTICES AND SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING THE SURVEY. SEE SPECS.
16. EXISTING ELEVATION CONTOURS ARE APPROXIMATE AND PROVIDED FOR GENERAL REFERENCES ONLY. THE ACCURACY OF THE ELEVATION CONTOURS IS LIMITED BY DISTORTION DUE TO EXISTING VEGETATION.
17. FIELD VERIFY FLOWLINE AND BANK CONDITIONS OF EXISTING CHANNEL CONNECTION FOLLOWING CLEARING AND GRUBBING ACTIVITIES THAT INCLUDE REMOVAL OF NON-NATIVE VEGETATION IN ACCORDANCE WITH THE SPECIAL PROVISION PRIOR TO COMMENCING GRADING, AND NOTIFY ENGINEER IF ACTUAL GRADES DIFFER.

ENVIRONMENTAL PROTECTION

18. CONDUCT GRADING OPERATIONS TO CONTROL WIND BLOWN DIRT AND DUST AND PROTECT NEIGHBORING PROPERTIES. AT MINIMUM PERFORM WATERING AS NEEDED TO PREVENT VISIBLE DUST FROM LEAVING THE JOB SITE.
19. PREPARE AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE STATE WATER RESOURCES CONTROL BOARD. INCORPORATE SEDIMENT CONTROL AND EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT EROSION, SEDIMENT AND HAZARDOUS MATERIALS RUNOFF FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL PREPARE AND IMPLEMENT A SITE-SPECIFIC SWPPP, PREPARED BY A QUALIFIED SWPPP DEVELOPER (QSD) AS DEFINED BY THE CONSTRUCTION GENERAL PERMIT (CGP) AND SUBMIT THE SWPPP TO THE ENGINEER USING THE PRELIMINARY DRAINAGE PLAN ON SHEET C4 AND REFERENCED DETAILS AS THE BASIS. AS THIS PROJECT IS WITHIN A FLOOD PLAIN, CLEARING, GRUBBING AND GRADING SHALL BE PHASED TO MINIMIZE THE POTENTIAL FOR EROSION DURING A STORM EVENT. THE SWPPP SHALL BE CONSISTENT WITH THE PROJECT PHASING OUTLINE IN THE PRELIMINARY DRAINAGE PLAN ON SHEET C4. THE SWPPP SHALL INCLUDE THE INFORMATION NEEDED TO DEMONSTRATE COMPLIANCE WITH ALL THE REQUIREMENTS OF THE CGP. THE CITY WILL SUBMIT THE APPROVED SWPPP TO THE STATE WATER BOARD AS PART OF THE PERMIT REGISTRATION DOCUMENT PACKAGE. NOTE THAT NO CONSTRUCTION ACTIVITY SHALL BE ALLOWED UNTIL THE STATE WATER BOARD APPROVES THE PERMIT PACKAGE. THE CONTRACTOR SHALL AMEND THE SWPPP AS NEEDED DURING THE COURSE OF WORK TO REFLECT ACTUAL CONSTRUCTION PROGRESS AND CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL DESIGNATE A QUALIFIED SWPPP PRACTITIONER (QSP), AS DEFINED TO BE THE CONSTRUCTION GENERAL PERMIT, WHO WILL BE RESPONSIBLE FOR COMPLIANCE WITH CONSTRUCTION GENERAL PERMIT REQUIREMENTS ON THE PROJECT AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE PROVIDING ALL REPORTS REQUIRED BY THE CONSTRUCTION GENERAL PERMIT (MONITORING, INSPECTION, RAIN EVENT ACTION PLANS, ANNUAL REPORTS, ETC.) TO THE ENGINEER FOR REVIEW. TIME SENSITIVE REPORTS INVOLVING MONITORING DATA SHALL BE PROVIDED AS SOON AS THE INFORMATION IS AVAILABLE. ALL OTHER REPORTS SHALL BE PROVIDED TO THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO THEIR DEADLINE FOR SUBMITTAL TO THE STATE WATER BOARD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE REQUIREMENTS UNDER THE CGP, THAT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
    A. DEVELOP A SWPPP TO CONFORM TO A RISK LEVEL 2 AND THE CONTRACTOR'S ACTUAL CONSTRUCTION PRACTICES ADMINISTER, IMPLEMENT, MAINTAIN, AND ENSURE ADEQUATE FUNCTIONING OF THE VARIOUS WATER QUALITY CONTROL MEASURES IDENTIFIED WITHIN THE SWPPP DURING CONSTRUCTION INCLUDING ALL NUMERIC ACTION LEVEL (NAL) AND NUMERIC EFFLUENT LIMITATION (NEL) SAMPLING, MONITORING AND REPORTING REQUIREMENTS STATUTORILY REQUIRED FOR THE PROJECT SITE. THESE TASKS MUST BE PERFORMED BY A QSP.
    B. PROVIDE AND MAINTAIN ALL DOCUMENTATION AT THE JOBSITE AND ADMINISTRATION FOR THE ENTIRE CONTRACT PERIOD.
    C. PERFORM ALL WORK REQUIRED FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT INCLUDING PREPARATION OF ALL RAIN EVENT ACTION PLANS AND CONSTRUCTION OF EFFECTIVE TREATMENT CONTROL BMPS.
    D. PERFORM ALL WORK REQUIRED FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT INCLUDING PREPARATION OF ALL RAIN EVENT ACTION PLANS AND CONSTRUCTION OF EFFECTIVE TREATMENT CONTROL BMPS.
    E. PROVIDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS FOR ANY ADDITIONAL BMPS WHICH MAY BE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT.
20. ELIMINATE OR MINIMIZE NON-STORM DISCHARGE FROM THE CONSTRUCTION SITE TO (E) CHANNEL AND ALL OTHER WATER BODIES INCLUDING GROUND WATER.

WORK SEQUENCE

21. MAPPING OF EXISTING TOPOGRAPHY, BANK CONDITIONS AND INVASIVE TREES HAS BEEN PERFORMED AS DESCRIBED ABOVE. THE ACCURACY OF MAPPING IS LIMITED BY DENSE VEGETATION. THE WORK SHALL BE PERFORMED IN STAGES, TO ALLOW THE OWNER TO REVIEW FIELD CONDITIONS, AND ADJUST THE DESIGN AS NEEDED.

22. THE WORK SHALL BE PERFORMED IN THE FOLLOWING GENERALLY SEQUENCE:
    A. IMPLEMENT STORMWATER MANAGEMENT AND EROSION CONTROL PER APPROVED SWPPP.
    B. PERFORM CLEARING AND GRUBBING OF DESIGNATED AREAS INCLUDING REMOVAL OF NON-NATIVE PEPPER TREES AND ROOT SYSTEMS.
    C. CONDUCT SELECT NON-NATIVE VEGETATION REMOVAL WITHIN DESIGNATED AREAS THAT CONTAIN NATIVE VEGETATION TO BE PROTECTED
    D. IMPLEMENT INVASIVE INSECT (POLYPHAGOUS SHOT HOLE BORER (PSHB)) PROTOCOLS
    E. REMOVE AND DISPOSE OF CHIPPED MATERIAL AND BRANCHES FROM CLEARING AND GRUBBING OPERATIONS PER SPECIAL PROVISIONS
    F. STAKE THE EXCAVATION LIMITS FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
    G. PERFORM PRE-EXCAVATION GROUND SURVEY.
    H. ADJUST STAKES AS INSTRUCTED BY THE OWNER'S REPRESENTATIVE TO MEET THE DESIGN INTENT BASED ON SITE CONDITIONS FOLLOWING TREE AND ASSOCIATED ROOT SYSTEM REMOVAL.
    I. PERFORM EXCAVATION IN AN ORDERLY MANNER, WITH COMPLETION OF CONTIGUOUS AREAS AS WORK PROGRESSES.
    J. COMPLETE SOIL AMENDMENTS IN DESIGNATED AREAS
    K. PERFORM POST-CONSTRUCTION GROUND SURVEY.
    L. STAKE THE LIMITS OF BANK TREATMENTS.
    M. ALLOW FOR REVIEW AND ADJUSTMENT OF BANK TREATMENTS BY THE OWNER'S REPRESENTATIVE.
    N. INSTALL BANK TREATMENTS.
    O. PERFORM SEEDING, PLANTING AND EROSION CONTROL.
    P. COMPLETE COMPOST PLACEMENT AND ADDITIONAL SOIL AMENDMENTS
    Q. INSTALL TEMPORARY IRRIGATION SYSTEM.

EARTHWORK

23. EXCAVATED MATERIAL TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.
24. PLACE EXCAVATED MATERIAL ONSITE AT THE FOLLOWING LOCATIONS, IN THE FOLLOWING ORDER OF PRIORITY:
    A. SOIL FILL FOR VEGETATED SOIL LIFTS, PROVIDED MATERIAL IS DEEMED SUITABLE TOPSOIL
    B. BACKFILLING OF VOIDS FROM PEPPER TREE REMOVAL
    C. FINE GRADING TO ESTABLISH CONTINUOUS SLOPE FROM CHANNEL BANKS TO THE TOE OF THE UPLAND SLOPE TO PROMOTE POSITIVE DRAINAGE AND FLOODPLAIN CONNECTIVITY
    D. PLACEMENT AS SLOPE FILL IN EXCESS SOIL DISPOSAL LOCATION ALONG WEST BOUNDARY OF THE SITE

WATER MANAGEMENT

25. THE PROJECT INVOLVES EXCAVATION, TRANSPORT, AND PLACEMENT OF MATERIAL WITHIN AN ACTIVE CHANNEL AND/OR BELOW GROUNDWATER.
26. THE CONTRACTOR IS RESPONSIBLE FOR ALL WATER MANAGEMENT THROUGHOUT CONSTRUCTION, INCLUDING DEWATERING, FLOW DIVERSION AND DRAINAGE.
27. THE CONTRACTOR SHALL PERFORM DEWATERING ONLY AS IT DEEMS NECESSARY TO PERFORM THE WORK. DUE TO POTENTIALLY HIGH SELENIUM CONCENTRATIONS IN GROUNDWATER, WORKING IN WET CONDITIONS MAY BE ACCEPTABLE AN ALTERNATIVE TO DEWATERING AND WATER DISPOSAL.
28. TREAT AND DISPOSE OF REMOVED WATER IN COMPLIANCE WITH ALL PERMITS AT A MINIMUM, TREAT ALL REMOVED WATER AS NEEDED TO MEET WATER QUALITY REQUIREMENTS AND REMOVE SUSPENDED SEDIMENT PRIOR TO ANY DISCHARGE OFFSITE.
29. IF THERE IS FLOW IN ACTIVE CHANNEL, SUBMIT PLAN FLOW DIVERSION PLAN TO ENGINEER FOR PRIOR TO COMMENCING EARTHWORK. ANY FLOW DIVERSION SHALL COMPLY WITH ALL PERMIT RESTRICTIONS.

SEEDING, SOIL PREPARATION & EROSION CONTROL

30. FOLLOWING GRADING, ALL DISTURBED AREAS SHALL BE SEEDED, PLANTED, COMPOSTED AND STABILIZED AS SHOWN ON THE EROSION CONTROL PLANS AND THE RELEGATION PLANS.
31. APPLY ADDITIONAL EROSION CONTROL MEASURES AS THE CONTRACTOR DEEMS NECESSARY FOR SWPPP COMPLIANCE.
32. SOIL AMENDMENTS SHALL BE APPLIED PER THE SPECIAL PROVISION PRIOR TO SEEDING. ADDITIONAL TESTING OF THE SOILS MAY BE REQUIRED PRIOR TO SOIL AMENDMENTS. ALLOW ENGINEER UP TO SEVEN BUSINESS DAYS TO SAMPLE AND ANALYZE SURFACE SOILS OF FINISHED GRADES.
33. APPLY AND MIX SOIL AMENDMENTS AS SPECIFIED BY THE ENGINEER.
34. PRIOR TO SEEDING AND PLANTING, TREAT FINAL SURFACES FOR SEED AND PLANT PREPARATION AND/OR EROSION CONTROL. RIP OVER-COMPACTED SOILS AS DIRECTED BY ENGINEER. TRACK WALK TRANSITIONAL SLOPES (ABOVE ELEV. 6 FT NAVD) UP/DOWN SLOPE FOR EROSION CONTROL.
35. CONTRACTOR SHALL MEET WITH ENGINEER PRIOR TO OCTOBER 1 TO REVIEW STATUS OF PROJECT EROSION CONTROL AND WATER POLLUTION MEASURES.
36. SEEDING SHALL BE COMPLETED BY JANUARY 31ST AND WATERED AS NEEDED FOR ESTABLISHMENT. ALL OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE BY OCTOBER 15TH.

PLANTING AND TEMPORARY IRRIGATION

37. PLANTING AND INSTALLATION OF THE TEMPORARY IRRIGATION SYSTEM SHALL BE COMPLETED BY THE FINAL DATE LISTED IN THE CONTRACT.
38. ADDITIONAL PLANTING AND IRRIGATION NOTES SHEETS L1-L7.

VERIFY SCALE
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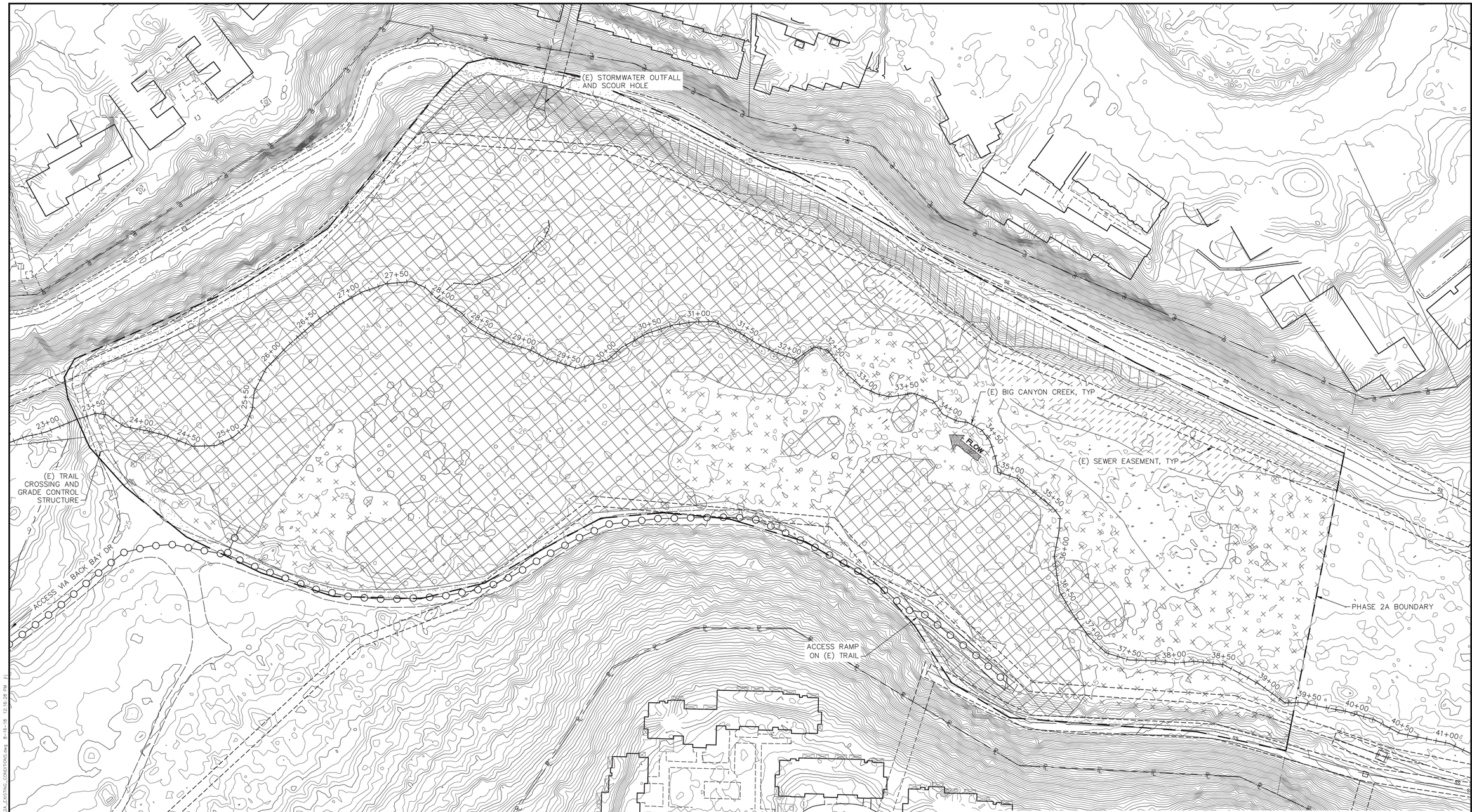
SHEET TITLE: GENERAL NOTES

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	J. JACKSON
DRAWN	J. JACKSON
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	G2

2 OF 16



EXISTING SITE CONDITIONS
PLAN
SCALE: 1" = 50'

LEGEND

- BARE GROUND
- MENZIE'S GOLDENBRUSH SCRUB ALLIANCE
- ALKALI HEATH MARSH ALLIANCE
- PEPPER TREE GROVE
- FRESHWATER MARSH
- MIXED ARROYO WILLOW/PEPPER TREE GROVE

N

0 25 50 100
SCALE (FEET)

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NOTES

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SHEET TITLE
EXISTING CONDITIONS PLAN

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION
PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

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SCALE	AS NOTED
DATE	8/16/2018
SHEET	C1

3 OF 16

(E) STORMWATER OUTFALL AND SCOUR HOLE

PHASE 2A BOUNDARY

(E) BIG CANYON CREEK, TYP

FLOW

(E) SEWER EASEMENT, TYP

ACCESS VIA BACK BAY DR

PRE SITE CLEARING STAGING AREA

ACCESS RAMP FROM (E) TRAIL

SELECTIVE REMOVAL OF PEPPER TREES, TYP

CLEAR AND GRUB ALL VEGETATION, TYP

ACCESS RAMP ON (E) TRAIL

N

0 25 50 100

SCALE (FEET)

VERIFY SCALE

0 1"

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NOTES

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2. AREAS FOR CLEARING AND GRUBBING AND SELECTIVE TREE REMOVAL ACTIVITIES AREA APPROXIMATE AND WILL BE REFINED IN SUBSEQUENT SUBMITTALS.
3. EXPANDED STAGING AREA SHALL BE CONFIRMED AND ESTABLISHED BY CONTRACTOR ONCE CLEARING AND GRUBBING ACTIVITIES HAVE PROGRESSED, SEE SHEET C3.

SITE CLEARING AND GRUBBING PLAN
SCALE: 1" = 50'

LEGEND

CLEARING AND GRUBBING (6.82 ACRES)

SELECTIVE REMOVAL OF PEPPER TREES (2.41 ACRES)

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SHEET TITLE: SITE CLEARING AND GRUBBING PLAN

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

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SHEET	C2

(E) STORMWATER OUTFALL WITH GROUTED ROCK SLOPE PROTECTION, PIP

FILL AND STABILIZE (E) SCOUR HOLE WITH ROCK TO MINIMIZE PONDING SEE DETAIL 1, SHEET C5

(E) SEWER EASEMENT, TYP CONFIRM LOCATION OF SEWER PIPE

GRADE (N) DRAINAGE CHANNEL AS NEEDED TO MINIMIZE PONDING

FILL PLACEMENT AREA

CONTOUR FLOODPLAIN TO DRAIN AS NEEDED AT TREE REMOVAL DEPRESSIONS

STA 23+50 TO 28+00 RECONSTRUCT CHANNEL BANKS AFTER TREE REMOVAL SEE SECTIONS A, B, C, SHEET C5

CONTOUR FLOODPLAIN TO DRAIN AS NEEDED AT TREE REMOVAL DEPRESSIONS

EXCAVATE FLOODPLAIN BENCH, TYP SEE SECTION D SHEET C5 SEE NOTE 5

(E) BIG CANYON CREEK, TYP

FLOW

POST SITE CLEARING STAGING AREA

ACCESS RAMP FROM (E) TRAIL

ACCESS WA BACK BAY DR

BANK TREATMENTS TBD, SEE NOTE 4

ACCESS RAMP ON (E) TRAIL

NOTES

1. EXISTING TOPOGRAPHIC CONTOURS GENERATED FROM 2011 USGS LiDAR OF ORANGE COUNTY, OBTAINED FROM NOAA COASTAL DATA VIEWER AT https://coast.noaa.gov/dataviewer
2. THE INTENT OF GRADING AND CONTOURING ACTIVITIES IS TO IMPROVE DRAINAGE AND LIMIT PONDING ON THE SITE.
3. EXTENTS AND MEASURES FOR CHANNEL AND FLOODPLAIN GRADING WILL BE CONFIRMED AFTER CLEARING AND GRUBBING ACTIVITIES ARE COMPLETE.
4. EXTENTS OF CHANNEL BANK RECONSTRUCTION AND FLOODPLAIN GRADING TO BE CONFIRMED AFTER CLEARING AND GRUBBING ACTIVITIES AND PRE-EXCAVATION GROUND SURVEY ARE COMPLETE. IF TREE REMOVAL CAVITY EXCEEDS 25 LINEAR FEET OF AFFECTED BANK, EXCAVATE 20 FT WIDE FLOODPLAIN AS SHOWN IN SECTION B ON SHEET C5 FOR INSIDE BENDS AND STRAIGHT SEGMENTS, RECONSTRUCT CHANNEL BANKS WITH VSL FOR OUTSIDE BENDS AS SHOWN IN SECTION A ON SHEET C5 (THIS SUBMITTAL ASSUMES 25% OF BANKS IN THESE REACHES REQUIRE FLOODPLAIN BENCHING AN 25% WILL INCLUDE VSL RECONSTRUCTION). FOR ALL OTHER LOCATIONS, LAY BACK BANKS AT 3:1 SLOPE PER SECTION C ON SHEET C5.
5. WITHIN FLOODPLAIN BENCH EXCAVATION AREAS, BANKS THAT ARE IMPACTED BY INVASIVE TREE REMOVAL (LESS THAN 2 FEET BANK HEIGHT REMAINING) SHALL BE RECONSTRUCTED PER SECTION B ON SHEET C5.

SITE GRADING PLAN

SCALE: 1" = 50'

LEGEND

- BANK RECONSTRUCTION WITH VSLS, SEE SECTION A SHEET C5
- FLOODPLAIN BENCHING/RECONSTRUCTION, SEE SECTION B SHEET C5
- FLOODPLAIN BENCHING, SEE SECTION D SHEET C5
- FLOODPLAIN BENCHING/BANK RECONSTRUCTION TBD, SEE NOTE 4
- FILL PLACEMENT LOCATION

N

0 25 50 100

SCALE (FEET)

VERIFY SCALE

0 1"

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SHEET TITLE: SITE GRADING PLAN

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

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NEWPORT BEACH, CA 92660

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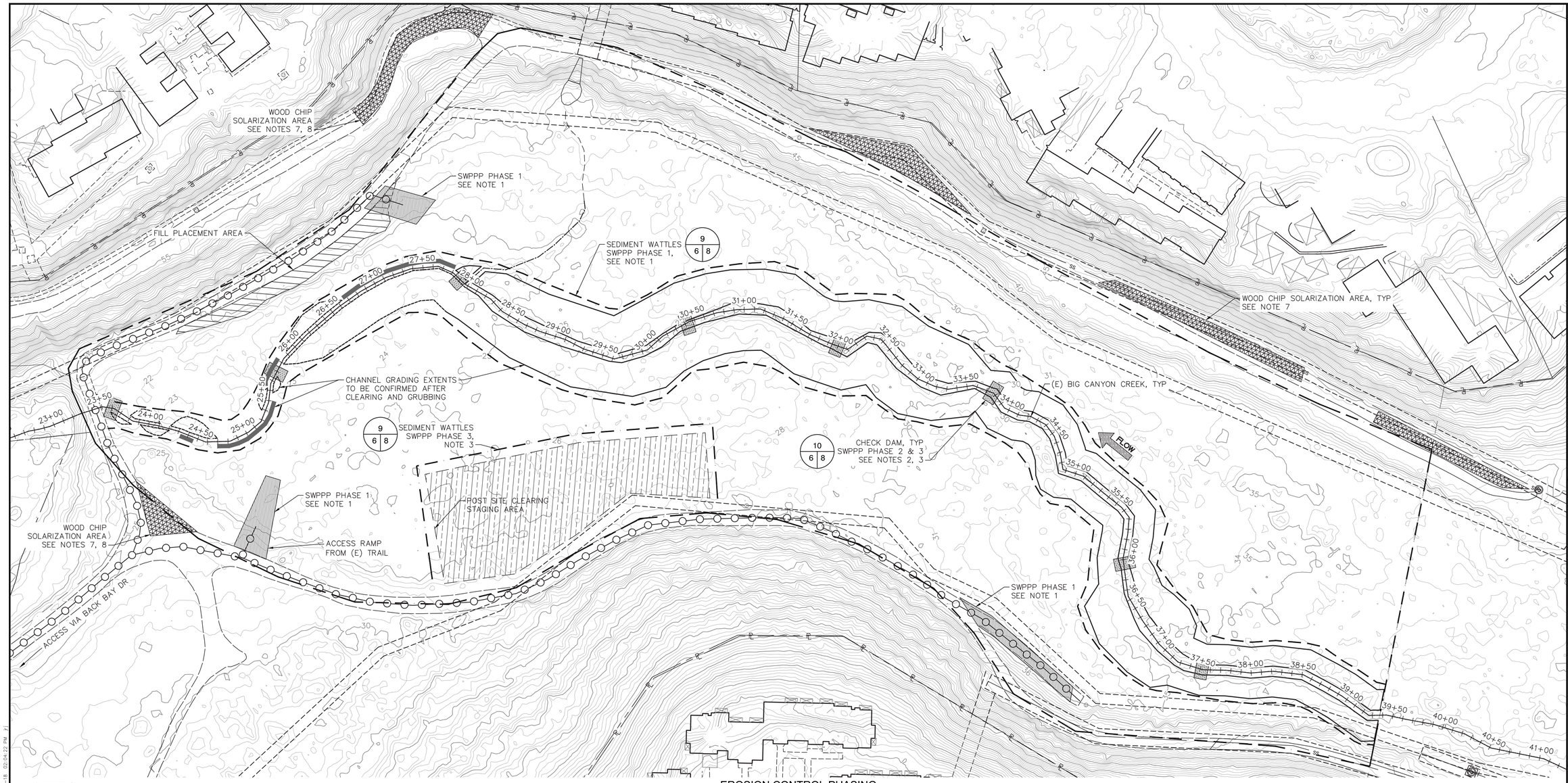
SCALE	AS NOTED
DATE	8/16/2018
SHEET	C3

5 OF 16



EROSION CONTROL PHASING PLAN

SCALE: 1" = 50'

NOTES

1. PHASE 1: PRIOR TO CLEARING AND GRUBBING, SEDIMENT LOGS (WATTLES) SHALL BE INSTALLED ALONG THE LIMITS OF THE OUTSIDE OF THE PLANNED FLOODPLAIN BENCHING AND GRADING AS SHOWN. PHASE 1 CLEARING AND GRUBBING SHALL BE LIMITED TO THE AREAS ON THE HIGHER ELEVATION (UP–STREAM OF DRAINAGE). SEE DETAIL 8 ON SHEET C6 FOR SEDIMENT LOGS (WATTLES). PRIOR TO CLEARING AND GRUBBING, THE THREE CONSTRUCTION ENTRANCES SHALL BE STABILIZED USING A WOVEN GEOTEXTILES AND A MINIMUM 8 INCH LAYER OF STONE FOR EQUIPMENT ACCESS AND TIRE GRATES OR OTHER MEASURES IMPLEMENTED AT THE ACCESS POINTS EXIT TO CONTROL OFF–SITE SITE MIGRATION OF SEDIMENT.
2. PHASE 2: PRIOR TO CLEARING AND GRUBBING ALONG THE STREAM CORRIDOR, CHECK DAMS SHALL BE INSTALLED WITHIN THE STREAM AT A MINIMUM OF 200 FEET SPACING AS SHOWN. PHASE 2 CLEARING AND GRUBBING ALONG THE STREAM CORRIDOR SHALL BE CONDUCTED FROM DOWNSTREAM TO UPSTREAM TO ALLOW FOR TEMPORARY DIVERSION OF THE DRY WEATHER FLOWS OUTSIDE OF THE CHANNEL SEGMENT WHERE INVASIVE PEPPER TREE ROOTS EXTEND INTO THE WETTED CHANNEL AND WILL BE DISTURBED DURING GRUBBING AND GRADING ACTIVITIES. DEWATERING SHALL BE CONDUCTED PER THE SPECIAL PROVISIONS SECTION 7–8.6 WATER POLLUTION CONTROL.
3. PHASE 3: FOLLOWING CLEARING AND GRUBBING OF THE STREAM CORRIDOR, A SITE SURVEY SHALL BE CONDUCTED PRIOR TO FLOODPLAIN BENCHING AND GRADING TO DETERMINE THE APPROPRIATE STREAM STABILIZATION APPROACHES AS DIRECTED BY THE ENGINEER. CHECK DAMS SHALL REMAIN IN PLACE. DEWATERING SHALL BE FIELD DETERMINED AND CONDUCTED WHERE GRADING EXTENDS INTO THE WETTED CHANNEL. GRADING OPERATIONS THAT EXTEND INTO THE STREAM SHALL BE AVOIDED TO THE EXTEND FEASIBLE. GRADING OF THE FLOODPLAIN OUTSIDE OF THE STREAM CORRIDOR SHALL BE CONDUCTED IN COORDINATION WITH THE FLOODPLAIN BENCHING AND SLOPE GRADING AS SHOWN FROM DOWNSTREAM TO UPSTREAM TO ALLOW SEDIMENT LOGS TO REMAIN IN PLACE AND THEN REPLACED AS THE GRADING PROGRESSES. SEDIMENT LOGS (WADDLES) SHALL ALSO BE PLACED AROUND THE DOWNSTREAM SIDES OF THE TEMPORARY SOIL STAGING AREA AS SHOWN.
4. PHASE 4: FOLLOWING STREAM BANK SLOPE GRADING AND BENCHING, THE BANKS WILL BE STABILIZED WITH VEGETATED SOIL LIFTS OR OTHER STABILIZATION METHODS AS DIRECTED BY THE ENGINEER AND THE DETAILS SHOWN ON SHEET C6. FOLLOWING SITE FINE GRADING, THE SITE WILL BE STABILIZED WITH NATIVE PLANTINGS AND HYDROSEED MIXTURE.THE SITE SHALL BE FURTHER STABILIZED WITH HYDRO–MULCH AND MULCH IN ACCORDANCE WITH THE SPECIAL PROVISIONS SECTION 800 ––– LANDSCAPING AND IRRIGATION MATERIALS.
5. PHASE 5: EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN UNTIL THE VEGETATION HAS BEEN ESTABLISHED DURING THE 120 ESTABLISHMENT MAINTENANCE PERIOD. CHECK DAMS SHALL BE REMOVED PRIOR TO THE END OF THE 120–DAY ESTABLISHMENT PERIOD.
6. SEE SHEET G2 NOTE 15 FOR FURTHER INFORMATION ON SWPPP SPECIFICATIONS.
7. CHIP INFESTED WOOD ONSITE TO A SIZE OF ONE INCH OR SMALLER. IF BRANCHES ARE TOO LARGE TO CHIP, SOLARIZE THEM UNDER A CLEAR TARP.
   – JULY–AUGUST: COVER CHIPS/LOGS WITH STURDY PLASTIC FOR AT LEAST 6 WEEKS. TEMPERATURES DURING THESE MONTHS SHOULD PREFERABLY BE ABOVE 95°F (35°C).
   – SEPTEMBER–JUNE: COVER CHIPS/LOGS WITH STURDY PLASTIC FOR AT LEAST 6 MONTHS.
8. THESE TWO CHIP STOCKPILE AREAS SHOULD NOT BE USED UNLESS NEEDED, DUE TO POTENTIAL IMPACTS TO TRAIL USE.

N

0 25 50 100

SCALE (FEET)

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:
ESA
550 Kearny Street
Suite 900
San Francisco, CA 94108
415.262.2300 phone

SHEET TITLE: EROSION CONTROL PHASING PLAN

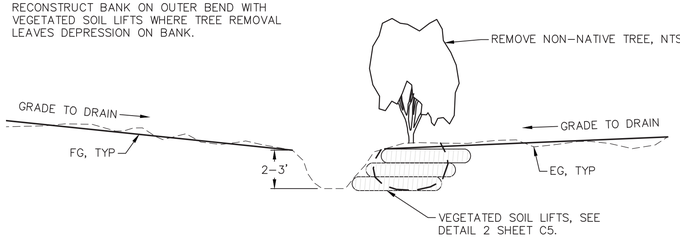
PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	J. JACKSON
DRAWN	J. JACKSON
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	C4
	6 OF 16

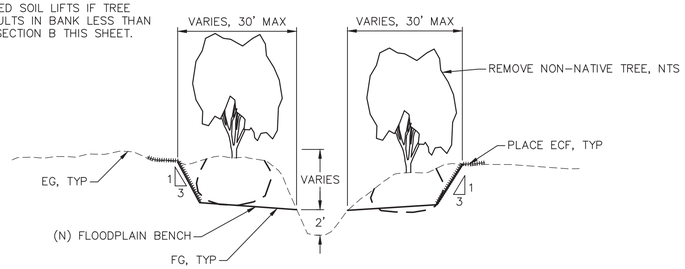
STA 23+50 TO 28+00
TYPICAL SECTIONS

NOTE:
RECONSTRUCT BANK ON OUTER BEND WITH VEGETATED SOIL LIFTS WHERE TREE REMOVAL LEAVES DEPRESSION ON BANK.



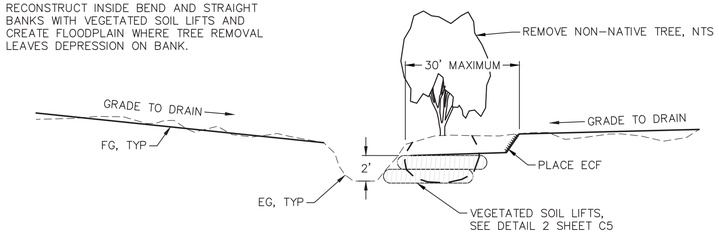
A | 5 | 7
RECONSTRUCT BANK - OUTER BEND
TYPICAL SECTION
SCALE: N.T.S.

NOTE:
RECONSTRUCT BANK ON OUTER BENDS WITH VEGETATED SOIL LIFTS IF TREE REMOVAL RESULTS IN BANK LESS THAN 2 FEET, SEE SECTION B THIS SHEET.

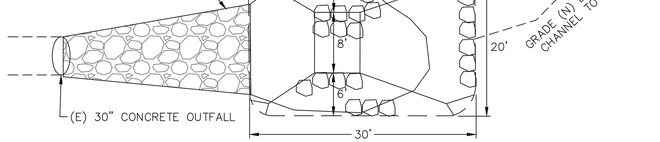


D | 5 | 7
FLOODPLAIN BENCH
TYPICAL SECTION
STA 28+00 TO 33+75
STA 36+20 TO 37+40
SCALE: N.T.S.

NOTE:
RECONSTRUCT INSIDE BEND AND STRAIGHT BANKS WITH VEGETATED SOIL LIFTS AND CREATE FLOODPLAIN WHERE TREE REMOVAL LEAVES DEPRESSION ON BANK.

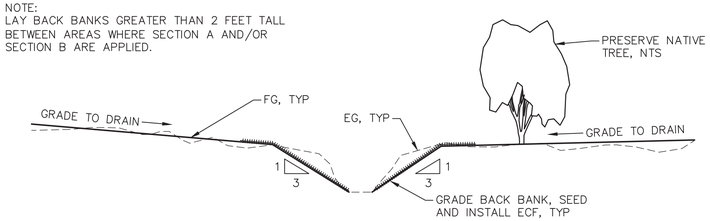


B | 5 | 7
BANK RECONSTRUCTION AND FLOODPLAIN BENCH - INNER BEND AND STRAIGHT BANKS
TYPICAL SECTION
SCALE: N.T.S.

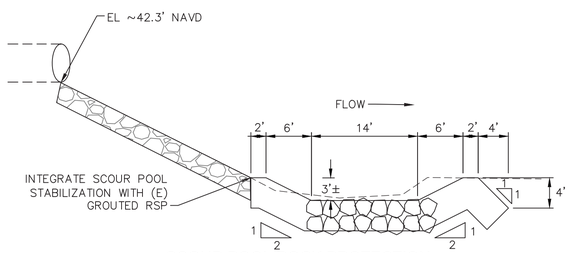


1 | 5 | 7
SCOUR POOL STABILIZATION
DETAIL
SCALE: 1" = 10'

NOTE:
LAY BACK BANKS GREATER THAN 2 FEET TALL BETWEEN AREAS WHERE SECTION A AND/OR SECTION B ARE APPLIED.



C | 5 | 7
BANK GRADING
TYPICAL SECTION
SCALE: N.T.S.



SCOUR POOL ROCK PROTECTION
PROFILE
SCALE: 1" = 10'

NOTES

1. DETAILS OF BANK RECONSTRUCTION MEASURES INCLUDING VEGETATED SOIL LIFTS (VSL) AND EROSION CONTROL FABRICS (ECF) ARE PROVIDED ON SHEET C6. SCHEDULE OF BANK RECONSTRUCTION MEASURES IS PROVIDED ON SHEET C7.
2. ALL CUT BANKS SHALL BE NO STEEPER THAN 3:1 (H:V).
3. ROCK SIZING FOR SCOUR POOL STABILIZATION (DETAIL 1) WILL BE PROVIDED IN SUBSEQUENT SUBMITTALS.
4. ALL DISTURBED AREAS SHALL BE REVEGETATED PER SHEET L1.

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:
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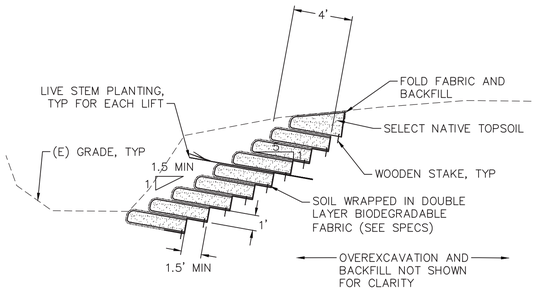
SHEET TITLE
TYPICAL SECTIONS AND DETAILS

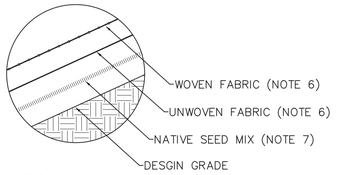
PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION
PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

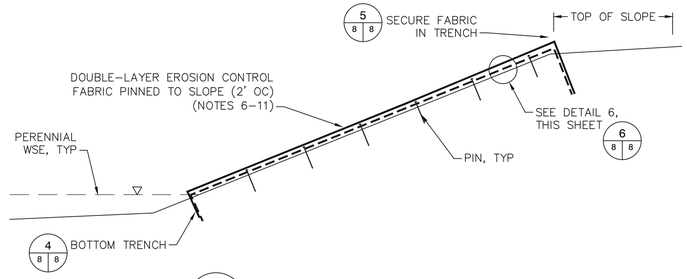
APPROVED	
DESIGNED	J. JACKSON
DRAWN	J. JACKSON
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	C5



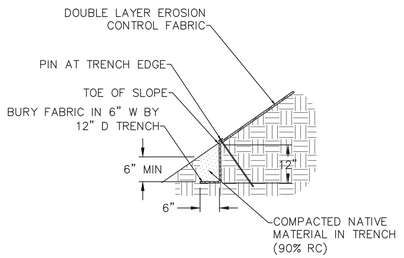
2 / 7 8 BANK RECONSTRUCTION DETAIL
VEGETATED SOIL LIFT
SCALE: 1" = 5'



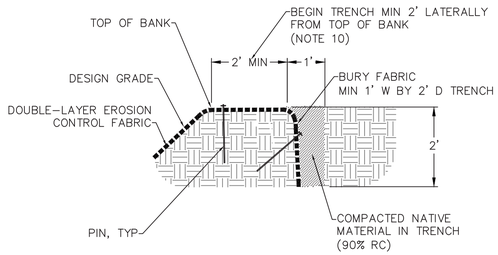
6 / 8 8 DOUBLE-LAYER FABRIC
SECTION VIEW
SCALE: 1" = 2'



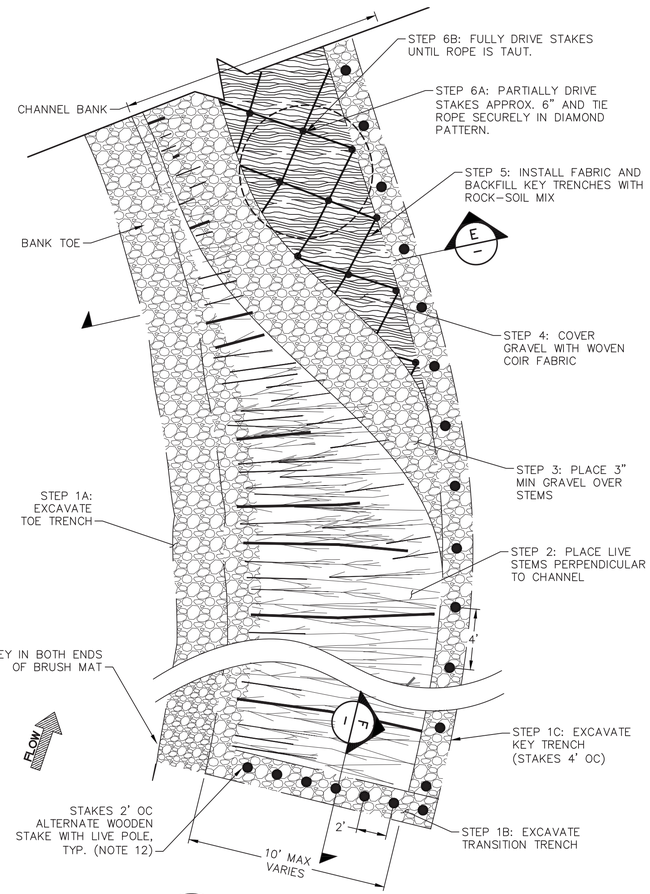
3 / 6 8 BANK RECONSTRUCTION DETAIL
EROSION CONTROL FABRIC
SCALE: 1" = 5'



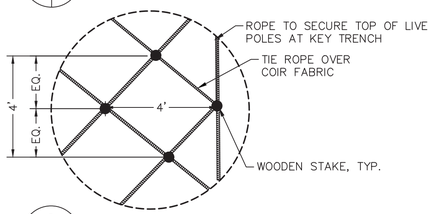
4 / 7 8 BOTTOM TRENCH DETAIL
SECTION VIEW
SCALE: 1" = 2'



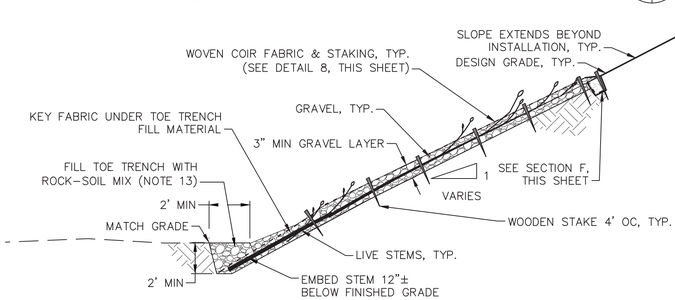
5 / 8 8 TOP TRENCH DETAIL
SECTION VIEW
SCALE: 1" = 2'



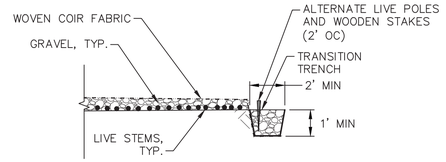
7 / 8 8 BRUSH MAT
PLAN VIEW
SCALE: 1" = 5'



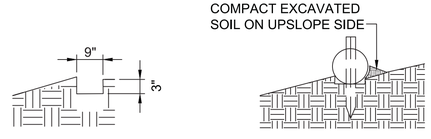
8 / 8 8 ROPE AND STAKE TIEDOWN
PLAN VIEW
SCALE: 1" = 5'



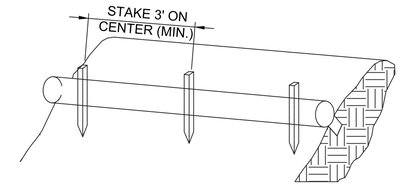
E / 8 8 BRUSH MAT
PLAN VIEW
SCALE: 1" = 5'



F / 8 8 BRUSH MAT TRASITION TRENCH
SECTION VIEW
SCALE: 1" = 5'



TRENCH DETAIL **SECTION VIEW**

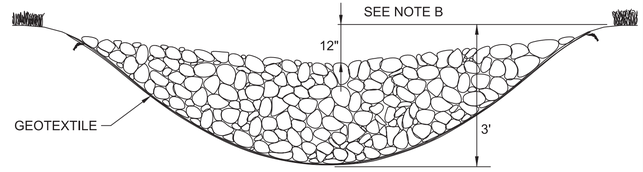


PERSPECTIVE VIEW

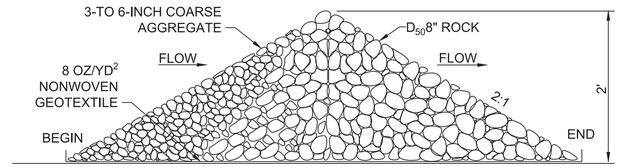
NOTES:

A. EXCAVATE A 2"-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
B. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
C. SECURE THE WATTLE WITH 18"-24" STAKES EVERY 3'-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

9 / 6 8 SEDIMENT LOGS (WADDLES)
SECTION VIEW
SCALE: 1" = 1'



CROSS SECTION VIEW
NOT TO SCALE



NOTES:

A. CHECK DAMS SHOULD BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH STORM EVENT OF 1/2-INCH OR GREATER. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OF THE DAM.
B. REGULAR INSPECTIONS SHOULD BE MADE TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM SHOULD BE CORRECTED.

10 / 6 8 TEMPORARY CHECK DAM
SECTION AND PROFILE VIEW
SCALE: 1" = 1'

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NOTES

1. ALL DISTURBED AREAS SHALL BE REVEGETATED PER SHEET L1.

VSL

2. LIVE STEMS IN VSLS SHALL BE A MIX OF SANDBAR WILLOW, MULE FAT AND WILLOW BACCHARIS.
3. DISTRIBUTE WILLOW POLES UNIFORMLY WITHIN EACH LIFT AND ACROSS FOOTPRINT OF VSLS. CONTRACTOR SHALL COORDINATE WITH DESIGN ENGINEER TO DEVELOP AND CONFIRM LAYOUT PRIOR TO INSTALLATION OF VSL.
4. ADJUST DESIGN GRADE AND VSLS TO CONFORM TO UPSTREAM AND DOWNSTREAM TOPOGRAPHY.

ECF

5. FINISH GRADE SURFACE SHALL BE CLEARED OF LOOSE ROCKS, CLODS, STICKS AND GRASS BEFORE FABRIC INSTALLATION.
6. USE TWO LAYERS (DOUBLE LAYER) BIODEGRADABLE COIR EROSION CONTROL FABRIC. PLACE WOVEN FABRIC ON UNWOVEN FABRIC AND SECURE.
7. HYDROSEED SLOPE WITH NATIVE SEED MIX BEFORE PLACING FABRIC. SEE SPECS SECTION 2905 EROSION CONTROL.
8. LAY FABRIC LOOSELY AND PIN 2' OC (VERTICAL) AND 2' OC (HORIZONTAL) TO MAINTAIN DIRECT CONTACT WITH THE FINISH GRADE SURFACE. DO NOT STRETCH.
9. FABRIC SHALL BE INSTALLED VERTICALLY DOWNSLOPE AND OVERLAPPED A MIN OF 4" IN DOWNSTREAM DIRECTION.
10. FABRIC SHALL BE EXTENDED MIN 2' LATERALLY FROM THE TOP OF BANK, SECURED PER DETAIL THIS SHEET.
11. INSTALL BOTTOM TRENCH AT EDGE OF WATER, OR TOE OF SLOPE, WHICHEVER IS LOWER.

BM

12. BEGIN LIVE POLE PLANTING 0.5 FEET ABOVE TOE OF BANK OR SUMMER BASE FLOW WATER SURFACE ELEVATION.
13. ROCK-SOIL MIX TO CONSIST OF 50% 75 LB ROCK, 25% BEDDING, AND 25% NATIVE MATERIAL.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:
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SHEET TITLE
BANK RECONSTRUCTION DETAILS

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	J. JACKSON
DRAWN	J. JACKSON
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	C6

8 OF 16

BANK MEASURES					
BEGIN STA	END STA	LEFT BANK		RIGHT BANK	
		GRADING	BANK TREATMENT	GRADING	BANK TREATMENT
23+50	23+55	3:1 SLOPE	ECF	3:1 SLOPE	ECF
23+55	23+75	5FT FLOODPLAIN	VSL+ECF	3:1 SLOPE	ECF
23+75	23+90	3:1 SLOPE	ECF	10FT FLOODPLAIN	VSL+ECF
23+90	24+05	10FT FLOODPLAIN	VSL+ECF	10FT FLOODPLAIN	VSL+ECF
24+05	24+15	10FT FLOODPLAIN	VSL+ECF	3:1 SLOPE	ECF
24+15	24+25	10FT FLOODPLAIN	VSL+ECF	15FT FLOODPLAIN	VSL+ECF
24+25	24+35	3:1 SLOPE	ECF	15FT FLOODPLAIN	VSL+ECF
24+35	24+45	BANK RECONSTRUCTION	VSL	15FT FLOODPLAIN	VSL+ECF
24+45	24+65	3:1 SLOPE	ECF	15FT FLOODPLAIN	VSL+ECF
24+65	24+75	3:1 SLOPE	ECF	3:1 SLOPE	ECF
24+75	25+30	BANK RECONSTRUCTION	VSL	3:1 SLOPE	ECF
25+30	25+40	BANK RECONSTRUCTION	VSL	5FT FLOODPLAIN	VSL+ECF
25+40	25+50	3:1 SLOPE	ECF	5FT FLOODPLAIN	VSL+ECF
25+50	25+55	5FT FLOODPLAIN	VSL+ECF	5FT FLOODPLAIN	VSL+ECF
25+55	25+65	5FT FLOODPLAIN	VSL+ECF	BANK RECONSTRUCTION	VSL
25+65	25+80	3:1 SLOPE	ECF	BANK RECONSTRUCTION	VSL
25+80	25+95	30FT FLOODPLAIN	VSL+ECF	3:1 SLOPE	ECF
25+95	26+65	30FT FLOODPLAIN	VSL+ECF	15FT FLOODPLAIN	VSL+ECF
26+65	27+85	30FT FLOODPLAIN	VSL+ECF	BANK RECONSTRUCTION	VSL
27+85	33+70	30FT FLOODPLAIN	ECF	30FT FLOODPLAIN	ECF
33+70	36+20	TBD	TBD	TBD	TBD
36+20	37+40	30FT FLOODPLAIN	VSL+ECF	30FT FLOODPLAIN	VSL+ECF
37+40	39+40	TBD	TBD	TBD	TBD

EARTHWORK QUANTITIES (NOTE 4)		
TYPE	QUANTITY (APPROX.)	UNIT
FLOODPLAIN BENCHING (CUT)	1650	CUBIC YARDS
BANK GRADING 3:1 SLOPE (CUT)	660	CUBIC YARDS
BACKFILL TREE CAVITIES (FILL)	1000	CUBIC YARDS
ON SITE SOIL PLACEMENT (FILL)	750	CUBIC YARDS

BANK RECONSTRUCTION QUANTITIES		
TYPE	QUANTITY	UNIT
EROSION CONTROL FABRIC	170	SQUARE YARDS
VEGETATED SOIL LIFTS (NOTE 5)	2310	LINEAR FEET
BRUSH MAT (NOTE 6)	150	LINEAR FEET

NOTES

1. STATIONING FOR SCHEDULE OF BANK ACTIVITIES ARE ROUNDED TO THE NEAREST 5 FEET.
2. BANK RECONSTRUCTION MEASURES ARE EROSION CONTROL FABRIC (ECF), VEGETATED SOIL LIFTS (VSL) OR BRUSHMAT (BM). SEE SHEET C5 FOR DETAILS ON RECONSTRUCTION MEASURES.
3. BANK TREATMENTS FOR STA 32+15 TO 36+05 AND 37+45 TO 39+45 SHALL BE DETERMINED ONCE CLEARING AND GRUBBING IS COMPLETE.
4. EARTHWORK QUANTITIES ARE APPROXIMATE ESTIMATES OF MAXIMUM POTENTIAL ACTIVITIES AND SHALL BE REFINED VIA TOPOGRAPHIC SURVEY TO BE PERFORMED BY CONTRACTOR AFTER CLEARING AND GRUBBING ACTIVITIES ARE COMPLETE.
5. VSL TOTALS ARE FOR INDIVIDUAL VSL LAYERS. RECONSTRUCTION AT ANY GIVEN BANK LOCATION RANGES FROM 2–8 VSL LAYERS.
6. BRUSH MAT EXTENTS TO BE DETERMINED IN SUBSEQUENT SUBMITTAL. FOR THIS SUBMITTAL APPROX. 150 LF IS ESTIMATED FROM STA 34+00 TO 37+00.

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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PREPARED BY:
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SHEET TITLE
SCHEDULE OF BANK MEASURES

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION
PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED

DESIGNED J. JACKSON
DRAWN J. JACKSON
IN CHARGE A. BORGONOVO C 53102
SCALE AS NOTED
DATE 8/16/2018
SHEET C7
9 OF 16

(E) STORMWATER OUTFALL WITH GROUTED ROCK SLOPE PROTECTION

(N) SCOUR POOL ROCK STABILIZATION

(N) DRAINAGE CHANNEL

(E) CHANNEL, TYP

ACCESS VIA BACK BAY DR

ACCESS RAMP FROM (E) TRAIL

ACCESS RAMP ON (E) TRAIL

LEGEND

- RIPARIAN CORRIDOR
- WET ALKALINE MEADOW
- HIGH ALKALINE MEADOW
- UPLAND TRANSITION
- SELECT REMOVAL OF INVASIVE PLANTS AND REPLACEMENT WITH NATIVE RIPARIAN SPECIES

NOTES

1. THE EXTENT OF PLANNED VEGETATION COMMUNITIES ARE ESTIMATED AND ARE SUBJECT TO FIELD CHANGES BASED ON SITE CONDITIONS AND FINE GRADING FOLLOWING CLEARING AND GRUBBING ACTIVITIES. THE OWNER'S REPRESENTATIVE (RESTORATION ECOLOGIST) WILL PROVIDE FIELD ADJUSTMENTS TO THE LIMITS OF DEFINED PLANTING AND REVEGETATION TYPES TO THE CONTRACTOR FOLLOWING THE CLEARING AND GRUBBING AND AS GRADING ACTIVITIES ARE COMPLETED.
2. SEE SHEET L2 FOR PLANTING SCHEDULES.
3. SEE SHEET L3 FOR PLANING DETAILS.

SITE PLANTING PLAN

SCALE: 1" = 50'

N

0 25 50 100

SCALE (FEET)

VERIFY SCALE

0 1"

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:

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SHEET TITLE

SITE PLANTING PLAN

PROJECT

BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:

NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	
DRAWN	
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L1

10 OF 16

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Plant Schedule: High Alkali Meadow Habitat = 3.26 Acres (142,006 S.F.)						
Symbol	Abbr.	Qty / acre	Botanical Name / Common Name	Size	Type	Spacing (% cover)
	PLANTINGS					
	BAPI	210	Baccharis pilularis – coyote brush	1 gal	Shrub	4′ o. c. (6%)
	CACH	280	Camissoniopsis cheiranthifolia – beach evening primrose	1 gal	Shrub	4′ o. c. (8%)
	DISP	1,660	Distichlis spicata – saltgrass	Liners	Grass	2′ o. c. (12%)
	FRSA	2,220	Frankenia salina – alkali heath	Liners	Herb	2′ o. c. (16%)
	JUAC	370	Juncus acutus ssp. leopoldii – spiny rush	1 gal	Large herb	6′ o. c. (6%)
	LICA	190	Limonium californicum – sea lavendar	1 gal	Herb	3′ o. c. (3%)
	SANI	90	Sambucus nigra ssp. caerulaea – blue elderberry	1 gal	Tall shrub	6′ o. c. (6%)
	SEVE	550	Sesuvium veruccosum – western sea-purslane	Liners	Succulent	2′ o. c. (4%)
	SUTA	180	Suaeda taxifolia – woolly seablite	1 gal	Succulent	3′ o. c. (3%)
	Total Coverage					64% cover

SEED			
Botanical Name / Common Name	Form	Application Rate: Bulk Lbs / Acre	Purity / Germ.
Ambrosia psilostachya – western ragweed	Forb	3.0	TBD
Amsinckia menziesii – small-flowered fiddleneck	Herb	2.0	TBD
Artemisia dracunculus – tarragon	Shrub	2.0	TBD
Cressa truxillensis – alkali weed	Herb	4.0	TBD
Distichlis spicata – saltgrass	Grass	3.0	TBD
Elymus triticoides – beardless wild rye	Grass	3.0	TBD
Festuca microstachys – small fescue	Grass	3.0	TBD
Frankenia salina – alkali heath	Herb	4.0	TBD
Heliotropium curassavicum – salt heliotrope	Herb	4.0	TBD
Lasthenia glabrata - goldfields	Herb	2.0 (1.4M)	TBD
Limonium californicum – sea lavendar	Herb	2.0	TBD
Malvella leprosa – alkali mallow	Herb	5.0 (8K)	TBD
Plantago erecta – California plantain	Herb	10.0	TBD
Total Bulk Lbs		42.0	

Plant Schedule: Upland Transition Habitat = 0.48 Acres (20,909 S.F.)						
Symbol	Abbr.	Plants / Acre	Botanical Name / Common Name	Size	Form	Spacing (% cover)
	PLANTINGS					
	ATLE	84	Atriplex lentiformis – quailbush	1 gal	shrub	6′ o. c. (6%)
	ATCA	84	Atriplex canescens – four-winged saltbush	1 gal	shrub	6′ o. c. (6%)
	BAPI	480	Baccharis pilularis – coyote brush	1 gal	shrub	4′ o. c. (14%)
	HEAR	88	Heteromeles arbutifolia – toyon	1 gal	large shrub	8′ o. c. (10%)
	MALA	88	Malosma laurina – laurel sumac	1 gal	large shrub	8′ o. c. (10%)
	PEAR	128	Peritoma arborea – bladderpod	1 gal	shrub	6′ o. c. (8%)
	RHIN	72	Rhus integrifolia – lemonadeberry	1 gal	large shrub	8′ o. c. (8%)
	Total Coverage					62%

SEED			
Botanical Name / Common Name	Form	Application Rate: Bulk Lbs / Acre	Purity / Germ.
Acmispon glaber - deerweed	Shrub	2.5	TBD
Artemisia californica – California sagebrush	Shrub	3	TBD
Encelia californica – California encelia	Shrub	2	TBD
Eriogonum fasciculatum – California buckwheat	Shrub	3	TBD
Eriophyllum confertiflorum – golden yarrow	Herb	2	TBD
Isocoma menziesii – coastal goldenbush	Shrub	2.5	TBD
Lasthenia glabrata - goldfields	Herb	2	TBD
Lupinus bicolor – miniature lupine	Herb	3	TBD
Plantago erecta – California plantain	Herb	8	TBD
Stipa pulchra – purple needlegrass	Bunchgrass	6	TBD
Festuca microstachys – small fescue	Grass	4	TBD
Total Bulk Lbs		36	

Plant Schedule: Wet Alkali Meadow Habitat = 1.94 Acres (84,506 S.F.)						
Symbol	Abbr.	Qty / acre	Botanical Name / Common Name	Size	Type	Spacing (% cover)
	PLANTINGS					
	ANCA	700	Anemopsis californica – yerba mansa	1 gal	Herb	2′ o. c. (5%)
	ANSU	550	Anthrocnemum subterminale – Parish's glasswort (pickleweed)*	liners	Succulent	2′ o. c. (4%)
	BASN	90	Baccharis salicina – willow baccharis	1 gal	Shrub	6′ o. c. (6%)
	DISP	1,400	Distichlis spicata – saltgrass	liners	Grass	2′ o. c. (10%)
	FRSA	1,100	Frankenia salina – alkali heath	liners	Herb	2′ o. c. (8%)
	JACA	700	Jaumea carnosa – fleshy jaumea*	D-40	Succulent	2′ o. c. (5%)
	JUAC	230	Juncus acutus (ssp. leopoldii) – spiny rush	1 gal	Large herb	6′ o. c. (15%)
	MOLI	830	Monanthochloe littoralis - shoregrass*	liners	Grass	2′ o. c. (6%)
	SAPA	1,940	Salicornia pacifica – pickleweed	liners	Succulent	2′ o. c. (14%)
	SUTA	180	Suaeda taxifolia – woolly sea blite	1 gal	Succulent	3′ o. c. (3%)
	Total Coverage					73%

SEED			
Botanical Name / Common Name	Form	Application Rate: Bulk Lbs / Acre	Purity / Germ.
Amblyopappus pusillus – dwarf coastweed*	Herb	TBD	TBD
Anemopsis californica – yerba mansa	Herb	2.0	TBD
Artemisia douglasiana – mugwort	Herb	2.0	TBD
Cressa truxillensis – alkali weed	Herb	4.0	TBD
Distichlis spicata – saltgrass	Grass	3.0	TBD
Eleocharis palustris – common spikerush*	Grass	1.0	TBD
Elymus triticoides – beardless wild rye	Grass	3.0	TBD
Frankenia salina – alkali heath	Herb	4.0	TBD
Heliotropium curassavicum – salt heliotrope	Herb	3.0	TBD
Lasthenia glabrata – goldfields	Herb	2.0	TBD
Plantago erecta – California plantain	Herb	10.0	TBD
Pluchea odorata – salt marsh fleabane	Herb	2.0	TBD
Total Bulk Lbs /acre		> 36	

*Special Collections Required

Plant Schedule: Riparian Corridor = 1.16 Acres (50,530 S.F.)						
Symbol	Abbr.	Plants / Acre	Botanical Name / Common Name	Size	Form	Spacing (% cover)
	TREE / SHRUB PLANTINGS					
	BASA	120	Baccharis salicifolia – mule fat	cuttings	Shrub	6′ o. c. (8%)
	BASN	120	Baccharis salicina – willow baccharis	1 gal	Shrub	6′ o. c. (8%)
	RISP	140	Ribes speciosum – fuchsia-flowering gooseberry	1 gal	Shrub	4′ o. c. (4%)
	ROCA	240	Rosa californica – California wild rose	4″ pots	Herb	3′ o. c. (4%)
	SAEX	120	Salix exigua – sandbar willow	1 gal	Shrub	6′ o. c. (8%)
	SALA	100	Salix lasiolepis – arroyo willow	cuttings	Tree	8′ o. c. (12%)
	SANI	84	Sambucus nigra ssp. caerulaea – blue elderberry	1 gal	Tall shrub	8′ o. c. (10%)
	PLRA	24	Platanus racemosa – western sycamore	5 gal	Tree	12′ o. c. (6%)
	POFR	24	Populus fremontii – Fremont cottonwood	5 gal	Tree	12′ o. c. (6%)
	SAGO	24	Salix gooddingii – black willow	cuttings	Tree	12′ o. c. (6%)
	Total Coverage					72% cover

SEED			
Botanical Name / Common Name	Form	Application Rate: Bulk Lbs / Acre (Seed/LB)	Purity / Germ.
Ambrosia psilostachya – western ragweed	Herb	3.0	TBD
Anemopsis californica – yerba mansa	Herb	3.0	TBD
Artemisia douglasiana – mugwort	Forb	3.0	TBD
Artemisia dracunculus – tarragon	Shrub	3.0	TBD
Baccharis salicifolia – mule fat	Shrub	2.0	TBD
Bromus carinatus – California brome grass	Grass	4.0	TBD
Eleocharis palustris – common spikerush	Grass-like	1.0	TBD
Elymus triticoides – beardless wild rye	Grass	2.0	TBD
Muhlenbergia rigens - deergrass	Grass	2.0	TBD
Plantago erecta – California plantain	Herb	8.0	TBD
Pluchea odorata – salt marsh fleabane	Herb	2.0	TBD
	Total Bulk Lbs	32	

NOTES

1. THE LIMITS OF WORK SHALL BE FLAGGED IN THE FIELD PRIOR TO ANY CLEARING ACTIVITIES.
2. DETAILS ON PLANTING SIZES, CONDITION, SPACING, SEED APPLICATION RATES AND PURITY WILL BE PROVIDED IN SUBSEQUENT SUBMITTALS.

VERIFY SCALE
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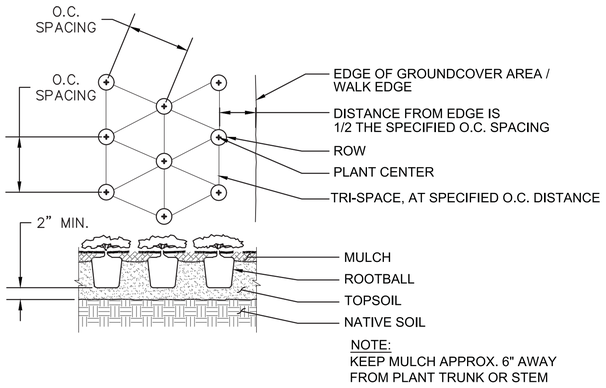
SHEET TITLE: PLANTING SCHEDULE

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

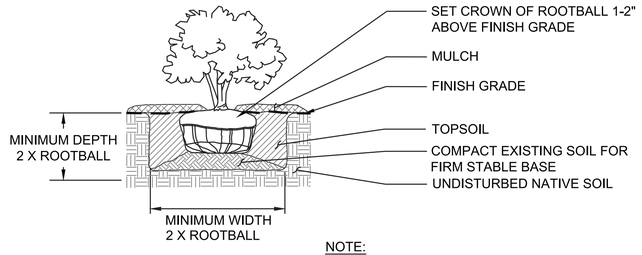
PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED
DESIGNED
DRAWN
IN CHARGE A. BORGONOVO C 53102
SCALE AS NOTED
DATE 8/16/2018
SHEET L2
11 OF 16



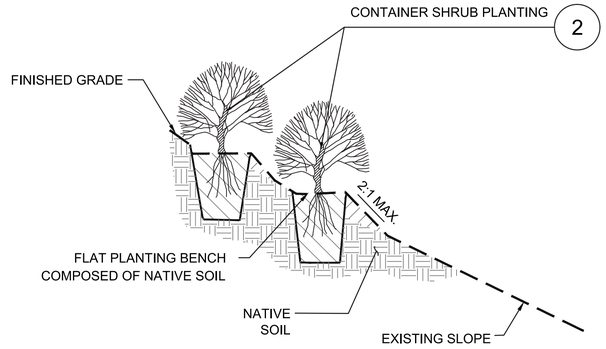
1 PLANT SPACING

NOT TO SCALE



2 CONTAINER SHRUB PLANTING

NOT TO SCALE



3 TREE & SHRUB PLANTING ON SLOPES

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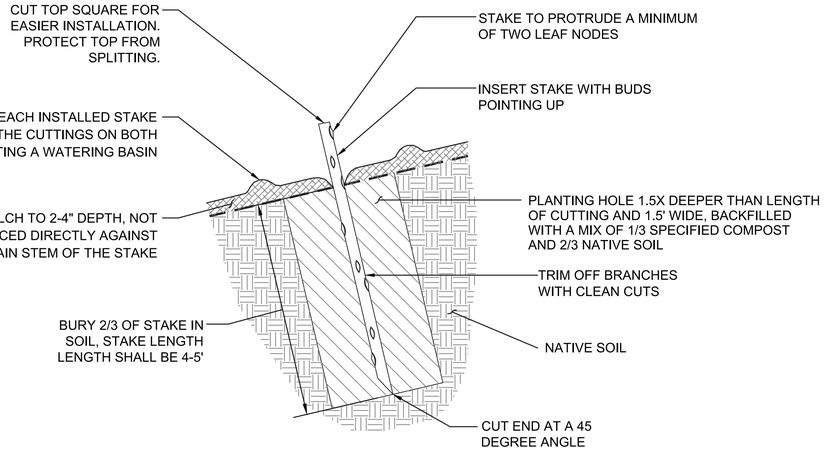
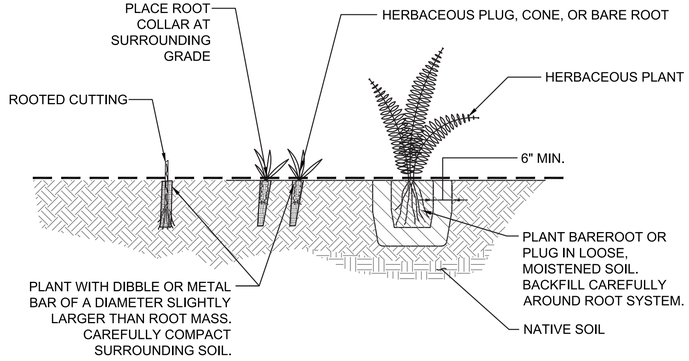


4 LIVE STAKE INSTALLATION

NOT TO SCALE



5 BAREROOT, PLUG, ROOTED CUTTING

NOT TO SCALE

PLANTING NOTES

1. THE LIMITS OF WORK SHALL BE FLAGGED IN THE FIELD PRIOR TO ANY CLEARING ACTIVITIES.
2. THE HABITAT RESTORATION LIMITS OF WORK EXTEND BEYOND THE GRADING LIMITS. WORK IN THESE AREAS INCLUDES CLEARING AND REMOVAL OF INVASIVE SPECIES, REMOVAL OF THE TOP TWO INCHES OF SOIL (SECTION 800-1.13), PROTECTION OF NATIVE VEGETATION TO REMAIN, SOIL PREPARATION AND AMENDMENT, IRRIGATION AND REVEGETATION OF DISTURBED AREAS.
3. ALL AREAS TO BE PLANTED SHALL BE CLEARED AND GRUBBED OF INVASIVE SPECIES PER THE SPECIFICATIONS. PRIOR TO PLANTING, PLANTING ZONE BOUNDARIES SHALL BE STAKED IN THE FIELD BASED ON ADJUSTMENTS TO THE ESTIMATED EXTENT ON SHEET L1 BY THE OWNER'S REPRESENTATIVE (RESTORATION ECOLOGIST) BASED ON FIELD CONDITIONS FOLLOWING CLEARING AND GRUBBING AND GRADING ACTIVITIES. THE STAKED LIMITS OF THE PLANTINGS SHALL BE VERIFIED BY THE OWNERS REPRESENTATIVE (RESTORATION ECOLOGIST).
4. CONTRACTOR SHALL VERIFY ALL QUANTITIES, MEASUREMENTS, AND SITE CONDITIONS.
5. A POST-GRADING MEETING WILL BE HELD TO REVIEW FINISH GRADING.
6. PLANTING PERIOD IS WEATHER DEPENDENT AND PLANTING SEQUENCE SHALL BE ADJUSTED ACCORDING TO SOIL MOISTURE.
7. ALL SEEDING ACTIVITIES SHALL CONFORM TO NORMAL LANDSCAPE INDUSTRY STANDARDS. INFERIOR SEED WILL BE REJECTED BY ENGINEER OR RESTORATION ECOLOGIST.
8. IF PURITY/GERMINATION RATES OF PROVIDED SEED ARE LESS THAN SPECIFIED, THE BULK POUNDS OF SEED PER ACRE SHALL BE ADJUSTED TO ACHIEVE THE DESIRED PURE LIVE SEED (PLS) PER ACRE.
9. CONTRACTOR SHALL CONTROL NOXIOUS OR INVASIVE WEEDS WHICH MAY DEVELOP ON SITE DURING WARRANTY PERIOD. SEE SPECIFICATIONS FOR MORE INFORMATION.
10. CONTRACTOR SHALL REPAIR AND SEED ALL AREAS DISTURBED THROUGHOUT COURSE OF CONSTRUCTION WITH APPROPRIATE SEED MIX AND APPLICATION RATE AS PRESCRIBED IN PLANT SCHEDULE.
11. PLANTS SHALL BE PLACED IN GROUPS OF LIKE VARIETY. (EX. 25 ROSA CALIFORNICA OR 15 BACCHARIS SALICIFOLIA TOGETHER).

VERIFY SCALE
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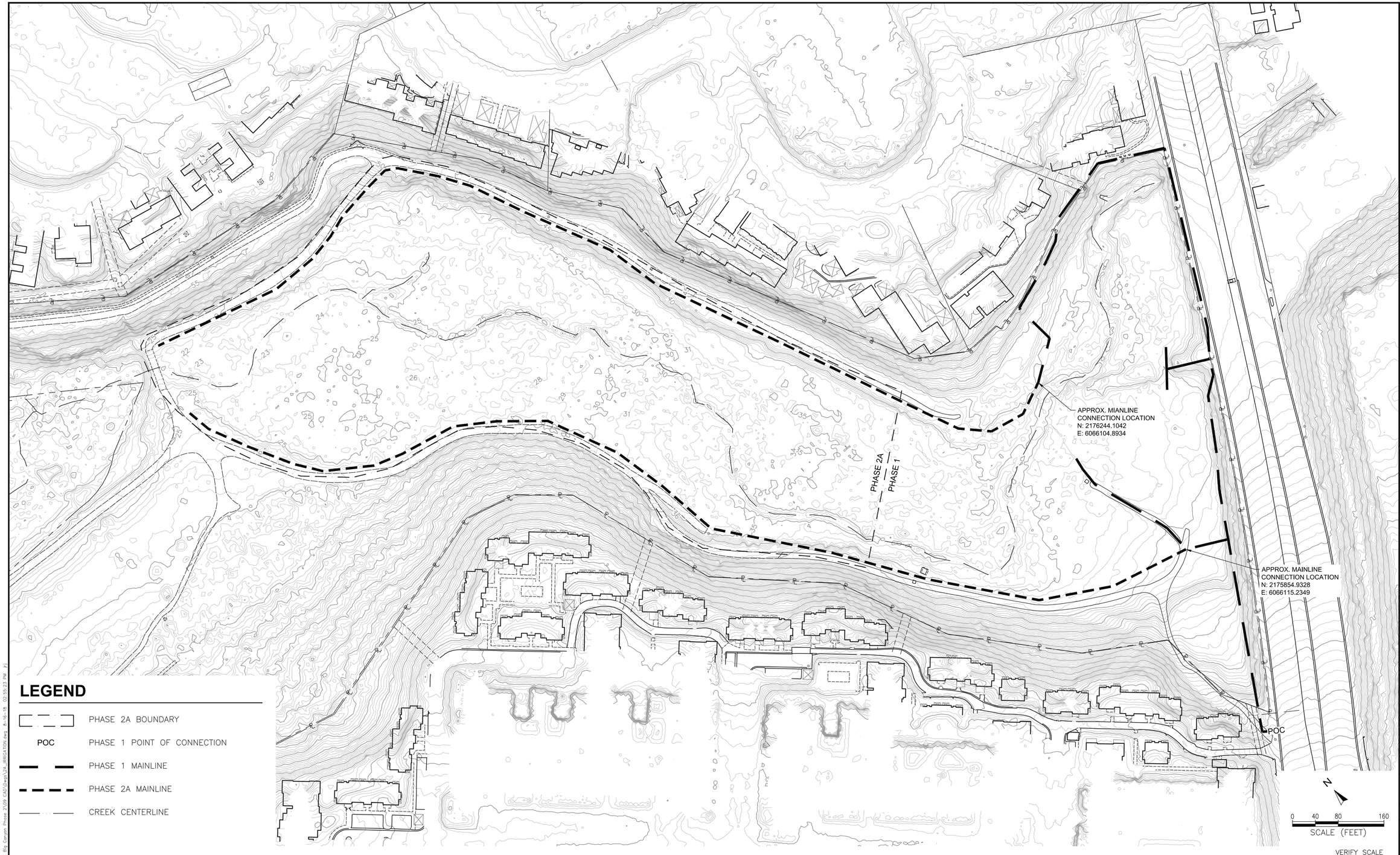
SHEET TITLE: PLANTING DETAILS

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	
DRAWN	
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L3



LEGEND

- PHASE 2A BOUNDARY
- POC — PHASE 1 POINT OF CONNECTION
- PHASE 1 MAINLINE
- PHASE 2A MAINLINE
- CREEK CENTERLINE

IRRIGATION CONNECTION PLAN

SCALE: 1" = 80'

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0 1"
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SHEET TITLE
IRRIGATION CONNECTION PLAN

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	
DRAWN	R. GUTIERREZ
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L4

13 OF 16

PHASE 2A

PHASE 1

LEGEND

- PHASE 2A BOUNDARY
- IRRIGATION MAINLINE
- CREEK CENTERLINE
- TEMPORARY IRRIGATION AREA

IRRIGATION PLAN

SCALE: 1" = 50'

N

0 25 50 100

SCALE (FEET)

VERIFY SCALE

0 1"

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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SHEET TITLE: IRRIGATION PLAN

PROJECT: BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION PROJECT - PHASE 2A

PREPARED FOR:

NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	
DRAWN	R. GUTIERREZ
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L5

14 OF 16

IRRIGATION NOTES

1. INSTALL IRRIGATION SYSTEM IN ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
2. IRRIGATION PLANS ARE DIAGRAMMATIC. ALL IRRIGATION HEADS SHALL BE PLACED IN PLANTED AREAS AND VALVES PLACED IN SHRUB AREAS WHENEVER POSSIBLE. FIELD ADJUST LINES TO AVOID CONFLICT WITH UTILITIES.
3. MAINLINE IS SHOWN BENEATH PAVING SURFACES AND OUTSIDE WORK LIMITS FOR GRAPHIC CLARITY ONLY. ACTUAL LOCATION IN PLANTING AREAS, UNLESS OTHERWISE NOTED OR APPROVED BY CITY.
4. IRRIGATION WATER OVERSPRAY OR RUN-OFF INTO THE CREEK SHOULD BE LIMITED TO THE EXTENT POSSIBLE. ADJUST HEADS AS NECESSARY TO PREVENT WATER FROM ENTERING WATER BODIES.
5. THE IRRIGATION SYSTEM OPERATION AND DESIGN ARE BASED ON A MINIMUM AVAILABLE STATIC PRESSURE OF 80 PSI AT THE POINT OF CONNECTION AND 120 GPM FLOW RATE. THE CONTRACTOR SHALL VERIFY THE DESIGN PRESSURE AND VOLUME BEFORE INSTALLATION AND NOTIFY ENGINEER OF ANY DISCREPANCY PRIOR TO COMMENCING WORK.
6. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS AND LAYOUT OF ALL NEW PLANTING AREAS BEFORE STARTING WORK AND IMMEDIATELY NOTIFY ENGINEER OF ANY DEVIATIONS FROM THE PLAN.
7. VERIFY LOCATION AND DEPTH OF SANITARY SEWER, STORM DRAIN, TELEPHONE, AND ANY OTHER UTILITIES ON SITE PRIOR TO COMMENCING WORK.
8. CONTRACTOR SHALL LOCATE AND TIE-IN TO EXISTING PHASE 1 MAINLINE. MAINLINE SHALL BE EXTENDED FROM PHASE 1 INTO PHASE 2A ALONG ACCESS ROAD/TRAIL.
9. COORDINATE LOCATION OF REMOTE CONTROL VALVE ASSEMBLIES AND SLEEVES. COORDINATE ALL WORK WITH OTHER TRADES INVOLVED.
10. ALL VALVES WILL BE PLACED IN VALVE BOXES IN A MANNER THAT FACILITATES ACCESS FOR MAINTENANCE. SIZE BOXES TO ACCOMMODATE COMPLETE VALVE ASSEMBLY. MAINTAIN MIN. 12" BETWEEN VALVE BOXES AND PAVED SURFACES.
11. ALL COMPONENTS OF IRRIGATION SYSTEM SHALL BE INSTALLED AND ADJUSTED TO PROVIDE ADEQUATE COVERAGE AND MINIMIZE OVER SPRAY ONTO BUILDINGS AND PAVING, CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE WORKING SYSTEM.
12. IRRIGATION LATERALS ARE SIZED STARTING AT VALVE AND CONTINUING IN DIRECTION OF FLOW. REDUCTIONS IN PIPE SIZE ARE LABELED BEGINNING DOWNSTREAM OF NEAREST FITTING. ALL LATERALS NOT SIZED ARE MINIMUM 3/4" OR SAME SIZE AS NEAREST ADJACENT PIPE.
13. CONTRACTOR TO MARK LAYOUT OF TRENCHES AND VALVE LOCATIONS FOR PREVIEW BY OWNER'S REPRESENTATIVE IN FIELD PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL INSTALL QUICK COUPLING VALVES AT POINT OF CONNECTION, AT EACH END OF MAINLINE, AND AT 200' INTERVALS ALONG MAINLINE.
15. ALL IRRIGATION LATERAL LINES SHALL BE INSTALLED ABOVE GROUND AND SECURED WITH PIPE STAPLES AT A MINIMUM INTERVAL OF 15'. THE MAINLINE AND VALVES SHALL BE INSTALLED BELOW GRADE.
16. ZONES ARE SEPARATED BY PLANT / HABITAT TYPE.
17. CONTRACTOR SHALL COORDINATE WITH CITY OF NEWPORT TO ACCESS, TIE-IN TO AND EXPAND EXISTING CONTROLLER LOCATED NEAR THE P.O.C. THE EXISTING CONTROLLER HAS 36 STATIONS WITH 14 ZONES AVAILABLE FOR USE IN PHASE 2A AND CAN BE EXPANDED TO 48 ZONES.

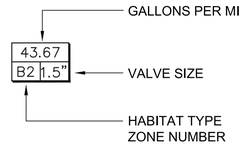
IRRIGATION LEGEND

ROTOR HEADS

SYMBOL	DESCRIPTION	NOZZLE	GPM	P.S.I.	RADIUS
	TORO 570Z-12P PRX COM E	HUNTER MP1000-T 90	.20	45	14'
	TORO 570Z-12P PRX COM E	HUNTER MP1000-T 180	.40	45	14'
	TORO 570Z-12P PRX COM E	HUNTER MP1000-T 360	.80	45	14'
	TORO 570Z-12P PRX COM E	HUNTER MP2000-T 90	.42	45	20'
	TORO 570Z-12P PRX COM E	HUNTER MP2000-T 180	.78	45	20'
	TORO 570Z-12P PRX COM E	HUNTER MP2000-T 360	1.56	45	20'
	TORO 570Z-12P PRX COM E	HUNTER MP3500-T 90	1.38	45	35'
	TORO 570Z-12P PRX COM E	HUNTER MP3500-T 180	3.10	45	35'
	TORO 570Z-12P PRX COM E	HUNTER MP3000-T 360	3.86	45	30'
	HUNTER RZWS-18-25-CV (2 PER TREE)		0.25	45	1

EQUIPMENT

SYMBOL	DESCRIPTION
	REMOTE CONTROL VALVE: GRISWOLD DWS-PRV BRASS PRESSURE REDUCING VALVE
	BALL VALVE: MATCO 754N BRASS, LINE SIZE
	QUICK COUPLER: RAINBIRD 44-NP NON POTABLE BRASS. SEE NOTE 14 HEREIN.
	MANUAL DRAIN VALVE, SEE SPECIFICATIONS
	LATERAL LINE, SCH. 40 PVC
	MAINLINE, CLASS 315 PVC, SIZE: 3" UNLESS OTHERWISE NOTED
	SCHEDULE 40 PVC SLEEVE - 6" MIN, UNLESS OTHERWISE NOTED
C	CONTROLLER: RAIN MASTER EVOLUTION DX2 - FLOW, RADIO & ANTENNA (EXISTING) 36 ZONE
	MASTER VALVE: GRISWOLD 2000L (EXISTING)
	FLOW SENSOR: RAIN MASTER EVFM - 2" (EXISTING)
	REDUCED PRESSURE BACKFLOW: FEBCO 825Y - 2" (EXISTING)



HABITAT TYPE DESIGNATOR

B	BIO RETENTION
R	RIPARIAN
U	UPLAND
T	TREE BUBBLER

NOTES

A. FLOW IN PIPING SHALL NOT EXCEED 5 FEET PER SECOND VELOCITY.
A. DEMANDS OF SYSTEM DESIGN SHALL NOT EXCEED PERFORMANCE CRITERIA OF WATER METER.
B. SEE SPECIFICATIONS FOR ALL PERFORMANCE REQUIREMENTS

GPM	PIPE SIZE
0 - 7	3/4"
8 - 12	1"
13 - 22	1-1/4"
23 - 30	1-1/2"
31 - 50	2"
51 - 70	2-1/2"
71 - 110	3"

1 PIPE SIZING - SCHEDULE 40 PVC

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:
ESA
550 Kearny Street
Suite 1000
San Francisco, CA 94108
415.262.2300 phone

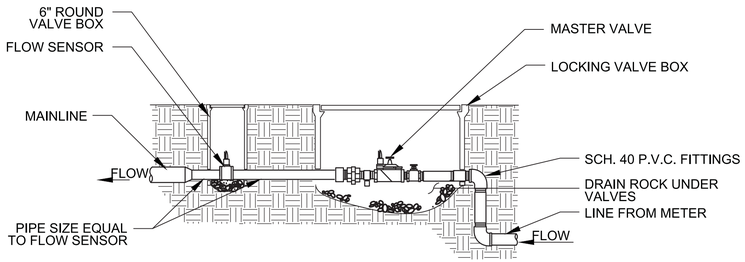
SHEET TITLE
IRRIGATION NOTES AND SCHEDULE

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION
PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

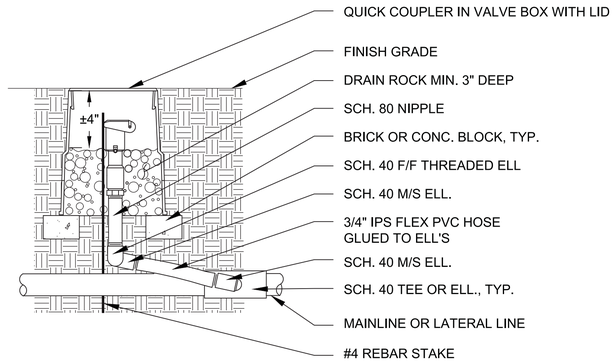
APPROVED	
DESIGNED	
DRAWN	R. GUTIERREZ
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L6

15 OF 16



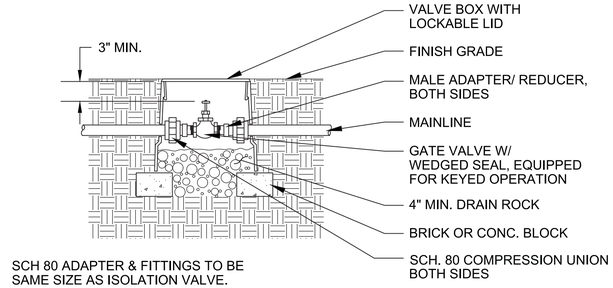
1 MASTER CONTROL VALVE (EXISTING - FOR INFORMATION ONLY)

NOT TO SCALE



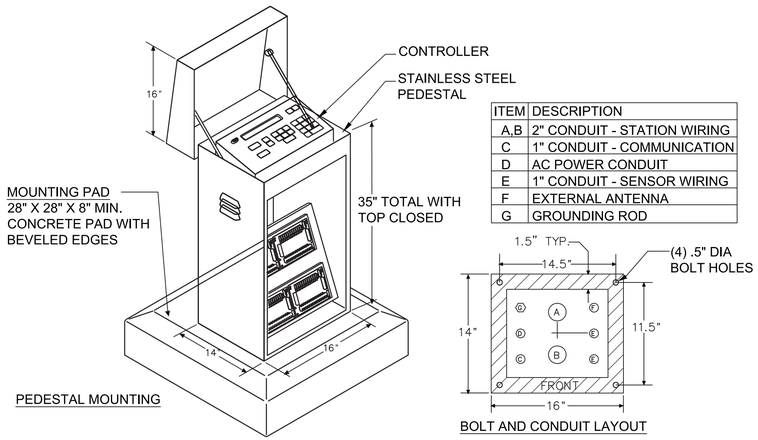
2 QUICK COUPLER

NOT TO SCALE



3 ISOLATION / BALL VALVE

NOT TO SCALE

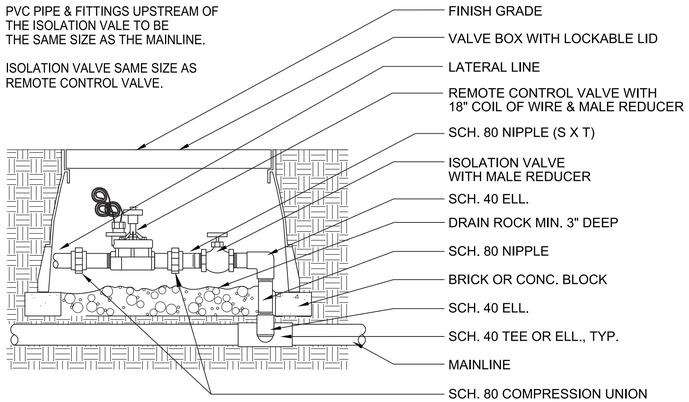


ITEM	DESCRIPTION
A,B	2" CONDUIT - STATION WIRING
C	1" CONDUIT - COMMUNICATION
D	AC POWER CONDUIT
E	1" CONDUIT - SENSOR WIRING
F	EXTERNAL ANTENNA
G	GROUNDING ROD

NOTES:
1) CONTROLLER SHALL BE RAINMASTER EVOLUTION DX2 WITH FLOW, RADIO, AND LOW PROFILE ANTENNA.
2) FLOW SENSOR SHALL BE RAINMASTER MODEL FS-BXX.

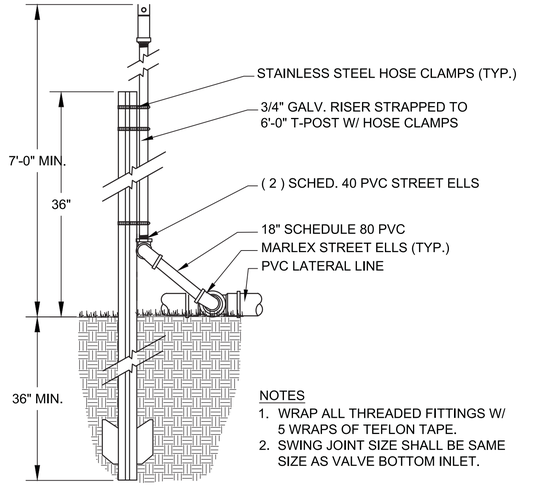
4 CONTROLLER (EXISTING - FOR INFORMATION ONLY)

NOT TO SCALE



5 REMOTE CONTROL VALVE

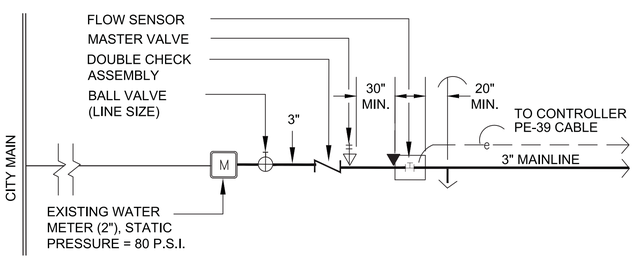
NOT TO SCALE



NOTES
1. WRAP ALL THREADED FITTINGS W/ 5 WRAPS OF TEFLON TAPE.
2. SWING JOINT SIZE SHALL BE SAME SIZE AS VALVE BOTTOM INLET.

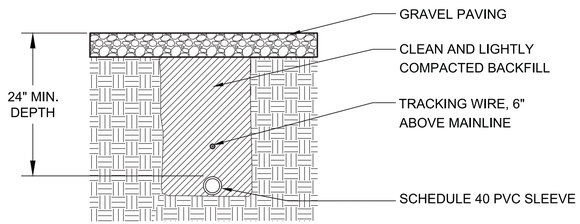
6 ROTOR ON HIGH RISER

NOT TO SCALE



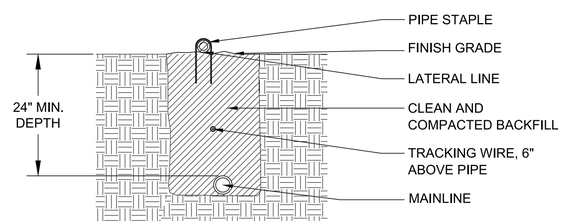
7 POINT OF CONNECTION / WATER SERVICE (EXISTING - FOR INFORMATION ONLY)

NOT TO SCALE



8 IRRIGATION SLEEVE UNDER ROADS

NOT TO SCALE



9 IRRIGATION TRENCH

NOT TO SCALE

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

60% DRAFT
NOT FOR CONSTRUCTION

PREPARED BY:
ESA
550 Kearny Street
Suite 1000
San Francisco, CA 94108
415.262.2300 phone

SHEET TITLE
IRRIGATION DETAILS

PROJECT
BIG CANYON COASTAL HABITAT RESTORATION AND ADAPTATION
PROJECT - PHASE 2A

PREPARED FOR:
NEWPORT BAY CONSERVANCY
2301 UNIVERSITY DRIVE
NEWPORT BEACH, CA 92660

APPROVED	
DESIGNED	
DRAWN	R. GUTIERREZ
IN CHARGE	A. BORGONOVO C 53102
SCALE	AS NOTED
DATE	8/16/2018
SHEET	L7

16 OF 16

Appendix B
Air Quality Modeling

Big Canyon Phase 2A - Air Quality Appendix

Big Canyon Phase 2A - Air Quality Appendix

Assumptions

Big Canyon Phase 2
Assumptions

CalEEMod Inputs (Non-Default information only)

Project Location	
County	Orange County
Air District	SCAQMD
Climate Zone	8
Operational Year	2020
Utility Provider	Southern California Edison
Source Receptor Area (SCAQMD)	20

	Base	2015[1]	2020[1]	2030
CO intensity	702.43634	531.7443094	411.6277	351.2182
% renewable	0%	24.30%	41.40%	50.00%

[1] http://www.cpuc.ca.gov/renewables/

Land Use	Building SQFT	Building KFS	(seat/ room/ space)	Acers	CalEEMod Land Use Type
City Park	0	0.00	0	9.6	
				6.5	acres disturbed

Construction

Construction Schedule

Phases (if applicable)	Start (month/date/ year)	Finish (month/date/ year)	Days	
1A: Site Preparation	10/1/2019	10/14/2019	12	(Grading)
1B: Clearing and Grubbing	10/2/2019	11/12/2019	36	(Site Preparation)
1B: Haul Trucks	10/2/2019	10/24/2019	20	(Site Preparation)
2A: Excavation and Grading	10/3/2019	11/13/2019	36	(Grading Phase)
2B: On-site Filling in Upland Areas	10/4/2019	10/24/2019	18	(Grading)
2C: Fine Site Grading	10/5/2019	10/25/2019	18	(Grading)
3A: Temporary Irrigation	10/6/2019	10/19/2019	12	(Building Construction since no grading/soil movement)
3B: Soil Amendments	10/7/2019	10/19/2019	12	(Building Construction since no grading/soil movement)
3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats	10/8/2019	11/11/2019	30	(Building Construction since no grading/soil movement)
4: Raise viewing area and trail upgrades	10/9/2019	10/29/2019	18	(grading)
5: Pruning, Soil Amendments, and other Measures	10/10/2019	11/27/2019	42	(Building Construction since no grading/soil movement)

Notes:

1. 5 Months of consturction beginning in October 2019, followed by a 120 days plant establishment and maintenance period.
2. While not all phases will overlap, the modeling assumes that all phases will start in October 2019 to provide for worst case equipment emissions estimates. Phase overlaps are identified here and emissions from the phase overlaps are calculated outside of CalEEMod.

Overlap 1	Phase 1B and 2A
Overlap 2	Phase 2A, 2B, 2C
Overlap 3	Phase 2B, 2C, 3A, 4
Overlap 4	Phase 2C, 3A, 3B, 4
Overlap 5	Phase 3B, 3C, 4, 5

3. 8 employees would be onsite during any one phase during construction. Employees would consist of:

1	Construction Super intendant
2	Laborers
3	Equipment operators
2	haul truck drivers

4. Hauling of wood chips/vegetation would not overlap with the hauling of soil.
5. Hauling of woodchips and vegetation would occur over 20 days. Hauling of soil would occur over 5 days. Separate phases for haul trucks are added to ensure haul trucks are averaged over the correct number of days

Construction Phases and Equipment Summary

The following construcion equipment is anticipated to be used during construction activities.

	HP	LF	
Rubber tired Loader	203	0.3618	
backhoe	97	0.3685	
Rubber Tired dozer	247	0.4	
Plate Compactor	8	0.43	
Other Material Handling Equipment	168	0.3953	(Chipper/Mulcher)
haul trucks	N/A	N/A	(Modeled under VMT not onsite equipment)
Off Highway Trucks	402	0.3819	(water Truck)
Grader	247	0.4	(Not in equipment list but used for determining fugitive dust. HP of Dozer is used as a worst case in case an actual grader isn't used)

1A: Site Preparation

Erosion and Sediment Control (Grading)

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Rubber Tired dozer	1	9

1B: Clearing and Grubbing (Site Preparation)

Clearing and Grubbing of 6.3 acres of site

0 Cubic yards of import
7,500 cubic yards of wood chip removal
250 truck loads total

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Rubber Tired dozer	1	9
Other Material Handling Equipment	1	9
Off Highway Trucks	1	4

2A: Excavation and Grading (Grading Phase)

Creek Restroation

0 Cubic yards of import
1,500 cubic yards of export
50 truck loads total

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Compactor	1	5
Grader	1	9
Off Highway Trucks	1	4

2B: On-site Filling in Upland Areas (Grading)

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Compactor	1	5
Off Highway Trucks	1	4

2C: Fine Site Grading (Grading)

0 Cubic yards of import
0 Cubic yards of export
0 truck loads total

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Grader	1	9
Off Highway Trucks	1	4

3A: Temporary Irrigation (Building Construction since no grading/soil movement)

Equipment Type	#	Hrs/day
Off Highway Trucks	1	4

3B: Soil Amendments (Building Construction since no grading/soil movement)

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
Off Highway Trucks	1	4

3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats
(Building Construction since no grading/soil movement)

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Off Highway Trucks	1	4

4: Raise viewing area and trail upgrades (grading)

0 Cubic yards of import
0 Cubic yards of export
0 truck loads total

Equipment Type	#	Hrs/day
backhoe	1	9
Rubber Tired dozer	1	9
Compactor	1	5
Off Highway Trucks	1	4

5: Pruning, Soil Amendments, and other Measures

(Building Construction since no grading/soil movement)

Equipment Type	#	Hrs/day
Rubber tired Loader	1	9
backhoe	1	9
Off Highway Trucks	1	4

Construction Trips and Vehicle Miles Traveled

	Worker		Vendor		Haul	
Phase Name	# Trips	VMT/Trip	# Trips	VMT/Trip	# Trips	VMT/Trip
1A: Site Preparation	20	14.7	0	6.9	0	20
1B: Clearing and Grubbing	20	14.7	0	6.9	250	20
2A: Excavation and Grading	20	14.7	0	6.9	50	20
2B: On-site Filling in Upland Areas	20	14.7	0	6.9	0	20
2C: Fine Site Grading	20	14.7	0	6.9	0	20
3A: Temporary Irrigation	20	14.7	0	6.9	0	20
3B: Soil Amendments	20	14.7	2	6.9	0	20
3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats	20	14.7	2	6.9	0	20
4: Raise viewing area and trail upgrades	20	14.7	0	6.9	0	20
5: Pruning, Soil Amendments, and other Measures	20	14.7	0	6.9	0	20

Note: Worker and Vendor trips are number of one-way trips per day. Haul trips are total number of one-way trips associated with the phase

Operational Assumptions

Project Operation and maintenance would occur in 2 phases, a short-term 120-day Maintenance phase or plant establishment period to begin directly after construction ends and a long term, ongoing maintenance activities that will occur subsequent to the plant establishment period.

120- day Plant Establish Period:

# of employees/day	5	(total up to X employees/X hour shifts X days/week operation)
Employee Trips	12.5	one-way vehicle trips per per day (2.5 trips per employee)
Water use	4.62	acre-feet per year
	325,900	gallons/acre feet
	1,505,658	gallons/year
Solid Waste Generation	0.00	Tons per year Total waste to landfill

Long-term Maintenance

# of employees/day	5	(total up to X employees/X hour shifts X days/week operation)
Employee Trips	12.5	one-way vehicle trips per per day (2.5 trips per employee)
		trips per
	1.93	acre

		Default	% Default	Project
Trip Type	LDA	0.555986	0.682141	0.68214
	LDT1	0.043848	0.053797	0.05380
	LDT2	0.210359	0.25809	0.25809
	MCY	0.004867	0.005971	0.00597
		0.81506		1

Water use	4,562,600	gallons/year outdoor use (landscaping, max 3 years)
Solid Waste Generation	0.00	Tons per year Total waste to landfill

Note: the 120-day Plant Establishment Period is not modeled as it is not the worst case year.

Big Canyon Phase 2A - Air Quality Appendix

Construction Emissions Summary

Big Canyon Phase 2
Maximum Daily Construction Emissions

CalEEMod 2016.3.2
Title: Big Canyon Date: 5/21/2018

Unmitigated Construction

		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
		lbs/day					
1A: Site Preparation	Total	*2.08*	***21.70***	*10.01*	*0.02*	*3.76*	*2.38*
	Onsite	1.99	21.64	9.30	0.02	3.53	2.32
	Offsite	0.09	0.06	0.71	0.00	0.23	0.06
Overlap 1	Total	*4.88*	***55.02***	*27.96*	*7.83*	*5.67*	*3.60*
	Onsite	4.44	48.15	24.93	0.06	4.80	3.34
	Offsite	0.44	6.88	3.03	7.77	0.87	0.25
Overlap 2	Total	*4.75*	***53.26***	*27.40*	*7.84*	*3.43*	*2.14*
	Onsite	4.42	50.08	24.54	0.07	2.57	1.90
	Offsite	0.33	3.18	2.85	7.77	0.86	0.24
Overlap 3	Total	*5.35*	***54.66***	*29.55*	*0.08*	*6.33*	*3.83*
	Onsite	4.98	54.43	26.69	0.07	5.43	3.58
	Offsite	0.37	0.24	2.85	0.01	0.90	0.24
Overlap 4	Total	*5.90*	***60.26***	*29.82*	*0.08*	*6.44*	*4.09*
	Onsite	5.52	59.79	26.90	0.07	5.53	3.84
	Offsite	0.38	0.46	2.91	0.01	0.91	0.25
Overlap 5	Total	*6.07*	***61.14***	*32.29*	*0.08*	*6.38*	*4.18*
	Onsite	5.68	60.45	29.31	0.07	5.45	3.93
	Offsite	0.39	0.69	2.97	0.01	0.93	0.25
Max	Total	6.07	61.14	32.29	7.84	6.44	4.18
SCAQMD Thresholds		75	100	550	150	150	55
	Significant	**No**	**No**	**No**	**No**	**No**	**No**

Big Canyon Phase 2
Maximum Daily Construction Emissions

Unmitigated Construction

		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
		lbs/day Winter					
1A: Site Preparation	total	2.08	21.70	9.96	0.02	3.76	2.38
	onsite	1.99	21.64	9.30	0.02	3.53	2.32
	offsite	0.09	0.06	0.66	0.00	0.23	0.06
Overlap 1	total	4.73	55.02	27.23	0.08	5.64	3.56
	onsite	4.35	48.15	24.22	0.06	4.77	3.30
	offsite	0.38	6.88	3.01	0.02	0.87	0.25
Overlap 2	total	4.71	53.26	26.57	0.08	3.40	2.10
	onsite	4.34	50.08	23.83	0.07	2.54	1.86
	offsite	0.36	3.18	2.73	0.01	0.86	0.24
Overlap 3	total	5.35	54.66	29.34	0.08	6.33	3.83
	onsite	4.98	54.43	26.69	0.07	5.43	3.58
	offsite	0.37	0.24	2.64	0.01	0.90	0.24
Overlap 4	total	5.90	60.26	29.61	0.08	6.44	4.09
	onsite	5.52	59.79	26.90	0.07	5.53	3.84
	offsite	0.38	0.46	2.71	0.01	0.91	0.25
Overlap 5	total	6.07	61.14	32.09	0.08	6.38	4.18
	onsite	5.68	60.45	29.31	0.07	5.45	3.93
	offsite	0.39	0.69	2.77	0.01	0.93	0.25

Phase Overlaps

Overlap 1	Phase 1B and 2A
Overlap 2	Phase 2A, 2B, 2C
Overlap 3	Phase 2B, 2C, 3A, 4
Overlap 4	Phase 2C, 3A, 3B, 4
Overlap 5	Phase 3B, 3C, 4, 5

Big Canyon Phase 2

Maximum Daily Construction Emissions

		Winter					
		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
1A: Site Preparation	Fugitive					2.5101	1.3797
	Onsite	1.9869	21.6429	9.2988	0.0201	1.0199	0.9383
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	**2.0799**	**21.7023**	**9.9594**	**0.02224**	**3.7551**	**2.3787**
1B: Clearing and Grubbing	Fugitive					2.5101	1.3797
	Onsite	2.7147	28.936	15.5441	0.0332	1.3357	1.2289
	Offiste	0.1996	3.8133	1.601	1.17E-02	0.4573	0.1342
	Total	**2.9143**	**32.7493**	**17.1451**	**0.0449**	**4.3031**	**2.7428**
2A: Excavation and Grading	Fugitive					0.1965	0.0212
	Onsite	1.6381	19.2131	8.6769	0.0249	0.732	0.6739
	Offsite	0.1783	3.0625	1.4129	9.78E-03	0.4109	0.1195
	Total	**1.8164**	**22.2756**	**10.0898**	**0.03468**	**1.3394**	**0.8146**
2B: On-site Filling in Upland Areas	Fugitive					0.1965	0.0212
	Onsite	1.0905	11.811	6.6091	0.0174	0.4944	0.4554
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	1.1835	11.8704	7.2697	0.01954	0.916	0.5373
2C: Fine Site Grading	Fugitive					0.1965	0.0212
	Onsite	1.613	19.056	8.5453	0.0246	0.7259	0.6678
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	**1.706**	**19.1154**	**9.2059**	**0.02674**	**1.1475**	**0.7497**
3A: Temporary Irrigation	Fugitive					0	0
	Onsite	0.355	3.5948	1.9984	6.61E-03	0.1307	0.1203
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	**0.448**	**3.6542**	**2.659**	**0.00875**	**0.3558**	**0.181**
3B: Soil Amendments	Fugitive					0	0
	Onsite	1.6314	17.1785	6.818	0.0162	0.7931	0.7296
	Offsite	0.1008	0.2866	0.7264	2.60E-03	0.2394	0.0658
	Total	**1.7322**	**17.4651**	**7.5444**	**0.0188**	**1.0325**	**0.7954**
3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats	Fugitive					0	0
	Onsite	1.0655	11.654	6.4775	0.0171	0.4883	0.4493
	Offsite	0.1008	0.2866	0.7264	2.60E-03	0.2394	0.0658
	Total	**1.1663**	**11.9406**	**7.2039**	**0.0197**	**0.7277**	**0.5151**
4: Raise viewing area and trail upgrades	Fugitive					2.7065	1.401
	Onsite	1.9183	19.9651	9.5401	0.02	0.9747	0.8972
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	**2.0113**	**20.0245**	**10.2007**	**0.02214**	**3.9063**	**2.3589**
5: Pruning, Soil Amendments, and other Measures	Fugitive					0	0
	Onsite	1.0655	11.654	6.4775	0.0171	0.4883	0.4493
	Offsite	0.093	0.0594	0.6606	2.14E-03	0.2251	0.0607
	Total	**1.1585**	**11.7134**	**7.1381**	**0.01924**	**0.7134**	**0.51**

Big Canyon Phase 2
Maximum Daily Construction Emissions

Unmitigated Construction

		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
		lbs/day Summer					
1A: Site Preparation	total	2.07	21.70	10.01	0.02	3.76	2.38
	onsite	1.99	21.64	9.30	0.02	3.53	2.32
	offsite	0.08	0.05	0.71	0.00	0.23	0.06
Overlap 1	total	4.88	54.98	27.96	7.83	5.67	3.60
	onsite	4.44	48.20	24.93	0.06	4.80	3.34
	offsite	0.44	6.78	3.03	7.77	0.87	0.25
Overlap 2	total	4.75	53.26	27.40	7.84	3.43	2.14
	onsite	4.42	50.13	24.54	0.07	2.57	1.90
	offsite	0.33	3.13	2.85	7.77	0.86	0.24
Overlap 3	total	5.31	54.64	29.55	0.08	6.33	3.83
	onsite	4.98	54.43	26.69	0.07	5.43	3.58
	offsite	0.33	0.22	2.85	0.01	0.90	0.24
Overlap 4	total	5.85	60.24	29.82	0.08	6.44	4.09
	onsite	5.52	59.79	26.90	0.07	5.53	3.84
	offsite	0.34	0.44	2.91	0.01	0.91	0.25
Overlap 5	total	6.03	61.12	32.29	0.08	6.38	4.18
	onsite	5.68	60.45	29.31	0.07	5.45	3.93
	offsite	0.34	0.67	2.97	0.01	0.93	0.25

Big Canyon Phase 2
Maximum Daily Construction Emissions

		Summer					
		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
1A: Site Preparation	Fugitive					2.5101	1.3797
	Onsite	1.9869	21.6429	9.2988	0.0201	1.0199	0.9383
	Offsite	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**2.0693**	**21.697**	**10.0123**	**0.02236**	**3.7551**	**2.3787**
1B: Clearing and Grubbing	Fugitive					2.5101	1.3797
	Onsite	2.7147	28.936	15.5441	0.0332	1.3357	1.2289
	Offiste	0.2754	3.7593	1.6018	1.20E-02	0.457	0.1339
	Total	**2.9901**	**32.6953**	**17.1459**	**0.04516**	**4.3028**	**2.7425**
2A: Excavation and Grading	Fugitive	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Onsite	1.6381	19.2131	8.6769	0.0249	0.732	0.6739
	Offiste	0.1655	3.0183	1.4241	7.76E+00	0.4106	0.1193
	Total	**1.886**	**22.2855**	**10.8145**	**7.78942**	**1.3677**	**0.8539**
2B: On-site Filling in Upland Areas	Fugitive					0.1965	0.0212
	Onsite	1.0905	11.811	6.6091	0.0174	0.4944	0.4554
	Offiste	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**1.1729**	**11.8651**	**7.3226**	**0.01966**	**0.916**	**0.5373**
2C: Fine Site Grading	Fugitive					0.1965	0.0212
	Onsite	1.613	19.056	8.5453	0.0246	0.7259	0.6678
	Offiste	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**1.6954**	**19.1101**	**9.2588**	**0.02686**	**1.1475**	**0.7497**
3A: Temporary Irrigation	Fugitive					0	0
	Onsite	0.355	3.5948	1.9984	0.00661	0.1307	0.1203
	Offiste	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**0.4374**	**3.6489**	**2.7119**	**0.00887**	**0.3558**	**0.181**
3B: Soil Amendments	Fugitive					0	0
	Onsite	1.6314	17.1785	6.818	0.0162	0.7931	0.7296
	Offiste	0.0899	0.281	0.7735	2.76E-03	0.2394	0.0658
	Total	**1.7213**	**17.4595**	**7.5915**	**0.01896**	**1.0325**	**0.7954**
3C: Plantings for Riparian, Alkaline Meadow & Upland Habitats	Fugitive					0	0
	Onsite	1.0655	11.654	6.4775	0.0171	0.4883	0.4493
	Offiste	0.0899	0.281	0.7735	2.76E-03	0.2394	0.0658
	Total	**1.1554**	**11.935**	**7.251**	**0.01986**	**0.7277**	**0.5151**
4: Raise viewing area and trail upgrades	Fugitive					2.7065	1.401
	Onsite	1.9183	19.9651	9.5401	0.02	0.9747	0.8972
	Offiste	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**2.0007**	**20.0192**	**10.2536**	**0.02226**	**3.9063**	**2.3589**
5: Pruning, Soil Amendments, and other Measures	Fugitive					0	0
	Onsite	1.0655	11.654	6.4775	0.0171	0.4883	0.4493
	Offiste	0.0824	0.0541	0.7135	2.26E-03	0.2251	0.0607
	Total	**1.1479**	**11.7081**	**7.191**	**0.01936**	**0.7134**	**0.51**

Big Canyon Phase 2
Maximum Daily Construction Emissions

LST Analysis

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Max		60	29		6	4
5		109	1,711		14	9
Significant		**No**	No		**No**	**No**

SRA	20	
Receptor Distance	25	meters from Site
	25	meter threshold used
Site Size	6.5	site acreage
	5	LST Acre comparison

The screening criteria for NOx were developed based on the 1-hour NO2 CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO2 NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1 hour NO2 NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO2 standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO2 LST for by the ratio of 1-hour NO2 standards (federal/state)(i.e., 780 lb/day * (0.10/0.18) =433 lb/day).

Big Canyon Phase 2A - Air Quality Appendix

Operational Emissions Summary

Big Canyon Phase 2

Unmitigated CalEEMod Operational Output - Summary

CalEEMod 2016.3.2

Title: Big Canyon Phase 2 Date: 5/21/2018

Unmitigated Emissions - Max Daily

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
			Max (Lbs/day)			
Area	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile	*0.02*	*0.03*	*0.43*	*<0.1*	*0.16*	*0.04*
Total	*<1*	*<1*	*<1*	*<0.1*	*<1*	*<1*
SCAQMD Thresholds	55	55	550	150	150	55
Exceed Thresholds?	No	No	No	No	No	No
			Winter MAX			
Area	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile	*0.02*	*0.03*	*0.40*	*1.40E-03*	*0.16*	*0.04*
Total	*0.02*	*0.03*	*0.40*	*1.40E-03*	*0.16*	*0.04*
			Summer			
Area	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile	0.02	0.03	0.43	1.48E-03	0.16	0.04
Total	*0.02*	*0.03*	*0.43*	*1.48E-03*	*0.16*	*0.04*

Big Canyon Phase 2

Unmitigated CalEEMod Operational Output - Summary

CalEEMod 2016.3.2

Title: Big Canyon Phase 2 Date: 5/21/2018

Unmitigated LST Screening Level

	Pollutant				
	ROG	NO_X	CO	SOx	PM_{10}	$PM_{2.5}$
		lbs/day			
Max		<1	<1		<1	<1
Threshold		***109***	***1,711***		***4***	***2***
Exceed Threshold		***No***	***No***		***No***	***No***

Operational: SRA 20, 25 meter, 5-acre

The screening criteria for NOx were developed based on the 1-hour NO2 CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO2 NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1 hour NO2 NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO2 standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO2 LST for by the ratio of 1-hour NO2 standards (federal/state)(i.e., 780 lb/day * (0.10/0.18) =433 lb/day).

Big Canyon Phase 2A - Air Quality Appendix

CalEEMod Output

Winter

Big Canyon Phase 2A

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.50	Acre	6.50	283,140.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	411.63	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Grading - See Assumptions

Trips and VMT - See Assumptions

Vehicle Trips - See Assumptions

Fleet Mix - See Assumptions

Energy Use -

Landscape Equipment - See Assumptions - No long term landscaping

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - See Assumptions

Off-road Equipment - See Assumptions

Consumer Products - No Consumer Products - See Assumptions

Big Canyon Phase 2A - Orange County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	230.00	12.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	10.00	36.00
tblConstructionPhase	NumDays	20.00	36.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	18.00
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tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	230.00	42.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	PhaseEndDate	3/15/2021	10/19/2019
tblConstructionPhase	PhaseEndDate	12/9/2019	10/14/2019
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tblConstructionPhase	PhaseEndDate	1/6/2020	10/24/2019
tblConstructionPhase	PhaseEndDate	2/3/2020	11/13/2019
tblConstructionPhase	PhaseEndDate	3/2/2020	10/24/2019
tblConstructionPhase	PhaseEndDate	3/30/2020	10/25/2019
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tblConstructionPhase	PhaseEndDate	4/27/2020	10/29/2019
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tblConstructionPhase	PhaseStartDate	4/28/2020	10/6/2019
tblConstructionPhase	PhaseStartDate	11/12/2019	10/1/2019
tblConstructionPhase	PhaseStartDate	10/1/2019	10/2/2019
tblConstructionPhase	PhaseStartDate	12/10/2019	10/2/2019

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tblConstructionPhase	PhaseStartDate	3/3/2020	10/5/2019
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tblFleetMix	LDA	0.56	0.68
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.26
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
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tblFleetMix	UBUS	1.5860e-003	0.00
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tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
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tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	UsageHours	8.00	9.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblSolidWaste	SolidWasteGenerationRate	0.56	0.00

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tblVehicleTrips	CC_TTP	48.00	0.00
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tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	22.75	1.93
tblVehicleTrips	SU_TR	16.74	1.93
tblVehicleTrips	WD_TR	1.89	1.93
tblWater	OutdoorWaterUseRate	7,744,628.77	4,562,600.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	16.1311	169.5078	87.6634	0.2293	24.9667	7.2156	32.1824	12.0673	6.6405	18.7077	0.0000	22,818.4563	22,818.4563	6.3393	0.0000	22,976.9378
2020	1.0750	10.5436	6.9146	0.0192	0.2236	0.4311	0.6547	0.0593	0.3966	0.4559	0.0000	1,864.8047	1,864.8047	0.5411	0.0000	1,878.3321
Maximum	**16.1311**	**169.5078**	**87.6634**	**0.2293**	**24.9667**	**7.2156**	**32.1824**	**12.0673**	**6.6405**	**18.7077**	**0.0000**	**22,818.4563**	**22,818.4563**	**6.3393**	**0.0000**	**22,976.9378**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.4867	63.1057	120.2954	0.2293	10.8105	0.3724	11.1830	4.8863	0.3705	5.2567	0.0000	22,818.4563	22,818.4563	6.3393	0.0000	22,976.9378
2020	0.3890	5.1854	10.5125	0.0192	0.2236	0.0296	0.2531	0.0593	0.0294	0.0887	0.0000	1,864.8047	1,864.8047	0.5411	0.0000	1,878.3321
Maximum	**4.4867**	**63.1057**	**120.2954**	**0.2293**	**10.8105**	**0.3724**	**11.1830**	**4.8863**	**0.3705**	**5.2567**	**0.0000**	**22,818.4563**	**22,818.4563**	**6.3393**	**0.0000**	**22,976.9378**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	71.66	62.07	-38.31	0.00	56.20	94.74	65.17	59.22	94.32	72.11	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0238	0.0335	0.4023	1.4000e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		139.7093	139.7093	3.9900e-003		139.8092
Total	**0.0385**	**0.0335**	**0.4030**	**1.4000e-003**	**0.1581**	**9.6000e-004**	**0.1591**	**0.0419**	**8.8000e-004**	**0.0428**		**139.7108**	**139.7108**	**3.9900e-003**	**0.0000**	**139.8107**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0238	0.0335	0.4023	1.4000e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		139.7093	139.7093	3.9900e-003		139.8092
Total	**0.0385**	**0.0335**	**0.4030**	**1.4000e-003**	**0.1581**	**9.6000e-004**	**0.1591**	**0.0419**	**8.8000e-004**	**0.0428**		**139.7108**	**139.7108**	**3.9900e-003**	**0.0000**	**139.8107**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1A - Site Preparation	Grading	10/1/2019	10/14/2019	6	12	
2	1B - Clearing and Grubbing	Site Preparation	10/2/2019	11/12/2019	6	36	
3	1B - Haul Trucks	Grading	10/2/2019	10/24/2019	6	20	
4	2A - Hauling	Grading	10/3/2019	10/8/2019	6	5	
5	2A - Excavation and Grading	Grading	10/3/2019	11/13/2019	6	36	
6	2B - On-Site Filling in Upland Areas	Grading	10/4/2019	10/24/2019	6	18	
7	2C - Fine Site Grading	Grading	10/5/2019	10/25/2019	6	18	
8	3A - Temporary Irrigation	Building Construction	10/6/2019	10/19/2019	6	12	
9	3B - Soil Amendments	Building Construction	10/7/2019	10/19/2019	6	12	
10	3C - Planting afor Riparian	Building Construction	10/8/2019	11/11/2019	6	30	
11	4 - Raise viewing area and trail uprgades	Grading	10/9/2019	10/29/2019	6	18	
12	5 - Pruning, Soil Amendments, etc	Building Construction	10/10/2019	7/3/2020	6	42	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
3C - Planting afor Riparian	Welders	0	8.00	46	0.45
5 - Pruning, Soil Amendments, etc	Welders	0	8.00	46	0.45
3B - Soil Amendments	Welders	0	8.00	46	0.45
2C - Fine Site Grading	Rubber Tired Loaders	1	9.00	203	0.36
2C - Fine Site Grading	Off-Highway Trucks	1	4.00	402	0.38
1A - Site Preparation	Rubber Tired Loaders	1	9.00	203	0.36
1B - Clearing and Grubbing	Rubber Tired Loaders	1	9.00	203	0.36
1B - Clearing and Grubbing	Other Material Handling Equipment	1	9.00	168	0.40
1B - Clearing and Grubbing	Off-Highway Trucks	1	4.00	402	0.38
2A - Excavation and Grading	Rubber Tired Loaders	1	9.00	203	0.36
2A - Excavation and Grading	Plate Compactors	1	5.00	8	0.43
2A - Excavation and Grading	Off-Highway Trucks	1	4.00	402	0.38
2B - On-Site Filling in Upland Areas	Rubber Tired Loaders	1	9.00	203	0.36
2B - On-Site Filling in Upland Areas	Plate Compactors	1	5.00	8	0.43
2B - On-Site Filling in Upland Areas	Off-Highway Trucks	1	4.00	402	0.38
3A - Temporary Irrigation	Off-Highway Trucks	1	4.00	402	0.38
3B - Soil Amendments	Rubber Tired Dozers	1	9.00	247	0.40
2A - Hauling	Excavators	0	8.00	158	0.38
3C - Planting afor Riparian	Rubber Tired Loaders	1	9.00	203	0.36
3C - Planting afor Riparian	Off-Highway Trucks	1	4.00	402	0.38
4 - Raise viewing area and trail uprgades	Plate Compactors	1	5.00	8	0.43
4 - Raise viewing area and trail uprgades	Off-Highway Trucks	1	4.00	402	0.38
5 - Pruning, Soil Amendments, etc	Rubber Tired Loaders	1	9.00	203	0.36
5 - Pruning, Soil Amendments, etc	Off-Highway Trucks	1	4.00	402	0.38

3B - Soil Amendments	Off-Highway Trucks	1	4.00	402	0.38
2A - Hauling	Graders	0	8.00	187	0.41
2A - Hauling	Rubber Tired Dozers	0	8.00	247	0.40
2A - Hauling	Tractors/Loaders/Backhoes	0	8.00	97	0.37
3C - Planting afor Riparian	Cranes	0	7.00	231	0.29
5 - Pruning, Soil Amendments, etc	Cranes	0	7.00	231	0.29
3B - Soil Amendments	Cranes	0	7.00	231	0.29
1A - Site Preparation	Excavators	0	8.00	158	0.38
3A - Temporary Irrigation	Cranes	0	7.00	231	0.29
3A - Temporary Irrigation	Forklifts	0	8.00	89	0.20
3A - Temporary Irrigation	Generator Sets	0	8.00	84	0.74
4 - Raise viewing area and trail uprgades	Excavators	0	8.00	158	0.38
1B - Haul Trucks	Excavators	0	8.00	158	0.38
2A - Excavation and Grading	Excavators	0	8.00	158	0.38
1A - Site Preparation	Rubber Tired Dozers	1	9.00	247	0.40
3A - Temporary Irrigation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
1A - Site Preparation	Graders	0	8.00	187	0.41
1A - Site Preparation	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Clearing and Grubbing	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Clearing and Grubbing	Rubber Tired Dozers	1	9.00	247	0.40
3A - Temporary Irrigation	Welders	0	8.00	46	0.45
2B - On-Site Filling in Upland Areas	Excavators	0	8.00	158	0.38
2C - Fine Site Grading	Excavators	0	8.00	158	0.38
3C - Planting afor Riparian	Forklifts	0	8.00	89	0.20
5 - Pruning, Soil Amendments, etc	Forklifts	0	8.00	89	0.20
3B - Soil Amendments	Forklifts	0	8.00	89	0.20
3C - Planting afor Riparian	Generator Sets	0	8.00	84	0.74

5 - Pruning, Soil Amendments, etc	Generator Sets	0	8.00	84	0.74
3B - Soil Amendments	Generator Sets	0	8.00	84	0.74
4 - Raise viewing area and trail uprgades	Graders	0	8.00	187	0.41
1B - Haul Trucks	Graders	0	8.00	187	0.41
2A - Excavation and Grading	Graders	1	9.00	187	0.41
2B - On-Site Filling in Upland Areas	Graders	0	8.00	187	0.41
2C - Fine Site Grading	Graders	1	9.00	187	0.41
4 - Raise viewing area and trail uprgades	Rubber Tired Dozers	1	9.00	247	0.40
1B - Haul Trucks	Rubber Tired Dozers	0	8.00	247	0.40
2A - Excavation and Grading	Rubber Tired Dozers	0	8.00	247	0.40
2B - On-Site Filling in Upland Areas	Rubber Tired Dozers	0	8.00	247	0.40
2C - Fine Site Grading	Rubber Tired Dozers	0	8.00	247	0.40
3C - Planting afor Riparian	Tractors/Loaders/Backhoes	1	9.00	97	0.37
5 - Pruning, Soil Amendments, etc	Tractors/Loaders/Backhoes	1	9.00	97	0.37
3B - Soil Amendments	Tractors/Loaders/Backhoes	0	7.00	97	0.37
4 - Raise viewing area and trail uprgades	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Haul Trucks	Tractors/Loaders/Backhoes	0	8.00	97	0.37
2A - Excavation and Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37
2B - On-Site Filling in Upland Areas	Tractors/Loaders/Backhoes	1	9.00	97	0.37
2C - Fine Site Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
3C - Planting afor Riparian	3	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1B - Clearing and Grubbing	5	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1A - Site Preparation	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
3A - Temporary Irrigation	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
5 - Pruning, Soil Amendments, etc.	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
3B - Soil Amendments	2	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
4 - Raise viewing area and trail upgrades	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1B - Haul Trucks	0	0.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2A - Excavation and Grading	5	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2A - Hauling	0	0.00	0.00	50.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2B - On-Site Filling in Upland Areas	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2C - Fine Site Grading	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 1A - Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7749	0.0000	6.7749	3.7240	0.0000	3.7240			0.0000			0.0000
Off-Road	1.9869	21.6429	9.2988	0.0201		1.0199	1.0199		0.9383	0.9383		1,993.2479	1,993.2479	0.6306		2,009.0140
Total	**1.9869**	**21.6429**	**9.2988**	**0.0201**	**6.7749**	**1.0199**	**7.7948**	**3.7240**	**0.9383**	**4.6623**		**1,993.2479**	**1,993.2479**	**0.6306**		**2,009.0140**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.2 1A - Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5101	0.0000	2.5101	1.3797	0.0000	1.3797			0.0000			0.0000
Off-Road	0.3512	5.9233	11.5018	0.0201		0.0330	0.0330		0.0330	0.0330	0.0000	1,993.2479	1,993.2479	0.6306		2,009.0140
Total	**0.3512**	**5.9233**	**11.5018**	**0.0201**	**2.5101**	**0.0330**	**2.5431**	**1.3797**	**0.0330**	**1.4127**	**0.0000**	**1,993.2479**	**1,993.2479**	**0.6306**		**2,009.0140**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.3 1B - Clearing and Grubbing - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7749	0.0000	6.7749	3.7240	0.0000	3.7240			0.0000			0.0000
Off-Road	2.7147	28.9360	15.5441	0.0332		1.3357	1.3357		1.2289	1.2289		3,290.7419	3,290.7419	1.0412		3,316.7708
Total	**2.7147**	**28.9360**	**15.5441**	**0.0332**	**6.7749**	**1.3357**	**8.1106**	**3.7240**	**1.2289**	**4.9529**		**3,290.7419**	**3,290.7419**	**1.0412**		**3,316.7708**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.3 1B - Clearing and Grubbing - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5101	0.0000	2.5101	1.3797	0.0000	1.3797			0.0000			0.0000
Off-Road	0.5389	10.5278	19.9377	0.0332		0.0544	0.0544		0.0544	0.0544	0.0000	3,290.7419	3,290.7419	1.0412		3,316.7708
Total	**0.5389**	**10.5278**	**19.9377**	**0.0332**	**2.5101**	**0.0544**	**2.5645**	**1.3797**	**0.0544**	**1.4342**	**0.0000**	**3,290.7419**	**3,290.7419**	**1.0412**		**3,316.7708**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.4 1B - Haul Trucks - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0424	0.0000	0.0424	6.4200e-003	0.0000	6.4200e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**6.4200e-003**	**0.0000**	**6.4200e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1066	3.7539	0.9404	9.5600e-003	0.2177	0.0145	0.2322	0.0596	0.0139	0.0735		1,062.2381	1,062.2381	0.1155		1,065.1244
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1066**	**3.7539**	**0.9404**	**9.5600e-003**	**0.2177**	**0.0145**	**0.2322**	**0.0596**	**0.0139**	**0.0735**		**1,062.2381**	**1,062.2381**	**0.1155**		**1,065.1244**

3.4 1B - Haul Trucks - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0157	0.0000	0.0157	2.3800e-003	0.0000	2.3800e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0157**	**0.0000**	**0.0157**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1066	3.7539	0.9404	9.5600e-003	0.2177	0.0145	0.2322	0.0596	0.0139	0.0735		1,062.2381	1,062.2381	0.1155		1,065.1244
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1066**	**3.7539**	**0.9404**	**9.5600e-003**	**0.2177**	**0.0145**	**0.2322**	**0.0596**	**0.0139**	**0.0735**		**1,062.2381**	**1,062.2381**	**0.1155**		**1,065.1244**

3.5 2A - Hauling - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0339	0.0000	0.0339	5.1400e-003	0.0000	5.1400e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0339**	**0.0000**	**0.0339**	**5.1400e-003**	**0.0000**	**5.1400e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0853	3.0031	0.7523	7.6400e-003	0.1741	0.0116	0.1858	0.0477	0.0111	0.0588		849.7905	849.7905	0.0924		852.0995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0853**	**3.0031**	**0.7523**	**7.6400e-003**	**0.1741**	**0.0116**	**0.1858**	**0.0477**	**0.0111**	**0.0588**		**849.7905**	**849.7905**	**0.0924**		**852.0995**

3.5 2A - Hauling - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0126	0.0000	0.0126	1.9000e-003	0.0000	1.9000e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0126**	**0.0000**	**0.0126**	**1.9000e-003**	**0.0000**	**1.9000e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0853	3.0031	0.7523	7.6400e-003	0.1741	0.0116	0.1858	0.0477	0.0111	0.0588		849.7905	849.7905	0.0924		852.0995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0853**	**3.0031**	**0.7523**	**7.6400e-003**	**0.1741**	**0.0116**	**0.1858**	**0.0477**	**0.0111**	**0.0588**		**849.7905**	**849.7905**	**0.0924**		**852.0995**

3.6 2A - Excavation and Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6381	19.2131	8.6769	0.0249		0.7320	0.7320		0.6739	0.6739		2,457.3868	2,457.3868	0.7729		2,476.7095
Total	**1.6381**	**19.2131**	**8.6769**	**0.0249**	**0.5303**	**0.7320**	**1.2622**	**0.0573**	**0.6739**	**0.7312**		**2,457.3868**	**2,457.3868**	**0.7729**		**2,476.7095**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.6 2A - Excavation and Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.4489	7.2517	13.9942	0.0249		0.0464	0.0464		0.0464	0.0464	0.0000	2,457.3868	2,457.3868	0.7729		2,476.7095
Total	**0.4489**	**7.2517**	**13.9942**	**0.0249**	**0.1965**	**0.0464**	**0.2428**	**0.0212**	**0.0464**	**0.0676**	**0.0000**	**2,457.3868**	**2,457.3868**	**0.7729**		**2,476.7095**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.7 2B - On-Site Filling in Upland Areas - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0905	11.8110	6.6091	0.0174		0.4944	0.4944		0.4554	0.4554		1,717.5562	1,717.5562	0.5388		1,731.0271
Total	**1.0905**	**11.8110**	**6.6091**	**0.0174**	**0.5303**	**0.4944**	**1.0247**	**0.0573**	**0.4554**	**0.5126**		**1,717.5562**	**1,717.5562**	**0.5388**		**1,731.0271**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.7 2B - On-Site Filling in Upland Areas - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.3272	5.2893	10.0389	0.0174		0.0342	0.0342		0.0342	0.0342	0.0000	1,717.5562	1,717.5562	0.5388		1,731.0271
Total	**0.3272**	**5.2893**	**10.0389**	**0.0174**	**0.1965**	**0.0342**	**0.2306**	**0.0212**	**0.0342**	**0.0554**	**0.0000**	**1,717.5562**	**1,717.5562**	**0.5388**		**1,731.0271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.8 2C - Fine Site Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6130	19.0560	8.5453	0.0246		0.7259	0.7259		0.6678	0.6678		2,435.8372	2,435.8372	0.7707		2,455.1040
Total	**1.6130**	**19.0560**	**8.5453**	**0.0246**	**0.5303**	**0.7259**	**1.2561**	**0.0573**	**0.6678**	**0.7251**		**2,435.8372**	**2,435.8372**	**0.7707**		**2,455.1040**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.8 2C - Fine Site Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.4238	7.0947	13.8627	0.0246		0.0402	0.0402		0.0402	0.0402	0.0000	2,435.8371	2,435.8371	0.7707		2,455.1040
Total	**0.4238**	**7.0947**	**13.8627**	**0.0246**	**0.1965**	**0.0402**	**0.2367**	**0.0212**	**0.0402**	**0.0615**	**0.0000**	**2,435.8371**	**2,435.8371**	**0.7707**		**2,455.1040**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.9 3A - Temporary Irrigation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3550	3.5948	1.9984	6.6100e-003		0.1307	0.1307		0.1203	0.1203		653.8658	653.8658	0.2069		659.0377
Total	**0.3550**	**3.5948**	**1.9984**	**6.6100e-003**		**0.1307**	**0.1307**		**0.1203**	**0.1203**		**653.8658**	**653.8658**	**0.2069**		**659.0377**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.9 3A - Temporary Irrigation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1078	1.7378	3.5025	6.6100e-003		0.0108	0.0108		0.0108	0.0108	0.0000	653.8658	653.8658	0.2069		659.0377
Total	**0.1078**	**1.7378**	**3.5025**	**6.6100e-003**		**0.0108**	**0.0108**		**0.0108**	**0.0108**	**0.0000**	**653.8658**	**653.8658**	**0.2069**		**659.0377**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.10 3B - Soil Amendments - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6314	17.1785	6.8180	0.0162		0.7931	0.7931		0.7296	0.7296		1,604.9728	1,604.9728	0.5078		1,617.6677
Total	**1.6314**	**17.1785**	**6.8180**	**0.0162**		**0.7931**	**0.7931**		**0.7296**	**0.7296**		**1,604.9728**	**1,604.9728**	**0.5078**		**1,617.6677**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8200e-003	0.2272	0.0659	4.9000e-004	0.0128	1.5600e-003	0.0143	3.6800e-003	1.4900e-003	5.1700e-003		53.2710	53.2710	4.8500e-003		53.3923
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.1008**	**0.2866**	**0.7264**	**2.6300e-003**	**0.2363**	**3.0500e-003**	**0.2394**	**0.0630**	**2.8700e-003**	**0.0658**		**266.4258**	**266.4258**	**0.0101**		**266.6784**

3.10 3B - Soil Amendments - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2646	4.2666	8.5994	0.0162		0.0265	0.0265		0.0265	0.0265	0.0000	1,604.9728	1,604.9728	0.5078		1,617.6677
Total	**0.2646**	**4.2666**	**8.5994**	**0.0162**		**0.0265**	**0.0265**		**0.0265**	**0.0265**	**0.0000**	**1,604.9728**	**1,604.9728**	**0.5078**		**1,617.6677**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8200e-003	0.2272	0.0659	4.9000e-004	0.0128	1.5600e-003	0.0143	3.6800e-003	1.4900e-003	5.1700e-003		53.2710	53.2710	4.8500e-003		53.3923
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.1008**	**0.2866**	**0.7264**	**2.6300e-003**	**0.2363**	**3.0500e-003**	**0.2394**	**0.0630**	**2.8700e-003**	**0.0658**		**266.4258**	**266.4258**	**0.0101**		**266.6784**

3.11 3C - Planting afor Riparian - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0655	11.6540	6.4775	0.0171		0.4883	0.4883		0.4493	0.4493		1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**1.0655**	**11.6540**	**6.4775**	**0.0171**		**0.4883**	**0.4883**		**0.4493**	**0.4493**		**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8200e-003	0.2272	0.0659	4.9000e-004	0.0128	1.5600e-003	0.0143	3.6800e-003	1.4900e-003	5.1700e-003		53.2710	53.2710	4.8500e-003		53.3923
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.1008**	**0.2866**	**0.7264**	**2.6300e-003**	**0.2363**	**3.0500e-003**	**0.2394**	**0.0630**	**2.8700e-003**	**0.0658**		**266.4258**	**266.4258**	**0.0101**		**266.6784**

3.11 3C - Planting afor Riparian - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8200e-003	0.2272	0.0659	4.9000e-004	0.0128	1.5600e-003	0.0143	3.6800e-003	1.4900e-003	5.1700e-003		53.2710	53.2710	4.8500e-003		53.3923
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.1008**	**0.2866**	**0.7264**	**2.6300e-003**	**0.2363**	**3.0500e-003**	**0.2394**	**0.0630**	**2.8700e-003**	**0.0658**		**266.4258**	**266.4258**	**0.0101**		**266.6784**

3.12 4 - Raise viewing area and trail uprgades - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3051	0.0000	7.3051	3.7813	0.0000	3.7813			0.0000			0.0000
Off-Road	1.9183	19.9651	9.5401	0.0200		0.9747	0.9747		0.8972	0.8972		1,972.5070	1,972.5070	0.6195		1,987.9945
Total	**1.9183**	**19.9651**	**9.5401**	**0.0200**	**7.3051**	**0.9747**	**8.2798**	**3.7813**	**0.8972**	**4.6785**		**1,972.5070**	**1,972.5070**	**0.6195**		**1,987.9945**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.12 4 - Raise viewing area and trail uprgades - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7065	0.0000	2.7065	1.4010	0.0000	1.4010			0.0000			0.0000
Off-Road	0.3680	5.9476	11.3658	0.0200		0.0383	0.0383		0.0383	0.0383	0.0000	1,972.5070	1,972.5070	0.6195		1,987.9945
Total	**0.3680**	**5.9476**	**11.3658**	**0.0200**	**2.7065**	**0.0383**	**2.7448**	**1.4010**	**0.0383**	**1.4392**	**0.0000**	**1,972.5070**	**1,972.5070**	**0.6195**		**1,987.9945**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.13 5 - Pruning, Soil Amendments, etc - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0655	11.6540	6.4775	0.0171		0.4883	0.4883		0.4493	0.4493		1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**1.0655**	**11.6540**	**6.4775**	**0.0171**		**0.4883**	**0.4883**		**0.4493**	**0.4493**		**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.13 5 - Pruning, Soil Amendments, etc - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.13 5 - Pruning, Soil Amendments, etc - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9881	10.4904	6.3096	0.0171		0.4296	0.4296		0.3953	0.3953		1,658.4805	1,658.4805	0.5364		1,671.8901
Total	**0.9881**	**10.4904**	**6.3096**	**0.0171**		**0.4296**	**0.4296**		**0.3953**	**0.3953**		**1,658.4805**	**1,658.4805**	**0.5364**		**1,671.8901**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0869	0.0532	0.6051	2.0700e-003	0.2236	1.4800e-003	0.2250	0.0593	1.3600e-003	0.0607		206.3242	206.3242	4.7100e-003		206.4419
Total	**0.0869**	**0.0532**	**0.6051**	**2.0700e-003**	**0.2236**	**1.4800e-003**	**0.2250**	**0.0593**	**1.3600e-003**	**0.0607**		**206.3242**	**206.3242**	**4.7100e-003**		**206.4419**

3.13 5 - Pruning, Soil Amendments, etc - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,658.4805	1,658.4805	0.5364		1,671.8901
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,658.4805**	**1,658.4805**	**0.5364**		**1,671.8901**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0869	0.0532	0.6051	2.0700e-003	0.2236	1.4800e-003	0.2250	0.0593	1.3600e-003	0.0607		206.3242	206.3242	4.7100e-003		206.4419
Total	**0.0869**	**0.0532**	**0.6051**	**2.0700e-003**	**0.2236**	**1.4800e-003**	**0.2250**	**0.0593**	**1.3600e-003**	**0.0607**		**206.3242**	**206.3242**	**4.7100e-003**		**206.4419**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0238	0.0335	0.4023	1.4000e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		139.7093	139.7093	3.9900e-003		139.8092
Unmitigated	0.0238	0.0335	0.4023	1.4000e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		139.7093	139.7093	3.9900e-003		139.8092

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	12.55	12.55	12.55	75,802	75,802
Total	12.55	12.55	12.55	75,802	75,802

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.682140	0.053800	0.258090	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.005970	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Unmitigated	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Total	**0.0147**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.4200e-003**	**1.4200e-003**	**0.0000**		**1.5200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Total	**0.0147**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.4200e-003**	**1.4200e-003**	**0.0000**		**1.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Big Canyon Phase 2A - Air Quality Appendix

CalEEMod Output

Summer

Big Canyon Phase 2A

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.50	Acre	6.50	283,140.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	411.63	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Grading - See Assumptions

Trips and VMT - See Assumptions

Vehicle Trips - See Assumptions

Fleet Mix - See Assumptions

Energy Use -

Landscape Equipment - See Assumptions - No long term landscaping

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - See Assumptions

Off-road Equipment - See Assumptions

Consumer Products - No Consumer Products - See Assumptions

Big Canyon Phase 2A - Orange County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	230.00	12.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	10.00	36.00
tblConstructionPhase	NumDays	20.00	36.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	230.00	12.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	230.00	42.00
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tblConstructionPhase	PhaseEndDate	12/9/2019	10/14/2019
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tblConstructionPhase	PhaseEndDate	1/6/2020	10/24/2019
tblConstructionPhase	PhaseEndDate	2/3/2020	11/13/2019
tblConstructionPhase	PhaseEndDate	3/2/2020	10/24/2019
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tblConstructionPhase	PhaseEndDate	4/27/2020	10/29/2019
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tblConstructionPhase	PhaseStartDate	4/28/2020	10/6/2019
tblConstructionPhase	PhaseStartDate	11/12/2019	10/1/2019
tblConstructionPhase	PhaseStartDate	10/1/2019	10/2/2019
tblConstructionPhase	PhaseStartDate	12/10/2019	10/2/2019

tblConstructionPhase	PhaseStartDate	1/7/2020	10/3/2019
tblConstructionPhase	PhaseStartDate	2/4/2020	10/4/2019
tblConstructionPhase	PhaseStartDate	3/3/2020	10/5/2019
tblConstructionPhase	PhaseStartDate	3/16/2021	10/7/2019
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tblFleetMix	LDA	0.56	0.68
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.26
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.8670e-003	5.9700e-003
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tblFleetMix	OBUS	1.6770e-003	0.00
tblFleetMix	SBUS	5.8600e-004	0.00
tblFleetMix	UBUS	1.5860e-003	0.00
tblGrading	AcresOfGrading	0.00	9.00
tblGrading	AcresOfGrading	20.25	18.00
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tblGrading	AcresOfGrading	10.13	9.00
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tblGrading	MaterialExported	0.00	1,500.00
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tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
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tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
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tblOffRoadEquipment	UsageHours	8.00	9.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblSolidWaste	SolidWasteGenerationRate	0.56	0.00

tblTripsAndVMT	HaulingTripNumber	938.00	250.00
tblTripsAndVMT	HaulingTripNumber	188.00	50.00
tblTripsAndVMT	VendorTripNumber	46.00	0.00
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tblVehicleTrips	CC_TTP	48.00	0.00
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tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	22.75	1.93
tblVehicleTrips	SU_TR	16.74	1.93
tblVehicleTrips	WD_TR	1.89	1.93
tblWater	OutdoorWaterUseRate	7,744,628.77	4,562,600.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	16.0222	169.4050	88.1287	0.2307	24.9667	7.2152	32.1820	12.0673	6.6401	18.7074	0.0000	22,957.8127	22,957.8127	6.3388	0.0000	23,116.2810
2020	1.0650	10.5388	6.9642	0.0193	0.2236	0.4311	0.6547	0.0593	0.3966	0.4559	0.0000	1,876.4892	1,876.4892	0.5414	0.0000	1,890.0231
Maximum	**16.0222**	**169.4050**	**88.1287**	**0.2307**	**24.9667**	**7.2152**	**32.1820**	**12.0673**	**6.6401**	**18.7074**	**0.0000**	**22,957.8127**	**22,957.8127**	**6.3388**	**0.0000**	**23,116.2810**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.3777	63.0029	120.7608	0.2307	10.8105	0.3721	11.1826	4.8863	0.3701	5.2563	0.0000	22,957.8127	22,957.8127	6.3388	0.0000	23,116.2810
2020	0.3790	5.1807	10.5620	0.0193	0.2236	0.0296	0.2531	0.0593	0.0294	0.0887	0.0000	1,876.4892	1,876.4892	0.5414	0.0000	1,890.0231
Maximum	**4.3777**	**63.0029**	**120.7608**	**0.2307**	**10.8105**	**0.3721**	**11.1826**	**4.8863**	**0.3701**	**5.2563**	**0.0000**	**22,957.8127**	**22,957.8127**	**6.3388**	**0.0000**	**23,116.2810**

Big Canyon Phase 2A - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**72.16**	**62.11**	**-38.10**	**0.00**	**56.20**	**94.75**	**65.17**	**59.22**	**94.32**	**72.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0243	0.0305	0.4318	1.4800e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		147.6728	147.6728	4.1200e-003		147.7758
Total	**0.0390**	**0.0305**	**0.4325**	**1.4800e-003**	**0.1581**	**9.6000e-004**	**0.1591**	**0.0419**	**8.8000e-004**	**0.0428**		**147.6742**	**147.6742**	**4.1200e-003**	**0.0000**	**147.7773**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0243	0.0305	0.4318	1.4800e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		147.6728	147.6728	4.1200e-003		147.7758
Total	**0.0390**	**0.0305**	**0.4325**	**1.4800e-003**	**0.1581**	**9.6000e-004**	**0.1591**	**0.0419**	**8.8000e-004**	**0.0428**		**147.6742**	**147.6742**	**4.1200e-003**	**0.0000**	**147.7773**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1A - Site Preparation	Grading	10/1/2019	10/14/2019	6	12	
2	1B - Clearing and Grubbing	Site Preparation	10/2/2019	11/12/2019	6	36	
3	1B - Haul Trucks	Grading	10/2/2019	10/24/2019	6	20	
4	2A - Hauling	Grading	10/3/2019	10/8/2019	6	5	
5	2A - Excavation and Grading	Grading	10/3/2019	11/13/2019	6	36	
6	2B - On-Site Filling in Upland Areas	Grading	10/4/2019	10/24/2019	6	18	
7	2C - Fine Site Grading	Grading	10/5/2019	10/25/2019	6	18	
8	3A - Temporary Irrigation	Building Construction	10/6/2019	10/19/2019	6	12	
9	3B - Soil Amendments	Building Construction	10/7/2019	10/19/2019	6	12	
10	3C - Planting afor Riparian	Building Construction	10/8/2019	11/11/2019	6	30	
11	4 - Raise viewing area and trail uprgades	Grading	10/9/2019	10/29/2019	6	18	
12	5 - Pruning, Soil Amendments, etc	Building Construction	10/10/2019	7/3/2020	6	42	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
3C - Planting afor Riparian	Welders	0	8.00	46	0.45
5 - Pruning, Soil Amendments, etc	Welders	0	8.00	46	0.45
3B - Soil Amendments	Welders	0	8.00	46	0.45
2C - Fine Site Grading	Rubber Tired Loaders	1	9.00	203	0.36
2C - Fine Site Grading	Off-Highway Trucks	1	4.00	402	0.38
1A - Site Preparation	Rubber Tired Loaders	1	9.00	203	0.36
1B - Clearing and Grubbing	Rubber Tired Loaders	1	9.00	203	0.36
1B - Clearing and Grubbing	Other Material Handling Equipment	1	9.00	168	0.40
1B - Clearing and Grubbing	Off-Highway Trucks	1	4.00	402	0.38
2A - Excavation and Grading	Rubber Tired Loaders	1	9.00	203	0.36
2A - Excavation and Grading	Plate Compactors	1	5.00	8	0.43
2A - Excavation and Grading	Off-Highway Trucks	1	4.00	402	0.38
2B - On-Site Filling in Upland Areas	Rubber Tired Loaders	1	9.00	203	0.36
2B - On-Site Filling in Upland Areas	Plate Compactors	1	5.00	8	0.43
2B - On-Site Filling in Upland Areas	Off-Highway Trucks	1	4.00	402	0.38
3A - Temporary Irrigation	Off-Highway Trucks	1	4.00	402	0.38
3B - Soil Amendments	Rubber Tired Dozers	1	9.00	247	0.40
2A - Hauling	Excavators	0	8.00	158	0.38
3C - Planting afor Riparian	Rubber Tired Loaders	1	9.00	203	0.36
3C - Planting afor Riparian	Off-Highway Trucks	1	4.00	402	0.38
4 - Raise viewing area and trail uprgades	Plate Compactors	1	5.00	8	0.43
4 - Raise viewing area and trail uprgades	Off-Highway Trucks	1	4.00	402	0.38
5 - Pruning, Soil Amendments, etc	Rubber Tired Loaders	1	9.00	203	0.36
5 - Pruning, Soil Amendments, etc	Off-Highway Trucks	1	4.00	402	0.38

3B - Soil Amendments	Off-Highway Trucks	1	4.00	402	0.38
2A - Hauling	Graders	0	8.00	187	0.41
2A - Hauling	Rubber Tired Dozers	0	8.00	247	0.40
2A - Hauling	Tractors/Loaders/Backhoes	0	8.00	97	0.37
3C - Planting afor Riparian	Cranes	0	7.00	231	0.29
5 - Pruning, Soil Amendments, etc	Cranes	0	7.00	231	0.29
3B - Soil Amendments	Cranes	0	7.00	231	0.29
1A - Site Preparation	Excavators	0	8.00	158	0.38
3A - Temporary Irrigation	Cranes	0	7.00	231	0.29
3A - Temporary Irrigation	Forklifts	0	8.00	89	0.20
3A - Temporary Irrigation	Generator Sets	0	8.00	84	0.74
4 - Raise viewing area and trail uprgades	Excavators	0	8.00	158	0.38
1B - Haul Trucks	Excavators	0	8.00	158	0.38
2A - Excavation and Grading	Excavators	0	8.00	158	0.38
1A - Site Preparation	Rubber Tired Dozers	1	9.00	247	0.40
3A - Temporary Irrigation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
1A - Site Preparation	Graders	0	8.00	187	0.41
1A - Site Preparation	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Clearing and Grubbing	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Clearing and Grubbing	Rubber Tired Dozers	1	9.00	247	0.40
3A - Temporary Irrigation	Welders	0	8.00	46	0.45
2B - On-Site Filling in Upland Areas	Excavators	0	8.00	158	0.38
2C - Fine Site Grading	Excavators	0	8.00	158	0.38
3C - Planting afor Riparian	Forklifts	0	8.00	89	0.20
5 - Pruning, Soil Amendments, etc	Forklifts	0	8.00	89	0.20
3B - Soil Amendments	Forklifts	0	8.00	89	0.20
3C - Planting afor Riparian	Generator Sets	0	8.00	84	0.74

5 - Pruning, Soil Amendments, etc	Generator Sets	0	8.00	84	0.74
3B - Soil Amendments	Generator Sets	0	8.00	84	0.74
4 - Raise viewing area and trail uprgades	Graders	0	8.00	187	0.41
1B - Haul Trucks	Graders	0	8.00	187	0.41
2A - Excavation and Grading	Graders	1	9.00	187	0.41
2B - On-Site Filling in Upland Areas	Graders	0	8.00	187	0.41
2C - Fine Site Grading	Graders	1	9.00	187	0.41
4 - Raise viewing area and trail uprgades	Rubber Tired Dozers	1	9.00	247	0.40
1B - Haul Trucks	Rubber Tired Dozers	0	8.00	247	0.40
2A - Excavation and Grading	Rubber Tired Dozers	0	8.00	247	0.40
2B - On-Site Filling in Upland Areas	Rubber Tired Dozers	0	8.00	247	0.40
2C - Fine Site Grading	Rubber Tired Dozers	0	8.00	247	0.40
3C - Planting afor Riparian	Tractors/Loaders/Backhoes	1	9.00	97	0.37
5 - Pruning, Soil Amendments, etc	Tractors/Loaders/Backhoes	1	9.00	97	0.37
3B - Soil Amendments	Tractors/Loaders/Backhoes	0	7.00	97	0.37
4 - Raise viewing area and trail uprgades	Tractors/Loaders/Backhoes	1	9.00	97	0.37
1B - Haul Trucks	Tractors/Loaders/Backhoes	0	8.00	97	0.37
2A - Excavation and Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37
2B - On-Site Filling in Upland Areas	Tractors/Loaders/Backhoes	1	9.00	97	0.37
2C - Fine Site Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
3C - Planting afor Riparian	3	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1B - Clearing and Grubbing	5	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1A - Site Preparation	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
3A - Temporary Irrigation	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
5 - Pruning, Soil Amendments, etc.	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
3B - Soil Amendments	2	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
4 - Raise viewing area and trail upgrades	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
1B - Haul Trucks	0	0.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2A - Excavation and Grading	5	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2A - Hauling	0	0.00	0.00	50.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2B - On-Site Filling in Upland Areas	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
2C - Fine Site Grading	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 1A - Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7749	0.0000	6.7749	3.7240	0.0000	3.7240			0.0000			0.0000
Off-Road	1.9869	21.6429	9.2988	0.0201		1.0199	1.0199		0.9383	0.9383		1,993.2479	1,993.2479	0.6306		2,009.0140
Total	**1.9869**	**21.6429**	**9.2988**	**0.0201**	**6.7749**	**1.0199**	**7.7948**	**3.7240**	**0.9383**	**4.6623**		**1,993.2479**	**1,993.2479**	**0.6306**		**2,009.0140**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.2 1A - Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5101	0.0000	2.5101	1.3797	0.0000	1.3797			0.0000			0.0000
Off-Road	0.3512	5.9233	11.5018	0.0201		0.0330	0.0330		0.0330	0.0330	0.0000	1,993.2479	1,993.2479	0.6306		2,009.0140
Total	**0.3512**	**5.9233**	**11.5018**	**0.0201**	**2.5101**	**0.0330**	**2.5431**	**1.3797**	**0.0330**	**1.4127**	**0.0000**	**1,993.2479**	**1,993.2479**	**0.6306**		**2,009.0140**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.3 1B - Clearing and Grubbing - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7749	0.0000	6.7749	3.7240	0.0000	3.7240			0.0000			0.0000
Off-Road	2.7147	28.9360	15.5441	0.0332		1.3357	1.3357		1.2289	1.2289		3,290.7419	3,290.7419	1.0412		3,316.7708
Total	**2.7147**	**28.9360**	**15.5441**	**0.0332**	**6.7749**	**1.3357**	**8.1106**	**3.7240**	**1.2289**	**4.9529**		**3,290.7419**	**3,290.7419**	**1.0412**		**3,316.7708**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.3 1B - Clearing and Grubbing - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5101	0.0000	2.5101	1.3797	0.0000	1.3797			0.0000			0.0000
Off-Road	0.5389	10.5278	19.9377	0.0332		0.0544	0.0544		0.0544	0.0544	0.0000	3,290.7419	3,290.7419	1.0412		3,316.7708
Total	**0.5389**	**10.5278**	**19.9377**	**0.0332**	**2.5101**	**0.0544**	**2.5645**	**1.3797**	**0.0544**	**1.4342**	**0.0000**	**3,290.7419**	**3,290.7419**	**1.0412**		**3,316.7708**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.4 1B - Haul Trucks - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0424	0.0000	0.0424	6.4200e-003	0.0000	6.4200e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**6.4200e-003**	**0.0000**	**6.4200e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1039	3.7052	0.8883	9.7000e-003	0.2177	0.0142	0.2319	0.0596	0.0136	0.0732		1,078.2158	1,078.2158	0.1126		1,081.0297
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1039**	**3.7052**	**0.8883**	**9.7000e-003**	**0.2177**	**0.0142**	**0.2319**	**0.0596**	**0.0136**	**0.0732**		**1,078.2158**	**1,078.2158**	**0.1126**		**1,081.0297**

3.4 1B - Haul Trucks - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0157	0.0000	0.0157	2.3800e-003	0.0000	2.3800e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0157**	**0.0000**	**0.0157**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1039	3.7052	0.8883	9.7000e-003	0.2177	0.0142	0.2319	0.0596	0.0136	0.0732		1,078.2158	1,078.2158	0.1126		1,081.0297
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1039**	**3.7052**	**0.8883**	**9.7000e-003**	**0.2177**	**0.0142**	**0.2319**	**0.0596**	**0.0136**	**0.0732**		**1,078.2158**	**1,078.2158**	**0.1126**		**1,081.0297**

3.5 2A - Hauling - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0339	0.0000	0.0339	5.1400e-003	0.0000	5.1400e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0339**	**0.0000**	**0.0339**	**5.1400e-003**	**0.0000**	**5.1400e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0831	2.9642	0.7106	7.7600e-003	0.1741	0.0114	0.1855	0.0477	0.0109	0.0586		862.5726	862.5726	0.0901		864.8238
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0831**	**2.9642**	**0.7106**	**7.7600e-003**	**0.1741**	**0.0114**	**0.1855**	**0.0477**	**0.0109**	**0.0586**		**862.5726**	**862.5726**	**0.0901**		**864.8238**

3.5 2A - Hauling - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0126	0.0000	0.0126	1.9000e-003	0.0000	1.9000e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0126**	**0.0000**	**0.0126**	**1.9000e-003**	**0.0000**	**1.9000e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0831	2.9642	0.7106	7.7600e-003	0.1741	0.0114	0.1855	0.0477	0.0109	0.0586		862.5726	862.5726	0.0901		864.8238
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0831**	**2.9642**	**0.7106**	**7.7600e-003**	**0.1741**	**0.0114**	**0.1855**	**0.0477**	**0.0109**	**0.0586**		**862.5726**	**862.5726**	**0.0901**		**864.8238**

3.6 2A - Excavation and Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6381	19.2131	8.6769	0.0249		0.7320	0.7320		0.6739	0.6739		2,457.3868	2,457.3868	0.7729		2,476.7095
Total	**1.6381**	**19.2131**	**8.6769**	**0.0249**	**0.5303**	**0.7320**	**1.2622**	**0.0573**	**0.6739**	**0.7312**		**2,457.3868**	**2,457.3868**	**0.7729**		**2,476.7095**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.6 2A - Excavation and Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.4489	7.2517	13.9942	0.0249		0.0464	0.0464		0.0464	0.0464	0.0000	2,457.3868	2,457.3868	0.7729		2,476.7095
Total	**0.4489**	**7.2517**	**13.9942**	**0.0249**	**0.1965**	**0.0464**	**0.2428**	**0.0212**	**0.0464**	**0.0676**	**0.0000**	**2,457.3868**	**2,457.3868**	**0.7729**		**2,476.7095**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.7 2B - On-Site Filling in Upland Areas - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0905	11.8110	6.6091	0.0174		0.4944	0.4944		0.4554	0.4554		1,717.5562	1,717.5562	0.5388		1,731.0271
Total	**1.0905**	**11.8110**	**6.6091**	**0.0174**	**0.5303**	**0.4944**	**1.0247**	**0.0573**	**0.4554**	**0.5126**		**1,717.5562**	**1,717.5562**	**0.5388**		**1,731.0271**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.7 2B - On-Site Filling in Upland Areas - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.3272	5.2893	10.0389	0.0174		0.0342	0.0342		0.0342	0.0342	0.0000	1,717.5562	1,717.5562	0.5388		1,731.0271
Total	**0.3272**	**5.2893**	**10.0389**	**0.0174**	**0.1965**	**0.0342**	**0.2306**	**0.0212**	**0.0342**	**0.0554**	**0.0000**	**1,717.5562**	**1,717.5562**	**0.5388**		**1,731.0271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.8 2C - Fine Site Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6130	19.0560	8.5453	0.0246		0.7259	0.7259		0.6678	0.6678		2,435.8372	2,435.8372	0.7707		2,455.1040
Total	**1.6130**	**19.0560**	**8.5453**	**0.0246**	**0.5303**	**0.7259**	**1.2561**	**0.0573**	**0.6678**	**0.7251**		**2,435.8372**	**2,435.8372**	**0.7707**		**2,455.1040**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.8 2C - Fine Site Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1965	0.0000	0.1965	0.0212	0.0000	0.0212			0.0000			0.0000
Off-Road	0.4238	7.0947	13.8627	0.0246		0.0402	0.0402		0.0402	0.0402	0.0000	2,435.8371	2,435.8371	0.7707		2,455.1040
Total	**0.4238**	**7.0947**	**13.8627**	**0.0246**	**0.1965**	**0.0402**	**0.2367**	**0.0212**	**0.0402**	**0.0615**	**0.0000**	**2,435.8371**	**2,435.8371**	**0.7707**		**2,455.1040**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.9 3A - Temporary Irrigation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3550	3.5948	1.9984	6.6100e-003		0.1307	0.1307		0.1203	0.1203		653.8658	653.8658	0.2069		659.0377
Total	**0.3550**	**3.5948**	**1.9984**	**6.6100e-003**		**0.1307**	**0.1307**		**0.1203**	**0.1203**		**653.8658**	**653.8658**	**0.2069**		**659.0377**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.9 3A - Temporary Irrigation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1078	1.7378	3.5025	6.6100e-003		0.0108	0.0108		0.0108	0.0108	0.0000	653.8658	653.8658	0.2069		659.0377
Total	**0.1078**	**1.7378**	**3.5025**	**6.6100e-003**		**0.0108**	**0.0108**		**0.0108**	**0.0108**	**0.0000**	**653.8658**	**653.8658**	**0.2069**		**659.0377**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.10 3B - Soil Amendments - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6314	17.1785	6.8180	0.0162		0.7931	0.7931		0.7296	0.7296		1,604.9728	1,604.9728	0.5078		1,617.6677
Total	**1.6314**	**17.1785**	**6.8180**	**0.0162**		**0.7931**	**0.7931**		**0.7296**	**0.7296**		**1,604.9728**	**1,604.9728**	**0.5078**		**1,617.6677**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.5000e-003	0.2270	0.0600	5.0000e-004	0.0128	1.5300e-003	0.0143	3.6800e-003	1.4700e-003	5.1400e-003		54.5938	54.5938	4.6100e-003		54.7090
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0899**	**0.2810**	**0.7735**	**2.7600e-003**	**0.2363**	**3.0200e-003**	**0.2394**	**0.0630**	**2.8500e-003**	**0.0658**		**279.8218**	**279.8218**	**0.0102**		**280.0755**

3.10 3B - Soil Amendments - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2646	4.2666	8.5994	0.0162		0.0265	0.0265		0.0265	0.0265	0.0000	1,604.9728	1,604.9728	0.5078		1,617.6677
Total	**0.2646**	**4.2666**	**8.5994**	**0.0162**		**0.0265**	**0.0265**		**0.0265**	**0.0265**	**0.0000**	**1,604.9728**	**1,604.9728**	**0.5078**		**1,617.6677**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.5000e-003	0.2270	0.0600	5.0000e-004	0.0128	1.5300e-003	0.0143	3.6800e-003	1.4700e-003	5.1400e-003		54.5938	54.5938	4.6100e-003		54.7090
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0899**	**0.2810**	**0.7735**	**2.7600e-003**	**0.2363**	**3.0200e-003**	**0.2394**	**0.0630**	**2.8500e-003**	**0.0658**		**279.8218**	**279.8218**	**0.0102**		**280.0755**

3.11 3C - Planting afor Riparian - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0655	11.6540	6.4775	0.0171		0.4883	0.4883		0.4493	0.4493		1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**1.0655**	**11.6540**	**6.4775**	**0.0171**		**0.4883**	**0.4883**		**0.4493**	**0.4493**		**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.5000e-003	0.2270	0.0600	5.0000e-004	0.0128	1.5300e-003	0.0143	3.6800e-003	1.4700e-003	5.1400e-003		54.5938	54.5938	4.6100e-003		54.7090
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0899**	**0.2810**	**0.7735**	**2.7600e-003**	**0.2363**	**3.0200e-003**	**0.2394**	**0.0630**	**2.8500e-003**	**0.0658**		**279.8218**	**279.8218**	**0.0102**		**280.0755**

3.11 3C - Planting afor Riparian - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.5000e-003	0.2270	0.0600	5.0000e-004	0.0128	1.5300e-003	0.0143	3.6800e-003	1.4700e-003	5.1400e-003		54.5938	54.5938	4.6100e-003		54.7090
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0899**	**0.2810**	**0.7735**	**2.7600e-003**	**0.2363**	**3.0200e-003**	**0.2394**	**0.0630**	**2.8500e-003**	**0.0658**		**279.8218**	**279.8218**	**0.0102**		**280.0755**

3.12 4 - Raise viewing area and trail uprgades - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3051	0.0000	7.3051	3.7813	0.0000	3.7813			0.0000			0.0000
Off-Road	1.9183	19.9651	9.5401	0.0200		0.9747	0.9747		0.8972	0.8972		1,972.5070	1,972.5070	0.6195		1,987.9945
Total	**1.9183**	**19.9651**	**9.5401**	**0.0200**	**7.3051**	**0.9747**	**8.2798**	**3.7813**	**0.8972**	**4.6785**		**1,972.5070**	**1,972.5070**	**0.6195**		**1,987.9945**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.12 4 - Raise viewing area and trail uprgades - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7065	0.0000	2.7065	1.4010	0.0000	1.4010			0.0000			0.0000
Off-Road	0.3680	5.9476	11.3658	0.0200		0.0383	0.0383		0.0383	0.0383	0.0000	1,972.5070	1,972.5070	0.6195		1,987.9945
Total	**0.3680**	**5.9476**	**11.3658**	**0.0200**	**2.7065**	**0.0383**	**2.7448**	**1.4010**	**0.0383**	**1.4392**	**0.0000**	**1,972.5070**	**1,972.5070**	**0.6195**		**1,987.9945**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.13 5 - Pruning, Soil Amendments, etc - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0655	11.6540	6.4775	0.0171		0.4883	0.4883		0.4493	0.4493		1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**1.0655**	**11.6540**	**6.4775**	**0.0171**		**0.4883**	**0.4883**		**0.4493**	**0.4493**		**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.13 5 - Pruning, Soil Amendments, etc - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,696.0066	1,696.0066	0.5366		1,709.4216
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,696.0066**	**1,696.0066**	**0.5366**		**1,709.4216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.13 5 - Pruning, Soil Amendments, etc - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9881	10.4904	6.3096	0.0171		0.4296	0.4296		0.3953	0.3953		1,658.4805	1,658.4805	0.5364		1,671.8901
Total	**0.9881**	**10.4904**	**6.3096**	**0.0171**		**0.4296**	**0.4296**		**0.3953**	**0.3953**		**1,658.4805**	**1,658.4805**	**0.5364**		**1,671.8901**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0769	0.0484	0.6547	2.1900e-003	0.2236	1.4800e-003	0.2250	0.0593	1.3600e-003	0.0607		218.0087	218.0087	4.9700e-003		218.1330
Total	**0.0769**	**0.0484**	**0.6547**	**2.1900e-003**	**0.2236**	**1.4800e-003**	**0.2250**	**0.0593**	**1.3600e-003**	**0.0607**		**218.0087**	**218.0087**	**4.9700e-003**		**218.1330**

3.13 5 - Pruning, Soil Amendments, etc - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3021	5.1322	9.9074	0.0171		0.0281	0.0281		0.0281	0.0281	0.0000	1,658.4805	1,658.4805	0.5364		1,671.8901
Total	**0.3021**	**5.1322**	**9.9074**	**0.0171**		**0.0281**	**0.0281**		**0.0281**	**0.0281**	**0.0000**	**1,658.4805**	**1,658.4805**	**0.5364**		**1,671.8901**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0769	0.0484	0.6547	2.1900e-003	0.2236	1.4800e-003	0.2250	0.0593	1.3600e-003	0.0607		218.0087	218.0087	4.9700e-003		218.1330
Total	**0.0769**	**0.0484**	**0.6547**	**2.1900e-003**	**0.2236**	**1.4800e-003**	**0.2250**	**0.0593**	**1.3600e-003**	**0.0607**		**218.0087**	**218.0087**	**4.9700e-003**		**218.1330**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0243	0.0305	0.4318	1.4800e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		147.6728	147.6728	4.1200e-003		147.7758
Unmitigated	0.0243	0.0305	0.4318	1.4800e-003	0.1581	9.6000e-004	0.1591	0.0419	8.8000e-004	0.0428		147.6728	147.6728	4.1200e-003		147.7758

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	12.55	12.55	12.55	75,802	75,802
Total	12.55	12.55	12.55	75,802	75,802

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.682140	0.053800	0.258090	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.005970	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Unmitigated	0.0147	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Total	**0.0147**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.4200e-003**	**1.4200e-003**	**0.0000**		**1.5200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4200e-003	1.4200e-003	0.0000		1.5200e-003
Total	**0.0147**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.4200e-003**	**1.4200e-003**	**0.0000**		**1.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Big Canyon Phase 2A - Air Quality Appendix

Health Risk Assumptions And Calculations

Construction

Construction Health Risk
Assumptions and Risk Summary - 3rd Trimester Start

Big Canyon Phase 2

Construction Health Risk Assumptions - 3rd Trimester Start

	3rd	0-2	2-16	>16	Units
DBR	361	1090	631	261	L/kg
A	1	1	1	1	no units
EF	0.958904	0.958904	0.958904	0.958904	years
Constant 1	0.000001	0.000001	0.000001	0.000001	no units
CPF	1.1	1.1	1.1	1.1	mg/kg-day-1
ASF	10	10	3	1	no units
1A	0.03	0.00	0.00	0.00	years
1B	0.10	0.00	0.00	0.00	years
2A	0.10	0.00	0.00	0.00	years
2B	0.01	0.04	0.00	0.00	years
2C	0.00	0.05	0.00	0.00	years
3A	0.00	0.03	0.00	0.00	years
3B	0.00	0.03	0.00	0.00	years
3C	0.00	0.09	0.00	0.00	years
4	0.00	0.05	0.00	0.00	years
5	0.00	0.12	0.00	0.00	years
AT	70	70	70	70	years
FAH	1	1	0.72	0.73	day
Constant 2	1,000,000	1,000,000	1,000,000	1,000,000	no units

Dose = (Cair X DBR X A X EF X Constant 1)
Cancer Risk = Dose X CPF x ASF x (ED/AT) X FAH
Risk per Million = Cancer Risk X Constant 2

Site Location 11N 418489.17 E 3721417.9 N
Met Datat KSNA John Wayne International Airport

Onsite

Source ID	PM10 (lbs/day)	PM10 (gr/day)	PM10 (gr/sec)	Days	Years
1A	1.0199	462.61886	0.0142784	12	0.034
1B	1.3357	605.86333	0.0186995	36	0.103
2A	0.732	332.02961	0.0102478	36	0.103
2B	0.4944	224.25607	0.0069215	18	0.051
2C	0.7259	329.2627	0.0101624	18	0.051
3A	0.1307	59.284523	0.0018298	12	0.034
3B	0.7931	359.74411	0.0111032	12	0.034
3C	0.4883	221.48915	0.0068361	30	0.086
4	0.9747	442.11648	0.0136456	18	0.051
5	0.4883	221.48915	0.0068361	42	0.120

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
1	418671	3720843	0.1061	0.004	0.015	0.008	0.007	0.012	0.001	0.009	0.014	0.016	0.019
2	418721	3720843	0.0995	0.004	0.014	0.008	0.007	0.011	0.001	0.008	0.013	0.015	0.018
3	418771	3720843	0.0909	0.003	0.013	0.007	0.006	0.010	0.001	0.008	0.012	0.014	0.016
4	418821	3720843	0.0842	0.003	0.012	0.006	0.006	0.010	0.001	0.007	0.011	0.013	0.015
5	418871	3720843	0.0769	0.003	0.011	0.006	0.005	0.009	0.001	0.006	0.010	0.012	0.014
6	418921	3720843	0.0714	0.003	0.010	0.005	0.005	0.008	0.001	0.006	0.009	0.011	0.013
7	418621	3720893	0.1349	0.005	0.019	0.010	0.009	0.016	0.002	0.011	0.017	0.021	0.024
8	418671	3720893	0.1236	0.004	0.017	0.010	0.008	0.014	0.002	0.010	0.016	0.019	0.022
9	418721	3720893	0.1084	0.004	0.015	0.008	0.007	0.013	0.002	0.009	0.014	0.017	0.020
10	418771	3720893	0.1010	0.004	0.014	0.008	0.007	0.012	0.001	0.008	0.013	0.016	0.018
11	418821	3720893	0.0886	0.003	0.012	0.007	0.006	0.010	0.001	0.007	0.011	0.014	0.016
12	418871	3720893	0.0832	0.003	0.012	0.006	0.006	0.010	0.001	0.007	0.011	0.013	0.015
13	418921	3720893	0.0783	0.003	0.011	0.006	0.005	0.009	0.001	0.007	0.010	0.012	0.014
14	418621	3720943	0.1481	0.005	0.021	0.011	0.010	0.017	0.002	0.012	0.019	0.023	0.027
15	418671	3720943	0.1380	0.005	0.019	0.011	0.009	0.016	0.002	0.012	0.018	0.021	0.025
16	418721	3720943	0.1239	0.004	0.017	0.010	0.008	0.014	0.002	0.010	0.016	0.019	0.022
17	418771	3720943	0.1091	0.004	0.015	0.008	0.007	0.013	0.002	0.009	0.014	0.017	0.020
18	418821	3720943	0.0992	0.004	0.014	0.008	0.007	0.011	0.001	0.008	0.013	0.015	0.018
19	418871	3720943	0.0904	0.003	0.013	0.007	0.006	0.010	0.001	0.008	0.012	0.014	0.016
20	418921	3720943	0.0843	0.003	0.012	0.006	0.006	0.010	0.001	0.007	0.011	0.013	0.015
21	418021	3720993	0.3260	0.012	0.046	0.025	0.022	0.038	0.005	0.027	0.042	0.050	0.059
22	418071	3720993	0.3734	0.013	0.052	0.029	0.026	0.043	0.005	0.031	0.048	0.058	0.068
23	418121	3720993	0.4008	0.014	0.056	0.031	0.027	0.046	0.006	0.034	0.052	0.062	0.073
24	418171	3720993	0.4098	0.015	0.058	0.032	0.028	0.047	0.006	0.034	0.053	0.063	0.074
25	418221	3720993	0.4545	0.016	0.064	0.035	0.031	0.052	0.006	0.038	0.059	0.070	0.082
26	418271	3720993	0.4430	0.016	0.062	0.034	0.030	0.051	0.006	0.037	0.057	0.069	0.080
27	418321	3720993	0.4080	0.015	0.057	0.031	0.028	0.047	0.006	0.034	0.053	0.063	0.074
28	418371	3720993	0.3625	0.013	0.051	0.028	0.025	0.042	0.005	0.030	0.047	0.056	0.066
29	418421	3720993	0.3071	0.011	0.043	0.024	0.021	0.035	0.004	0.026	0.040	0.048	0.056
30	418571	3720993	0.2014	0.007	0.028	0.016	0.014	0.023	0.003	0.017	0.026	0.031	0.036

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

												Receptor	*Risk*
											Max	174	6.3680
											Min	6	0.0714
Receptor #	**X**	**Y**	**Total Risk**	**1A**	**1B**	**2A**	**2B**	**2C**	**3A**	**3B**	**3C**	**4**	**5**
31	418621	3720993	0.1860	0.007	0.026	0.014	0.013	0.021	0.003	0.016	0.024	0.029	0.034
32	418671	3720993	0.1517	0.005	0.021	0.012	0.010	0.017	0.002	0.013	0.020	0.023	0.027
33	418721	3720993	0.1440	0.005	0.020	0.011	0.010	0.017	0.002	0.012	0.019	0.022	0.026
34	418771	3720993	0.1196	0.004	0.017	0.009	0.008	0.014	0.002	0.010	0.015	0.019	0.022
35	418821	3720993	0.1106	0.004	0.016	0.009	0.008	0.013	0.002	0.009	0.014	0.017	0.020
36	418871	3720993	0.0989	0.004	0.014	0.008	0.007	0.011	0.001	0.008	0.013	0.015	0.018
37	418921	3720993	0.0934	0.003	0.013	0.007	0.006	0.011	0.001	0.008	0.012	0.014	0.017
38	418021	3721043	0.4395	0.016	0.062	0.034	0.030	0.051	0.006	0.037	0.057	0.068	0.080
39	418071	3721043	0.3982	0.014	0.056	0.031	0.027	0.046	0.006	0.033	0.051	0.062	0.072
40	418121	3721043	0.4261	0.015	0.060	0.033	0.029	0.049	0.006	0.036	0.055	0.066	0.077
41	418171	3721043	0.4355	0.016	0.061	0.034	0.030	0.050	0.006	0.037	0.056	0.067	0.079
42	418221	3721043	0.4589	0.016	0.064	0.035	0.031	0.053	0.006	0.039	0.059	0.071	0.083
43	418271	3721043	0.4748	0.017	0.067	0.037	0.032	0.055	0.007	0.040	0.061	0.074	0.086
44	418321	3721043	0.4515	0.016	0.063	0.035	0.031	0.052	0.006	0.038	0.058	0.070	0.082
45	418371	3721043	0.3993	0.014	0.056	0.031	0.027	0.046	0.006	0.034	0.052	0.062	0.072
46	418421	3721043	0.3421	0.012	0.048	0.026	0.023	0.039	0.005	0.029	0.044	0.053	0.062
47	418471	3721043	0.3110	0.011	0.044	0.024	0.021	0.036	0.004	0.026	0.040	0.048	0.056
48	418571	3721043	0.2452	0.009	0.034	0.019	0.017	0.028	0.003	0.021	0.032	0.038	0.044
49	418621	3721043	0.2123	0.008	0.030	0.016	0.015	0.024	0.003	0.018	0.027	0.033	0.038
50	418671	3721043	0.1921	0.007	0.027	0.015	0.013	0.022	0.003	0.016	0.025	0.030	0.035
51	418721	3721043	0.1721	0.006	0.024	0.013	0.012	0.020	0.002	0.014	0.022	0.027	0.031
52	418771	3721043	0.1372	0.005	0.019	0.011	0.009	0.016	0.002	0.012	0.018	0.021	0.025
53	418821	3721043	0.1213	0.004	0.017	0.009	0.008	0.014	0.002	0.010	0.016	0.019	0.022
54	418871	3721043	0.1112	0.004	0.016	0.009	0.008	0.013	0.002	0.009	0.014	0.017	0.020
55	418921	3721043	0.1134	0.004	0.016	0.009	0.008	0.013	0.002	0.010	0.015	0.018	0.021
56	418021	3721093	0.4153	0.015	0.058	0.032	0.028	0.048	0.006	0.035	0.054	0.064	0.075
57	418071	3721093	0.4234	0.015	0.060	0.033	0.029	0.049	0.006	0.036	0.055	0.066	0.077
58	418121	3721093	0.4378	0.016	0.062	0.034	0.030	0.050	0.006	0.037	0.057	0.068	0.079
59	418171	3721093	0.5087	0.018	0.072	0.039	0.035	0.059	0.007	0.043	0.066	0.079	0.092
60	418221	3721093	0.5155	0.018	0.072	0.040	0.035	0.059	0.007	0.043	0.067	0.080	0.093

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
61	418271	3721093	0.5486	0.020	0.077	0.042	0.037	0.063	0.008	0.046	0.071	0.085	0.099
62	418321	3721093	0.5372	0.019	0.076	0.041	0.037	0.062	0.007	0.045	0.069	0.083	0.097
63	418371	3721093	0.4664	0.017	0.066	0.036	0.032	0.054	0.006	0.039	0.060	0.072	0.084
64	418421	3721093	0.4208	0.015	0.059	0.032	0.029	0.049	0.006	0.035	0.054	0.065	0.076
65	418471	3721093	0.3447	0.012	0.048	0.027	0.024	0.040	0.005	0.029	0.045	0.053	0.062
66	418521	3721093	0.3481	0.012	0.049	0.027	0.024	0.040	0.005	0.029	0.045	0.054	0.063
67	418621	3721093	0.2448	0.009	0.034	0.019	0.017	0.028	0.003	0.021	0.032	0.038	0.044
68	418671	3721093	0.2179	0.008	0.031	0.017	0.015	0.025	0.003	0.018	0.028	0.034	0.039
69	418721	3721093	0.2015	0.007	0.028	0.016	0.014	0.023	0.003	0.017	0.026	0.031	0.036
70	418771	3721093	0.1945	0.007	0.027	0.015	0.013	0.022	0.003	0.016	0.025	0.030	0.035
71	418821	3721093	0.1520	0.005	0.021	0.012	0.010	0.018	0.002	0.013	0.020	0.024	0.028
72	418871	3721093	0.1419	0.005	0.020	0.011	0.010	0.016	0.002	0.012	0.018	0.022	0.026
73	418921	3721093	0.1639	0.006	0.023	0.013	0.011	0.019	0.002	0.014	0.021	0.025	0.030
74	418021	3721143	0.4665	0.017	0.066	0.036	0.032	0.054	0.006	0.039	0.060	0.072	0.084
75	418071	3721143	0.4843	0.017	0.068	0.037	0.033	0.056	0.007	0.041	0.063	0.075	0.088
76	418121	3721143	0.4872	0.017	0.068	0.038	0.033	0.056	0.007	0.041	0.063	0.075	0.088
77	418171	3721143	0.5481	0.020	0.077	0.042	0.037	0.063	0.008	0.046	0.071	0.085	0.099
78	418221	3721143	0.6306	0.023	0.089	0.049	0.043	0.073	0.009	0.053	0.082	0.098	0.114
79	418271	3721143	0.6614	0.024	0.093	0.051	0.045	0.076	0.009	0.056	0.086	0.102	0.120
80	418321	3721143	0.6736	0.024	0.095	0.052	0.046	0.078	0.009	0.057	0.087	0.104	0.122
81	418371	3721143	0.6149	0.022	0.086	0.047	0.042	0.071	0.009	0.052	0.080	0.095	0.111
82	418421	3721143	0.5276	0.019	0.074	0.041	0.036	0.061	0.007	0.044	0.068	0.082	0.095
83	418471	3721143	0.4440	0.016	0.062	0.034	0.030	0.051	0.006	0.037	0.057	0.069	0.080
84	418521	3721143	0.5061	0.018	0.071	0.039	0.035	0.058	0.007	0.043	0.065	0.078	0.092
85	418671	3721143	0.2577	0.009	0.036	0.020	0.018	0.030	0.004	0.022	0.033	0.040	0.047
86	418721	3721143	0.2347	0.008	0.033	0.018	0.016	0.027	0.003	0.020	0.030	0.036	0.042
87	418771	3721143	0.2248	0.008	0.032	0.017	0.015	0.026	0.003	0.019	0.029	0.035	0.041
88	418821	3721143	0.2128	0.008	0.030	0.016	0.015	0.025	0.003	0.018	0.028	0.033	0.039
89	418871	3721143	0.2007	0.007	0.028	0.015	0.014	0.023	0.003	0.017	0.026	0.031	0.036
90	418921	3721143	0.1919	0.007	0.027	0.015	0.013	0.022	0.003	0.016	0.025	0.030	0.035

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

												Receptor	***Risk***
											Max	174	6.3680
											Min	6	0.0714
Receptor #	**X**	**Y**	**Total Risk**	**1A**	**1B**	**2A**	**2B**	**2C**	**3A**	**3B**	**3C**	**4**	**5**
91	418071	3721193	0.5700	0.020	0.080	0.044	0.039	0.066	0.008	0.048	0.074	0.088	0.103
92	418121	3721193	0.5822	0.021	0.082	0.045	0.040	0.067	0.008	0.049	0.075	0.090	0.105
93	418171	3721193	0.6663	0.024	0.094	0.051	0.046	0.077	0.009	0.056	0.086	0.103	0.121
94	418221	3721193	0.7050	0.025	0.099	0.054	0.048	0.081	0.010	0.059	0.091	0.109	0.128
95	418271	3721193	0.7742	0.028	0.109	0.060	0.053	0.089	0.011	0.065	0.100	0.120	0.140
96	418321	3721193	0.8368	0.030	0.118	0.064	0.057	0.097	0.012	0.070	0.108	0.130	0.151
97	418371	3721193	0.7758	0.028	0.109	0.060	0.053	0.089	0.011	0.065	0.100	0.120	0.140
98	418421	3721193	0.6722	0.024	0.094	0.052	0.046	0.078	0.009	0.056	0.087	0.104	0.122
99	418471	3721193	0.6570	0.024	0.092	0.051	0.045	0.076	0.009	0.055	0.085	0.102	0.119
100	418671	3721193	0.3284	0.012	0.046	0.025	0.022	0.038	0.005	0.028	0.042	0.051	0.059
101	418721	3721193	0.2739	0.010	0.038	0.021	0.019	0.032	0.004	0.023	0.035	0.042	0.050
102	418771	3721193	0.2565	0.009	0.036	0.020	0.018	0.030	0.004	0.022	0.033	0.040	0.046
103	418821	3721193	0.2442	0.009	0.034	0.019	0.017	0.028	0.003	0.021	0.032	0.038	0.044
104	418871	3721193	0.2276	0.008	0.032	0.018	0.016	0.026	0.003	0.019	0.029	0.035	0.041
105	418921	3721193	0.2053	0.007	0.029	0.016	0.014	0.024	0.003	0.017	0.027	0.032	0.037
106	418021	3721243	0.6023	0.022	0.085	0.046	0.041	0.069	0.008	0.051	0.078	0.093	0.109
107	418071	3721243	0.6228	0.022	0.088	0.048	0.043	0.072	0.009	0.052	0.081	0.096	0.113
108	418121	3721243	0.7029	0.025	0.099	0.054	0.048	0.081	0.010	0.059	0.091	0.109	0.127
109	418171	3721243	0.7346	0.026	0.103	0.057	0.050	0.085	0.010	0.062	0.095	0.114	0.133
110	418221	3721243	0.8423	0.030	0.118	0.065	0.058	0.097	0.012	0.071	0.109	0.130	0.152
111	418271	3721243	0.9720	0.035	0.137	0.075	0.066	0.112	0.013	0.082	0.126	0.151	0.176
112	418321	3721243	1.0522	0.038	0.148	0.081	0.072	0.121	0.015	0.088	0.136	0.163	0.190
113	418371	3721243	1.0585	0.038	0.149	0.082	0.072	0.122	0.015	0.089	0.137	0.164	0.192
114	418421	3721243	1.0126	0.036	0.142	0.078	0.069	0.117	0.014	0.085	0.131	0.157	0.183
115	418721	3721243	0.3046	0.011	0.043	0.023	0.021	0.035	0.004	0.026	0.039	0.047	0.055
116	418771	3721243	0.2936	0.011	0.041	0.023	0.020	0.034	0.004	0.025	0.038	0.045	0.053
117	418821	3721243	0.2852	0.010	0.040	0.022	0.019	0.033	0.004	0.024	0.037	0.044	0.052
118	418871	3721243	0.2496	0.009	0.035	0.019	0.017	0.029	0.003	0.021	0.032	0.039	0.045
119	418921	3721243	0.2119	0.008	0.030	0.016	0.014	0.024	0.003	0.018	0.027	0.033	0.038
120	418021	3721293	0.6919	0.025	0.097	0.053	0.047	0.080	0.010	0.058	0.089	0.107	0.125

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

												Receptor	***Risk***
											Max	174	6.3680
											Min	6	0.0714
Receptor #	**X**	**Y**	**Total Risk**	**1A**	**1B**	**2A**	**2B**	**2C**	**3A**	**3B**	**3C**	**4**	**5**
121	418071	3721293	0.6443	0.023	0.091	0.050	0.044	0.074	0.009	0.054	0.083	0.100	0.117
122	418121	3721293	0.7350	0.026	0.103	0.057	0.050	0.085	0.010	0.062	0.095	0.114	0.133
123	418171	3721293	0.8704	0.031	0.122	0.067	0.059	0.100	0.012	0.073	0.113	0.135	0.158
124	418221	3721293	1.0317	0.037	0.145	0.079	0.070	0.119	0.014	0.087	0.133	0.160	0.187
125	418271	3721293	1.1785	0.042	0.166	0.091	0.081	0.136	0.016	0.099	0.152	0.182	0.213
126	418321	3721293	1.4657	0.052	0.206	0.113	0.100	0.169	0.020	0.123	0.190	0.227	0.265
127	418371	3721293	1.7512	0.063	0.246	0.135	0.120	0.202	0.024	0.147	0.226	0.271	0.317
128	418721	3721293	0.4886	0.017	0.069	0.038	0.033	0.056	0.007	0.041	0.063	0.076	0.088
129	418771	3721293	0.4107	0.015	0.058	0.032	0.028	0.047	0.006	0.034	0.053	0.064	0.074
130	418821	3721293	0.3469	0.012	0.049	0.027	0.024	0.040	0.005	0.029	0.045	0.054	0.063
131	418871	3721293	0.2830	0.010	0.040	0.022	0.019	0.033	0.004	0.024	0.037	0.044	0.051
132	418921	3721293	0.1945	0.007	0.027	0.015	0.013	0.022	0.003	0.016	0.025	0.030	0.035
133	418071	3721343	0.6339	0.023	0.089	0.049	0.043	0.073	0.009	0.053	0.082	0.098	0.115
134	418121	3721343	0.8009	0.029	0.113	0.062	0.055	0.092	0.011	0.067	0.104	0.124	0.145
135	418171	3721343	1.0081	0.036	0.142	0.078	0.069	0.116	0.014	0.085	0.130	0.156	0.182
136	418221	3721343	1.1727	0.042	0.165	0.090	0.080	0.135	0.016	0.099	0.152	0.182	0.212
137	418271	3721343	1.4377	0.051	0.202	0.111	0.098	0.166	0.020	0.121	0.186	0.223	0.260
138	418321	3721343	2.0193	0.072	0.284	0.156	0.138	0.233	0.028	0.170	0.261	0.313	0.366
139	418370	3721344	4.2537	0.152	0.598	0.328	0.291	0.491	0.059	0.357	0.550	0.659	0.770
140	418771	3721343	0.4989	0.018	0.070	0.038	0.034	0.058	0.007	0.042	0.065	0.077	0.090
141	418821	3721343	0.3938	0.014	0.055	0.030	0.027	0.045	0.005	0.033	0.051	0.061	0.071
142	418871	3721343	0.3252	0.012	0.046	0.025	0.022	0.038	0.005	0.027	0.042	0.050	0.059
143	418921	3721343	0.2176	0.008	0.031	0.017	0.015	0.025	0.003	0.018	0.028	0.034	0.039
144	418121	3721393	0.9342	0.033	0.131	0.072	0.064	0.108	0.013	0.078	0.121	0.145	0.169
145	418171	3721393	1.2302	0.044	0.173	0.095	0.084	0.142	0.017	0.103	0.159	0.190	0.223
146	418221	3721393	1.4770	0.053	0.208	0.114	0.101	0.170	0.020	0.124	0.191	0.229	0.267
147	418271	3721393	1.9701	0.070	0.277	0.152	0.135	0.227	0.027	0.165	0.255	0.305	0.357
148	418321	3721393	2.8967	0.104	0.407	0.223	0.198	0.334	0.040	0.243	0.375	0.449	0.524
149	418521	3721393	2.6139	0.094	0.367	0.201	0.179	0.301	0.036	0.220	0.338	0.405	0.473
150	418571	3721393	1.5148	0.054	0.213	0.117	0.104	0.175	0.021	0.127	0.196	0.235	0.274

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
151	418621	3721393	1.1201	0.040	0.157	0.086	0.077	0.129	0.016	0.094	0.145	0.173	0.203
152	418671	3721393	0.9106	0.033	0.128	0.070	0.062	0.105	0.013	0.076	0.118	0.141	0.165
153	418771	3721393	0.5284	0.019	0.074	0.041	0.036	0.061	0.007	0.044	0.068	0.082	0.096
154	418821	3721393	0.4325	0.015	0.061	0.033	0.030	0.050	0.006	0.036	0.056	0.067	0.078
155	418871	3721393	0.3519	0.013	0.049	0.027	0.024	0.041	0.005	0.030	0.046	0.054	0.064
156	418921	3721393	0.3004	0.011	0.042	0.023	0.021	0.035	0.004	0.025	0.039	0.047	0.054
157	418221	3721443	2.4881	0.089	0.350	0.192	0.170	0.287	0.034	0.209	0.322	0.385	0.450
158	418271	3721443	2.8007	0.100	0.394	0.216	0.191	0.323	0.039	0.235	0.362	0.434	0.507
159	418521	3721443	3.3798	0.121	0.475	0.260	0.231	0.390	0.047	0.284	0.437	0.523	0.612
160	418571	3721443	1.8830	0.067	0.265	0.145	0.129	0.217	0.026	0.158	0.243	0.292	0.341
161	418621	3721443	1.2292	0.044	0.173	0.095	0.084	0.142	0.017	0.103	0.159	0.190	0.223
162	418671	3721443	0.9045	0.032	0.127	0.070	0.062	0.104	0.013	0.076	0.117	0.140	0.164
163	418821	3721443	0.4353	0.016	0.061	0.034	0.030	0.050	0.006	0.037	0.056	0.067	0.079
164	418871	3721443	0.3813	0.014	0.054	0.029	0.026	0.044	0.005	0.032	0.049	0.059	0.069
165	418921	3721443	0.3201	0.011	0.045	0.025	0.022	0.037	0.004	0.027	0.041	0.050	0.058
166	418521	3721493	3.9805	0.142	0.559	0.307	0.272	0.459	0.055	0.334	0.515	0.616	0.721
167	418571	3721493	2.1868	0.078	0.307	0.168	0.149	0.252	0.030	0.184	0.283	0.339	0.396
168	418621	3721493	1.5006	0.054	0.211	0.116	0.103	0.173	0.021	0.126	0.194	0.232	0.272
169	418671	3721493	1.0609	0.038	0.149	0.082	0.072	0.122	0.015	0.089	0.137	0.164	0.192
170	418721	3721493	0.8074	0.029	0.113	0.062	0.055	0.093	0.011	0.068	0.104	0.125	0.146
171	418821	3721493	0.5074	0.018	0.071	0.039	0.035	0.059	0.007	0.043	0.066	0.079	0.092
172	418871	3721493	0.3839	0.014	0.054	0.030	0.026	0.044	0.005	0.032	0.050	0.059	0.069
173	418921	3721493	0.3184	0.011	0.045	0.025	0.022	0.037	0.004	0.027	0.041	0.049	0.058
174	418471	3721543	6.3680	0.228	0.895	0.491	0.435	0.734	0.088	0.535	0.823	0.986	1.153
175	418521	3721543	4.0200	0.144	0.565	0.310	0.275	0.464	0.056	0.338	0.520	0.622	0.728
176	418571	3721543	2.4817	0.089	0.349	0.191	0.170	0.286	0.034	0.208	0.321	0.384	0.449
177	418621	3721543	1.6849	0.060	0.237	0.130	0.115	0.194	0.023	0.142	0.218	0.261	0.305
178	418671	3721543	1.1882	0.043	0.167	0.092	0.081	0.137	0.016	0.100	0.154	0.184	0.215
179	418721	3721543	0.8610	0.031	0.121	0.066	0.059	0.099	0.012	0.072	0.111	0.133	0.156
180	418771	3721543	0.6657	0.024	0.094	0.051	0.045	0.077	0.009	0.056	0.086	0.103	0.120

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
181	418871	3721543	0.4620	0.017	0.065	0.036	0.032	0.053	0.006	0.039	0.060	0.072	0.084
182	418921	3721543	0.3767	0.013	0.053	0.029	0.026	0.043	0.005	0.032	0.049	0.058	0.068
183	418471	3721593	5.3228	0.190	0.748	0.410	0.364	0.614	0.074	0.447	0.688	0.824	0.963
184	418521	3721593	3.7694	0.135	0.530	0.290	0.258	0.435	0.052	0.317	0.487	0.584	0.682
185	418571	3721593	2.6266	0.094	0.369	0.202	0.179	0.303	0.036	0.221	0.340	0.407	0.475
186	418621	3721593	1.7961	0.064	0.252	0.138	0.123	0.207	0.025	0.151	0.232	0.278	0.325
187	418671	3721593	1.3136	0.047	0.185	0.101	0.090	0.151	0.018	0.110	0.170	0.203	0.238
188	418721	3721593	0.9749	0.035	0.137	0.075	0.067	0.112	0.013	0.082	0.126	0.151	0.176
189	418771	3721593	0.7522	0.027	0.106	0.058	0.051	0.087	0.010	0.063	0.097	0.116	0.136
190	418821	3721593	0.5984	0.021	0.084	0.046	0.041	0.069	0.008	0.050	0.077	0.093	0.108
191	418421	3721643	6.1983	0.222	0.871	0.477	0.424	0.715	0.086	0.521	0.801	0.960	1.122
192	418471	3721643	4.4851	0.160	0.630	0.345	0.306	0.517	0.062	0.377	0.580	0.695	0.812
193	418521	3721643	3.3197	0.119	0.467	0.256	0.227	0.383	0.046	0.279	0.429	0.514	0.601
194	418571	3721643	2.4807	0.089	0.349	0.191	0.170	0.286	0.034	0.208	0.321	0.384	0.449
195	418621	3721643	1.8334	0.066	0.258	0.141	0.125	0.211	0.025	0.154	0.237	0.284	0.332
196	418671	3721643	1.3711	0.049	0.193	0.106	0.094	0.158	0.019	0.115	0.177	0.212	0.248
197	418721	3721643	1.0576	0.038	0.149	0.081	0.072	0.122	0.015	0.089	0.137	0.164	0.191
198	418771	3721643	0.8091	0.029	0.114	0.062	0.055	0.093	0.011	0.068	0.105	0.125	0.146
199	418821	3721643	0.6519	0.023	0.092	0.050	0.045	0.075	0.009	0.055	0.084	0.101	0.118
200	418871	3721643	0.5374	0.019	0.076	0.041	0.037	0.062	0.007	0.045	0.069	0.083	0.097
201	418221	3721693	2.4189	0.087	0.340	0.186	0.165	0.279	0.033	0.203	0.313	0.375	0.438
202	418271	3721693	3.6854	0.132	0.518	0.284	0.252	0.425	0.051	0.310	0.476	0.571	0.667
203	418321	3721693	4.3671	0.156	0.614	0.336	0.298	0.504	0.060	0.367	0.565	0.676	0.790
204	418371	3721693	4.7500	0.170	0.668	0.366	0.325	0.548	0.066	0.399	0.614	0.736	0.860
205	418421	3721693	4.3890	0.157	0.617	0.338	0.300	0.506	0.061	0.369	0.567	0.680	0.794
206	418471	3721693	3.6359	0.130	0.511	0.280	0.248	0.419	0.050	0.305	0.470	0.563	0.658
207	418521	3721693	2.9247	0.105	0.411	0.225	0.200	0.337	0.040	0.246	0.378	0.453	0.529
208	418571	3721693	2.3057	0.082	0.324	0.178	0.158	0.266	0.032	0.194	0.298	0.357	0.417
209	418621	3721693	1.7787	0.064	0.250	0.137	0.122	0.205	0.025	0.149	0.230	0.275	0.322
210	418671	3721693	1.3893	0.050	0.195	0.107	0.095	0.160	0.019	0.117	0.180	0.215	0.251

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
211	418721	3721693	1.0918	0.039	0.153	0.084	0.075	0.126	0.015	0.092	0.141	0.169	0.198
212	418771	3721693	0.8537	0.031	0.120	0.066	0.058	0.098	0.012	0.072	0.110	0.132	0.155
213	418821	3721693	0.6986	0.025	0.098	0.054	0.048	0.081	0.010	0.059	0.090	0.108	0.126
214	418871	3721693	0.5576	0.020	0.078	0.043	0.038	0.064	0.008	0.047	0.072	0.086	0.101
215	418921	3721693	0.4675	0.017	0.066	0.036	0.032	0.054	0.006	0.039	0.060	0.072	0.085
216	418171	3721743	1.1267	0.040	0.158	0.087	0.077	0.130	0.016	0.095	0.146	0.174	0.204
217	418221	3721743	1.3034	0.047	0.183	0.100	0.089	0.150	0.018	0.109	0.169	0.202	0.236
218	418271	3721743	1.7937	0.064	0.252	0.138	0.123	0.207	0.025	0.151	0.232	0.278	0.325
219	418321	3721743	2.3013	0.082	0.323	0.177	0.157	0.265	0.032	0.193	0.298	0.356	0.417
220	418371	3721743	2.7158	0.097	0.382	0.209	0.186	0.313	0.038	0.228	0.351	0.421	0.492
221	418421	3721743	2.8859	0.103	0.406	0.222	0.197	0.333	0.040	0.242	0.373	0.447	0.522
222	418471	3721743	2.7724	0.099	0.390	0.214	0.189	0.320	0.038	0.233	0.358	0.429	0.502
223	418521	3721743	2.4261	0.087	0.341	0.187	0.166	0.280	0.034	0.204	0.314	0.376	0.439
224	418571	3721743	2.0273	0.073	0.285	0.156	0.139	0.234	0.028	0.170	0.262	0.314	0.367
225	418621	3721743	1.6423	0.059	0.231	0.127	0.112	0.189	0.023	0.138	0.212	0.254	0.297
226	418671	3721743	1.3199	0.047	0.186	0.102	0.090	0.152	0.018	0.111	0.171	0.204	0.239
227	418721	3721743	1.0737	0.038	0.151	0.083	0.073	0.124	0.015	0.090	0.139	0.166	0.194
228	418771	3721743	0.8673	0.031	0.122	0.067	0.059	0.100	0.012	0.073	0.112	0.134	0.157
229	418821	3721743	0.7026	0.025	0.099	0.054	0.048	0.081	0.010	0.059	0.091	0.109	0.127
230	418871	3721743	0.5791	0.021	0.081	0.045	0.040	0.067	0.008	0.049	0.075	0.090	0.105
231	418921	3721743	0.4630	0.017	0.065	0.036	0.032	0.053	0.006	0.039	0.060	0.072	0.084
232	418171	3721793	0.7887	0.028	0.111	0.061	0.054	0.091	0.011	0.066	0.102	0.122	0.143
233	418221	3721793	0.8312	0.030	0.117	0.064	0.057	0.096	0.012	0.070	0.107	0.129	0.150
234	418271	3721793	1.1001	0.039	0.155	0.085	0.075	0.127	0.015	0.092	0.142	0.170	0.199
235	418321	3721793	1.4103	0.050	0.198	0.109	0.096	0.163	0.020	0.118	0.182	0.218	0.255
236	418371	3721793	1.7261	0.062	0.243	0.133	0.118	0.199	0.024	0.145	0.223	0.267	0.312
237	418421	3721793	2.0195	0.072	0.284	0.156	0.138	0.233	0.028	0.170	0.261	0.313	0.366
238	418471	3721793	2.0595	0.074	0.289	0.159	0.141	0.238	0.029	0.173	0.266	0.319	0.373
239	418521	3721793	1.9125	0.068	0.269	0.147	0.131	0.221	0.026	0.161	0.247	0.296	0.346
240	418571	3721793	1.6990	0.061	0.239	0.131	0.116	0.196	0.024	0.143	0.220	0.263	0.308

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
241	418621	3721793	1.4413	0.052	0.203	0.111	0.098	0.166	0.020	0.121	0.186	0.223	0.261
242	418671	3721793	1.2137	0.043	0.171	0.093	0.083	0.140	0.017	0.102	0.157	0.188	0.220
243	418721	3721793	1.0096	0.036	0.142	0.078	0.069	0.116	0.014	0.085	0.131	0.156	0.183
244	418771	3721793	0.8452	0.030	0.119	0.065	0.058	0.097	0.012	0.071	0.109	0.131	0.153
245	418821	3721793	0.6840	0.024	0.096	0.053	0.047	0.079	0.009	0.057	0.088	0.106	0.124
246	418871	3721793	0.5803	0.021	0.082	0.045	0.040	0.067	0.008	0.049	0.075	0.090	0.105
247	418921	3721793	0.4705	0.017	0.066	0.036	0.032	0.054	0.007	0.040	0.061	0.073	0.085
248	418171	3721843	0.6442	0.023	0.091	0.050	0.044	0.074	0.009	0.054	0.083	0.100	0.117
249	418221	3721843	0.6376	0.023	0.090	0.049	0.044	0.074	0.009	0.054	0.082	0.099	0.115
250	418271	3721843	0.7469	0.027	0.105	0.058	0.051	0.086	0.010	0.063	0.097	0.116	0.135
251	418321	3721843	0.9591	0.034	0.135	0.074	0.066	0.111	0.013	0.081	0.124	0.149	0.174
252	418371	3721843	1.2181	0.044	0.171	0.094	0.083	0.140	0.017	0.102	0.157	0.189	0.220
253	418421	3721843	1.4158	0.051	0.199	0.109	0.097	0.163	0.020	0.119	0.183	0.219	0.256
254	418471	3721843	1.5083	0.054	0.212	0.116	0.103	0.174	0.021	0.127	0.195	0.234	0.273
255	418521	3721843	1.4975	0.054	0.210	0.115	0.102	0.173	0.021	0.126	0.194	0.232	0.271
256	418571	3721843	1.4013	0.050	0.197	0.108	0.096	0.162	0.019	0.118	0.181	0.217	0.254
257	418621	3721843	1.2521	0.045	0.176	0.096	0.086	0.144	0.017	0.105	0.162	0.194	0.227
258	418671	3721843	1.0876	0.039	0.153	0.084	0.074	0.125	0.015	0.091	0.141	0.168	0.197
259	418721	3721843	0.9339	0.033	0.131	0.072	0.064	0.108	0.013	0.078	0.121	0.145	0.169
260	418771	3721843	0.8007	0.029	0.113	0.062	0.055	0.092	0.011	0.067	0.104	0.124	0.145
261	418821	3721843	0.6652	0.024	0.094	0.051	0.045	0.077	0.009	0.056	0.086	0.103	0.120
262	418871	3721843	0.5681	0.020	0.080	0.044	0.039	0.066	0.008	0.048	0.073	0.088	0.103
263	418921	3721843	0.4702	0.017	0.066	0.036	0.032	0.054	0.007	0.039	0.061	0.073	0.085
264	418021	3721893	0.4318	0.015	0.061	0.033	0.030	0.050	0.006	0.036	0.056	0.067	0.078
265	418071	3721893	0.4174	0.015	0.059	0.032	0.029	0.048	0.006	0.035	0.054	0.065	0.076
266	418121	3721893	0.4310	0.015	0.061	0.033	0.029	0.050	0.006	0.036	0.056	0.067	0.078
267	418171	3721893	0.4949	0.018	0.070	0.038	0.034	0.057	0.007	0.042	0.064	0.077	0.090
268	418221	3721893	0.4917	0.018	0.069	0.038	0.034	0.057	0.007	0.041	0.064	0.076	0.089
269	418271	3721893	0.5538	0.020	0.078	0.043	0.038	0.064	0.008	0.047	0.072	0.086	0.100
270	418321	3721893	0.6851	0.025	0.096	0.053	0.047	0.079	0.009	0.058	0.089	0.106	0.124

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
271	418371	3721893	0.8704	0.031	0.122	0.067	0.059	0.100	0.012	0.073	0.113	0.135	0.158
272	418421	3721893	1.0316	0.037	0.145	0.079	0.070	0.119	0.014	0.087	0.133	0.160	0.187
273	418471	3721893	1.1391	0.041	0.160	0.088	0.078	0.131	0.016	0.096	0.147	0.176	0.206
274	418521	3721893	1.1764	0.042	0.165	0.091	0.080	0.136	0.016	0.099	0.152	0.182	0.213
275	418571	3721893	1.1407	0.041	0.160	0.088	0.078	0.132	0.016	0.096	0.147	0.177	0.206
276	418621	3721893	1.0651	0.038	0.150	0.082	0.073	0.123	0.015	0.089	0.138	0.165	0.193
277	418671	3721893	0.9592	0.034	0.135	0.074	0.066	0.111	0.013	0.081	0.124	0.149	0.174
278	418721	3721893	0.8489	0.030	0.119	0.065	0.058	0.098	0.012	0.071	0.110	0.131	0.154
279	418771	3721893	0.7449	0.027	0.105	0.057	0.051	0.086	0.010	0.063	0.096	0.115	0.135
280	418821	3721893	0.6357	0.023	0.089	0.049	0.043	0.073	0.009	0.053	0.082	0.098	0.115
281	418871	3721893	0.5371	0.019	0.075	0.041	0.037	0.062	0.007	0.045	0.069	0.083	0.097
282	418921	3721893	0.4527	0.016	0.064	0.035	0.031	0.052	0.006	0.038	0.059	0.070	0.082
283	417971	3721943	0.3431	0.012	0.048	0.026	0.023	0.040	0.005	0.029	0.044	0.053	0.062
284	418021	3721943	0.3290	0.012	0.046	0.025	0.022	0.038	0.005	0.028	0.043	0.051	0.060
285	418071	3721943	0.3225	0.012	0.045	0.025	0.022	0.037	0.004	0.027	0.042	0.050	0.058
286	418121	3721943	0.3412	0.012	0.048	0.026	0.023	0.039	0.005	0.029	0.044	0.053	0.062
287	418171	3721943	0.3894	0.014	0.055	0.030	0.027	0.045	0.005	0.033	0.050	0.060	0.070
288	418221	3721943	0.4242	0.015	0.060	0.033	0.029	0.049	0.006	0.036	0.055	0.066	0.077
289	418271	3721943	0.4416	0.016	0.062	0.034	0.030	0.051	0.006	0.037	0.057	0.068	0.080
290	418321	3721943	0.5340	0.019	0.075	0.041	0.036	0.062	0.007	0.045	0.069	0.083	0.097
291	418371	3721943	0.6517	0.023	0.092	0.050	0.045	0.075	0.009	0.055	0.084	0.101	0.118
292	418421	3721943	0.7758	0.028	0.109	0.060	0.053	0.089	0.011	0.065	0.100	0.120	0.140
293	418471	3721943	0.8754	0.031	0.123	0.067	0.060	0.101	0.012	0.074	0.113	0.136	0.158
294	418521	3721943	0.9328	0.033	0.131	0.072	0.064	0.108	0.013	0.078	0.121	0.144	0.169
295	418571	3721943	0.9364	0.033	0.132	0.072	0.064	0.108	0.013	0.079	0.121	0.145	0.169
296	418621	3721943	0.9042	0.032	0.127	0.070	0.062	0.104	0.013	0.076	0.117	0.140	0.164
297	418671	3721943	0.8437	0.030	0.119	0.065	0.058	0.097	0.012	0.071	0.109	0.131	0.153
298	418721	3721943	0.7643	0.027	0.107	0.059	0.052	0.088	0.011	0.064	0.099	0.118	0.138
299	418771	3721943	0.6822	0.024	0.096	0.053	0.047	0.079	0.009	0.057	0.088	0.106	0.123
300	418821	3721943	0.5970	0.021	0.084	0.046	0.041	0.069	0.008	0.050	0.077	0.092	0.108

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
301	418871	3721943	0.4920	0.018	0.069	0.038	0.034	0.057	0.007	0.041	0.064	0.076	0.089
302	418921	3721943	0.4332	0.015	0.061	0.033	0.030	0.050	0.006	0.036	0.056	0.067	0.078
303	417921	3721993	0.2915	0.010	0.041	0.022	0.020	0.034	0.004	0.024	0.038	0.045	0.053
304	417971	3721993	0.2673	0.010	0.038	0.021	0.018	0.031	0.004	0.022	0.035	0.041	0.048
305	418021	3721993	0.2645	0.009	0.037	0.020	0.018	0.030	0.004	0.022	0.034	0.041	0.048
306	418071	3721993	0.2560	0.009	0.036	0.020	0.017	0.030	0.004	0.022	0.033	0.040	0.046
307	418121	3721993	0.2632	0.009	0.037	0.020	0.018	0.030	0.004	0.022	0.034	0.041	0.048
308	418171	3721993	0.2908	0.010	0.041	0.022	0.020	0.034	0.004	0.024	0.038	0.045	0.053
309	418221	3721993	0.3286	0.012	0.046	0.025	0.022	0.038	0.005	0.028	0.042	0.051	0.059
310	418271	3721993	0.3562	0.013	0.050	0.027	0.024	0.041	0.005	0.030	0.046	0.055	0.064
311	418321	3721993	0.4200	0.015	0.059	0.032	0.029	0.048	0.006	0.035	0.054	0.065	0.076
312	418371	3721993	0.5042	0.018	0.071	0.039	0.034	0.058	0.007	0.042	0.065	0.078	0.091
313	418421	3721993	0.5987	0.021	0.084	0.046	0.041	0.069	0.008	0.050	0.077	0.093	0.108
314	418471	3721993	0.6852	0.025	0.096	0.053	0.047	0.079	0.009	0.058	0.089	0.106	0.124
315	418521	3721993	0.7463	0.027	0.105	0.057	0.051	0.086	0.010	0.063	0.096	0.116	0.135
316	418571	3721993	0.7736	0.028	0.109	0.060	0.053	0.089	0.011	0.065	0.100	0.120	0.140
317	418621	3721993	0.7654	0.027	0.108	0.059	0.052	0.088	0.011	0.064	0.099	0.119	0.139
318	418671	3721993	0.7314	0.026	0.103	0.056	0.050	0.084	0.010	0.061	0.095	0.113	0.132
319	418721	3721993	0.6809	0.024	0.096	0.052	0.047	0.079	0.009	0.057	0.088	0.105	0.123
320	418771	3721993	0.6153	0.022	0.086	0.047	0.042	0.071	0.009	0.052	0.080	0.095	0.111
321	418821	3721993	0.5517	0.020	0.078	0.042	0.038	0.064	0.008	0.046	0.071	0.085	0.100
322	418871	3721993	0.4580	0.016	0.064	0.035	0.031	0.053	0.006	0.038	0.059	0.071	0.083
323	418921	3721993	0.4106	0.015	0.058	0.032	0.028	0.047	0.006	0.034	0.053	0.064	0.074
324	417871	3722043	0.2836	0.010	0.040	0.022	0.019	0.033	0.004	0.024	0.037	0.044	0.051
325	417921	3722043	0.2466	0.009	0.035	0.019	0.017	0.028	0.003	0.021	0.032	0.038	0.045
326	417971	3722043	0.2405	0.009	0.034	0.019	0.016	0.028	0.003	0.020	0.031	0.037	0.044
327	418021	3722043	0.2177	0.008	0.031	0.017	0.015	0.025	0.003	0.018	0.028	0.034	0.039
328	418071	3722043	0.2177	0.008	0.031	0.017	0.015	0.025	0.003	0.018	0.028	0.034	0.039
329	418121	3722043	0.2360	0.008	0.033	0.018	0.016	0.027	0.003	0.020	0.031	0.037	0.043
330	418171	3722043	0.2461	0.009	0.035	0.019	0.017	0.028	0.003	0.021	0.032	0.038	0.045

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
331	418221	3722043	0.2670	0.010	0.038	0.021	0.018	0.031	0.004	0.022	0.035	0.041	0.048
332	418271	3722043	0.2999	0.011	0.042	0.023	0.020	0.035	0.004	0.025	0.039	0.046	0.054
333	418321	3722043	0.3404	0.012	0.048	0.026	0.023	0.039	0.005	0.029	0.044	0.053	0.062
334	418371	3722043	0.4012	0.014	0.056	0.031	0.027	0.046	0.006	0.034	0.052	0.062	0.073
335	418421	3722043	0.4727	0.017	0.066	0.036	0.032	0.055	0.007	0.040	0.061	0.073	0.086
336	418471	3722043	0.5442	0.019	0.076	0.042	0.037	0.063	0.008	0.046	0.070	0.084	0.099
337	418521	3722043	0.6014	0.022	0.085	0.046	0.041	0.069	0.008	0.051	0.078	0.093	0.109
338	418571	3722043	0.6396	0.023	0.090	0.049	0.044	0.074	0.009	0.054	0.083	0.099	0.116
339	418621	3722043	0.6504	0.023	0.091	0.050	0.044	0.075	0.009	0.055	0.084	0.101	0.118
340	418671	3722043	0.6359	0.023	0.089	0.049	0.043	0.073	0.009	0.053	0.082	0.098	0.115
341	418721	3722043	0.6049	0.022	0.085	0.047	0.041	0.070	0.008	0.051	0.078	0.094	0.109
342	418771	3722043	0.5431	0.019	0.076	0.042	0.037	0.063	0.008	0.046	0.070	0.084	0.098
343	418821	3722043	0.5000	0.018	0.070	0.039	0.034	0.058	0.007	0.042	0.065	0.077	0.091
344	418871	3722043	0.4266	0.015	0.060	0.033	0.029	0.049	0.006	0.036	0.055	0.066	0.077
345	418921	3722043	0.3861	0.014	0.054	0.030	0.026	0.045	0.005	0.032	0.050	0.060	0.070
346	417871	3722093	0.2160	0.008	0.030	0.017	0.015	0.025	0.003	0.018	0.028	0.033	0.039
347	417921	3722093	0.2074	0.007	0.029	0.016	0.014	0.024	0.003	0.017	0.027	0.032	0.038
348	417971	3722093	0.1987	0.007	0.028	0.015	0.014	0.023	0.003	0.017	0.026	0.031	0.036
349	418021	3722093	0.1885	0.007	0.026	0.015	0.013	0.022	0.003	0.016	0.024	0.029	0.034
350	418071	3722093	0.1903	0.007	0.027	0.015	0.013	0.022	0.003	0.016	0.025	0.029	0.034
351	418121	3722093	0.2028	0.007	0.029	0.016	0.014	0.023	0.003	0.017	0.026	0.031	0.037
352	418171	3722093	0.2154	0.008	0.030	0.017	0.015	0.025	0.003	0.018	0.028	0.033	0.039
353	418221	3722093	0.2283	0.008	0.032	0.018	0.016	0.026	0.003	0.019	0.030	0.035	0.041
354	418271	3722093	0.2505	0.009	0.035	0.019	0.017	0.029	0.003	0.021	0.032	0.039	0.045
355	418321	3722093	0.2746	0.010	0.039	0.021	0.019	0.032	0.004	0.023	0.036	0.043	0.050
356	418371	3722093	0.3275	0.012	0.046	0.025	0.022	0.038	0.005	0.028	0.042	0.051	0.059
357	418421	3722093	0.3819	0.014	0.054	0.029	0.026	0.044	0.005	0.032	0.049	0.059	0.069
358	418471	3722093	0.4407	0.016	0.062	0.034	0.030	0.051	0.006	0.037	0.057	0.068	0.080
359	418521	3722093	0.4924	0.018	0.069	0.038	0.034	0.057	0.007	0.041	0.064	0.076	0.089
360	418571	3722093	0.5316	0.019	0.075	0.041	0.036	0.061	0.007	0.045	0.069	0.082	0.096

Big Canyon Phase 2

Construction Cancer Risk Summary - 3rd Trimester Start

		Receptor	*Risk*
	Max	174	6.3680
	Min	6	0.0714

Receptor #	X	Y	Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
361	418621	3722093	0.5506	0.020	0.077	0.042	0.038	0.063	0.008	0.046	0.071	0.085	0.100
362	418671	3722093	0.5534	0.020	0.078	0.043	0.038	0.064	0.008	0.046	0.072	0.086	0.100
363	418721	3722093	0.5358	0.019	0.075	0.041	0.037	0.062	0.007	0.045	0.069	0.083	0.097
364	418771	3722093	0.4846	0.017	0.068	0.037	0.033	0.056	0.007	0.041	0.063	0.075	0.088
365	418821	3722093	0.4539	0.016	0.064	0.035	0.031	0.052	0.006	0.038	0.059	0.070	0.082
366	418871	3722093	0.3949	0.014	0.056	0.030	0.027	0.046	0.005	0.033	0.051	0.061	0.071
367	418921	3722093	0.3616	0.013	0.051	0.028	0.025	0.042	0.005	0.030	0.047	0.056	0.065
368	417821	3722143	0.1873	0.007	0.026	0.014	0.013	0.022	0.003	0.016	0.024	0.029	0.034
369	417871	3722143	0.1837	0.007	0.026	0.014	0.013	0.021	0.003	0.015	0.024	0.028	0.033
370	417921	3722143	0.1737	0.006	0.024	0.013	0.012	0.020	0.002	0.015	0.022	0.027	0.031
371	417971	3722143	0.1621	0.006	0.023	0.012	0.011	0.019	0.002	0.014	0.021	0.025	0.029
372	418021	3722143	0.1687	0.006	0.024	0.013	0.012	0.019	0.002	0.014	0.022	0.026	0.031
373	418071	3722143	0.1646	0.006	0.023	0.013	0.011	0.019	0.002	0.014	0.021	0.025	0.030
374	418121	3722143	0.1795	0.006	0.025	0.014	0.012	0.021	0.002	0.015	0.023	0.028	0.032
375	418171	3722143	0.1866	0.007	0.026	0.014	0.013	0.022	0.003	0.016	0.024	0.029	0.034
376	418221	3722143	0.2041	0.007	0.029	0.016	0.014	0.024	0.003	0.017	0.026	0.032	0.037
377	418271	3722143	0.2208	0.008	0.031	0.017	0.015	0.025	0.003	0.019	0.029	0.034	0.040
378	418321	3722143	0.2351	0.008	0.033	0.018	0.016	0.027	0.003	0.020	0.030	0.036	0.043
379	418371	3722143	0.2716	0.010	0.038	0.021	0.019	0.031	0.004	0.023	0.035	0.042	0.049
380	418421	3722143	0.3007	0.011	0.042	0.023	0.021	0.035	0.004	0.025	0.039	0.047	0.054
381	418471	3722143	0.3618	0.013	0.051	0.028	0.025	0.042	0.005	0.030	0.047	0.056	0.065
382	418521	3722143	0.4077	0.015	0.057	0.031	0.028	0.047	0.006	0.034	0.053	0.063	0.074
383	418571	3722143	0.4448	0.016	0.063	0.034	0.030	0.051	0.006	0.037	0.058	0.069	0.081
384	418621	3722143	0.4687	0.017	0.066	0.036	0.032	0.054	0.006	0.039	0.061	0.073	0.085
385	418671	3722143	0.4765	0.017	0.067	0.037	0.033	0.055	0.007	0.040	0.062	0.074	0.086
386	418721	3722143	0.4682	0.017	0.066	0.036	0.032	0.054	0.006	0.039	0.061	0.073	0.085
387	418771	3722143	0.4323	0.015	0.061	0.033	0.030	0.050	0.006	0.036	0.056	0.067	0.078
388	418821	3722143	0.4099	0.015	0.058	0.032	0.028	0.047	0.006	0.034	0.053	0.063	0.074
389	418871	3722143	0.3651	0.013	0.051	0.028	0.025	0.042	0.005	0.031	0.047	0.057	0.066
390	418921	3722143	0.3371	0.012	0.047	0.026	0.023	0.039	0.005	0.028	0.044	0.052	0.061

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
1	1	0.0029	0.0004	0.0005	2.9E-04	2.0E-04	2.9E-04	5.2E-05	3.2E-04	1.9E-04	3.9E-04	1.9E-04
2	2	0.0027	0.0004	0.0005	2.7E-04	1.9E-04	2.7E-04	4.9E-05	3.0E-04	1.8E-04	3.6E-04	1.8E-04
3	3	0.0025	0.0003	0.0005	2.5E-04	1.7E-04	2.5E-04	4.5E-05	2.7E-04	1.7E-04	3.3E-04	1.7E-04
4	4	0.0023	0.0003	0.0004	2.3E-04	1.6E-04	2.3E-04	4.1E-05	2.5E-04	1.5E-04	3.1E-04	1.5E-04
5	5	0.0021	0.0003	0.0004	2.1E-04	1.4E-04	2.1E-04	3.8E-05	2.3E-04	1.4E-04	2.8E-04	1.4E-04
6	6	0.0019	0.0003	0.0004	2.0E-04	1.3E-04	1.9E-04	3.5E-05	2.1E-04	1.3E-04	2.6E-04	1.3E-04
7	7	0.0036	0.0005	0.0007	3.7E-04	2.5E-04	3.7E-04	6.6E-05	4.0E-04	2.5E-04	4.9E-04	2.5E-04
8	8	0.0033	0.0005	0.0006	3.4E-04	2.3E-04	3.4E-04	6.1E-05	3.7E-04	2.3E-04	4.5E-04	2.3E-04
9	9	0.0029	0.0004	0.0005	3.0E-04	2.0E-04	3.0E-04	5.3E-05	3.2E-04	2.0E-04	4.0E-04	2.0E-04
10	10	0.0027	0.0004	0.0005	2.8E-04	1.9E-04	2.8E-04	5.0E-05	3.0E-04	1.9E-04	3.7E-04	1.9E-04
11	11	0.0024	0.0003	0.0004	2.4E-04	1.6E-04	2.4E-04	4.4E-05	2.6E-04	1.6E-04	3.2E-04	1.6E-04
12	12	0.0022	0.0003	0.0004	2.3E-04	1.5E-04	2.3E-04	4.1E-05	2.5E-04	1.5E-04	3.0E-04	1.5E-04
13	13	0.0021	0.0003	0.0004	2.2E-04	1.5E-04	2.1E-04	3.8E-05	2.3E-04	1.4E-04	2.9E-04	1.4E-04
14	14	0.0040	0.0006	0.0007	4.1E-04	2.8E-04	4.0E-04	7.3E-05	4.4E-04	2.7E-04	5.4E-04	2.7E-04
15	15	0.0037	0.0005	0.0007	3.8E-04	2.6E-04	3.8E-04	6.8E-05	4.1E-04	2.5E-04	5.1E-04	2.5E-04
16	16	0.0033	0.0005	0.0006	3.4E-04	2.3E-04	3.4E-04	6.1E-05	3.7E-04	2.3E-04	4.5E-04	2.3E-04
17	17	0.0029	0.0004	0.0005	3.0E-04	2.0E-04	3.0E-04	5.4E-05	3.3E-04	2.0E-04	4.0E-04	2.0E-04
18	18	0.0027	0.0004	0.0005	2.7E-04	1.8E-04	2.7E-04	4.9E-05	3.0E-04	1.8E-04	3.6E-04	1.8E-04
19	19	0.0024	0.0003	0.0005	2.5E-04	1.7E-04	2.5E-04	4.4E-05	2.7E-04	1.7E-04	3.3E-04	1.7E-04
20	20	0.0023	0.0003	0.0004	2.3E-04	1.6E-04	2.3E-04	4.1E-05	2.5E-04	1.5E-04	3.1E-04	1.5E-04
21	21	0.0088	0.0013	0.0016	9.0E-04	6.1E-04	8.9E-04	1.6E-04	9.7E-04	6.0E-04	1.2E-03	6.0E-04
22	22	0.0101	0.0014	0.0019	1.0E-03	6.9E-04	1.0E-03	1.8E-04	1.1E-03	6.9E-04	1.4E-03	6.9E-04
23	23	0.0108	0.0015	0.0020	1.1E-03	7.5E-04	1.1E-03	2.0E-04	1.2E-03	7.4E-04	1.5E-03	7.4E-04
24	24	0.0111	0.0016	0.0021	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
25	25	0.0123	0.0017	0.0023	1.3E-03	8.5E-04	1.2E-03	2.2E-04	1.4E-03	8.3E-04	1.7E-03	8.3E-04
26	26	0.0120	0.0017	0.0022	1.2E-03	8.2E-04	1.2E-03	2.2E-04	1.3E-03	8.1E-04	1.6E-03	8.1E-04
27	27	0.0110	0.0016	0.0020	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
28	28	0.0098	0.0014	0.0018	1.0E-03	6.7E-04	9.9E-04	1.8E-04	1.1E-03	6.7E-04	1.3E-03	6.7E-04
29	29	0.0083	0.0012	0.0015	8.5E-04	5.7E-04	8.4E-04	1.5E-04	9.2E-04	5.6E-04	1.1E-03	5.6E-04
30	30	0.0054	0.0008	0.0010	5.5E-04	3.7E-04	5.5E-04	9.9E-05	6.0E-04	3.7E-04	7.4E-04	3.7E-04

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
31	31	0.0050	0.0007	0.0009	5.1E-04	3.5E-04	5.1E-04	9.1E-05	5.5E-04	3.4E-04	6.8E-04	3.4E-04
32	32	0.0041	0.0006	0.0008	4.2E-04	2.8E-04	4.1E-04	7.5E-05	4.5E-04	2.8E-04	5.6E-04	2.8E-04
33	33	0.0039	0.0006	0.0007	4.0E-04	2.7E-04	3.9E-04	7.1E-05	4.3E-04	2.6E-04	5.3E-04	2.6E-04
34	34	0.0032	0.0005	0.0006	3.3E-04	2.2E-04	3.3E-04	5.9E-05	3.6E-04	2.2E-04	4.4E-04	2.2E-04
35	35	0.0030	0.0004	0.0006	3.0E-04	2.1E-04	3.0E-04	5.4E-05	3.3E-04	2.0E-04	4.1E-04	2.0E-04
36	36	0.0027	0.0004	0.0005	2.7E-04	1.8E-04	2.7E-04	4.9E-05	2.9E-04	1.8E-04	3.6E-04	1.8E-04
37	37	0.0025	0.0004	0.0005	2.6E-04	1.7E-04	2.6E-04	4.6E-05	2.8E-04	1.7E-04	3.4E-04	1.7E-04
38	38	0.0119	0.0017	0.0022	1.2E-03	8.2E-04	1.2E-03	2.2E-04	1.3E-03	8.1E-04	1.6E-03	8.1E-04
39	39	0.0108	0.0015	0.0020	1.1E-03	7.4E-04	1.1E-03	2.0E-04	1.2E-03	7.3E-04	1.5E-03	7.3E-04
40	40	0.0115	0.0016	0.0021	1.2E-03	7.9E-04	1.2E-03	2.1E-04	1.3E-03	7.8E-04	1.6E-03	7.8E-04
41	41	0.0118	0.0017	0.0022	1.2E-03	8.1E-04	1.2E-03	2.1E-04	1.3E-03	8.0E-04	1.6E-03	8.0E-04
42	42	0.0124	0.0018	0.0023	1.3E-03	8.5E-04	1.3E-03	2.3E-04	1.4E-03	8.4E-04	1.7E-03	8.4E-04
43	43	0.0128	0.0018	0.0024	1.3E-03	8.8E-04	1.3E-03	2.3E-04	1.4E-03	8.7E-04	1.7E-03	8.7E-04
44	44	0.0122	0.0017	0.0023	1.2E-03	8.4E-04	1.2E-03	2.2E-04	1.3E-03	8.3E-04	1.7E-03	8.3E-04
45	45	0.0108	0.0015	0.0020	1.1E-03	7.4E-04	1.1E-03	2.0E-04	1.2E-03	7.3E-04	1.5E-03	7.3E-04
46	46	0.0092	0.0013	0.0017	9.4E-04	6.4E-04	9.3E-04	1.7E-04	1.0E-03	6.3E-04	1.3E-03	6.3E-04
47	47	0.0084	0.0012	0.0016	8.6E-04	5.8E-04	8.5E-04	1.5E-04	9.3E-04	5.7E-04	1.1E-03	5.7E-04
48	48	0.0066	0.0009	0.0012	6.8E-04	4.6E-04	6.7E-04	1.2E-04	7.3E-04	4.5E-04	9.0E-04	4.5E-04
49	49	0.0057	0.0008	0.0011	5.8E-04	3.9E-04	5.8E-04	1.0E-04	6.3E-04	3.9E-04	7.8E-04	3.9E-04
50	50	0.0052	0.0007	0.0010	5.3E-04	3.6E-04	5.2E-04	9.4E-05	5.7E-04	3.5E-04	7.0E-04	3.5E-04
51	51	0.0047	0.0007	0.0009	4.7E-04	3.2E-04	4.7E-04	8.5E-05	5.1E-04	3.2E-04	6.3E-04	3.2E-04
52	52	0.0037	0.0005	0.0007	3.8E-04	2.6E-04	3.7E-04	6.7E-05	4.1E-04	2.5E-04	5.0E-04	2.5E-04
53	53	0.0033	0.0005	0.0006	3.3E-04	2.3E-04	3.3E-04	6.0E-05	3.6E-04	2.2E-04	4.4E-04	2.2E-04
54	54	0.0030	0.0004	0.0006	3.1E-04	2.1E-04	3.0E-04	5.5E-05	3.3E-04	2.0E-04	4.1E-04	2.0E-04
55	55	0.0031	0.0004	0.0006	3.1E-04	2.1E-04	3.1E-04	5.6E-05	3.4E-04	2.1E-04	4.2E-04	2.1E-04
56	56	0.0112	0.0016	0.0021	1.1E-03	7.7E-04	1.1E-03	2.0E-04	1.2E-03	7.6E-04	1.5E-03	7.6E-04
57	57	0.0114	0.0016	0.0021	1.2E-03	7.9E-04	1.2E-03	2.1E-04	1.3E-03	7.8E-04	1.6E-03	7.8E-04
58	58	0.0118	0.0017	0.0022	1.2E-03	8.1E-04	1.2E-03	2.2E-04	1.3E-03	8.0E-04	1.6E-03	8.0E-04
59	59	0.0137	0.0020	0.0026	1.4E-03	9.5E-04	1.4E-03	2.5E-04	1.5E-03	9.3E-04	1.9E-03	9.3E-04
60	60	0.0139	0.0020	0.0026	1.4E-03	9.6E-04	1.4E-03	2.5E-04	1.5E-03	9.5E-04	1.9E-03	9.5E-04

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
61	61	0.0148	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
62	62	0.0145	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.6E-04	1.6E-03	9.9E-04	2.0E-03	9.9E-04
63	63	0.0126	0.0018	0.0023	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
64	64	0.0114	0.0016	0.0021	1.2E-03	7.8E-04	1.1E-03	2.1E-04	1.3E-03	7.7E-04	1.5E-03	7.7E-04
65	65	0.0093	0.0013	0.0017	9.5E-04	6.4E-04	9.4E-04	1.7E-04	1.0E-03	6.3E-04	1.3E-03	6.3E-04
66	66	0.0094	0.0013	0.0017	9.6E-04	6.5E-04	9.5E-04	1.7E-04	1.0E-03	6.4E-04	1.3E-03	6.4E-04
67	67	0.0066	0.0009	0.0012	6.7E-04	4.6E-04	6.7E-04	1.2E-04	7.3E-04	4.5E-04	9.0E-04	4.5E-04
68	68	0.0059	0.0008	0.0011	6.0E-04	4.1E-04	6.0E-04	1.1E-04	6.5E-04	4.0E-04	8.0E-04	4.0E-04
69	69	0.0054	0.0008	0.0010	5.5E-04	3.7E-04	5.5E-04	9.9E-05	6.0E-04	3.7E-04	7.4E-04	3.7E-04
70	70	0.0053	0.0007	0.0010	5.4E-04	3.6E-04	5.3E-04	9.6E-05	5.8E-04	3.6E-04	7.1E-04	3.6E-04
71	71	0.0041	0.0006	0.0008	4.2E-04	2.8E-04	4.2E-04	7.5E-05	4.5E-04	2.8E-04	5.6E-04	2.8E-04
72	72	0.0038	0.0005	0.0007	3.9E-04	2.6E-04	3.9E-04	7.0E-05	4.2E-04	2.6E-04	5.2E-04	2.6E-04
73	73	0.0044	0.0006	0.0008	4.5E-04	3.0E-04	4.5E-04	8.1E-05	4.9E-04	3.0E-04	6.0E-04	3.0E-04
74	74	0.0126	0.0018	0.0023	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
75	75	0.0131	0.0019	0.0024	1.3E-03	9.0E-04	1.3E-03	2.4E-04	1.4E-03	8.9E-04	1.8E-03	8.9E-04
76	76	0.0132	0.0019	0.0024	1.3E-03	9.1E-04	1.3E-03	2.4E-04	1.5E-03	8.9E-04	1.8E-03	8.9E-04
77	77	0.0148	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
78	78	0.0170	0.0024	0.0032	1.7E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
79	79	0.0179	0.0025	0.0033	1.8E-03	1.2E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.4E-03	1.2E-03
80	80	0.0182	0.0026	0.0034	1.9E-03	1.3E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.5E-03	1.2E-03
81	81	0.0166	0.0024	0.0031	1.7E-03	1.1E-03	1.7E-03	3.0E-04	1.8E-03	1.1E-03	2.3E-03	1.1E-03
82	82	0.0143	0.0020	0.0027	1.5E-03	9.8E-04	1.4E-03	2.6E-04	1.6E-03	9.7E-04	1.9E-03	9.7E-04
83	83	0.0120	0.0017	0.0022	1.2E-03	8.3E-04	1.2E-03	2.2E-04	1.3E-03	8.2E-04	1.6E-03	8.2E-04
84	84	0.0137	0.0019	0.0025	1.4E-03	9.4E-04	1.4E-03	2.5E-04	1.5E-03	9.3E-04	1.9E-03	9.3E-04
85	85	0.0070	0.0010	0.0013	7.1E-04	4.8E-04	7.0E-04	1.3E-04	7.7E-04	4.7E-04	9.4E-04	4.7E-04
86	86	0.0063	0.0009	0.0012	6.5E-04	4.4E-04	6.4E-04	1.2E-04	7.0E-04	4.3E-04	8.6E-04	4.3E-04
87	87	0.0061	0.0009	0.0011	6.2E-04	4.2E-04	6.1E-04	1.1E-04	6.7E-04	4.1E-04	8.2E-04	4.1E-04
88	88	0.0058	0.0008	0.0011	5.9E-04	4.0E-04	5.8E-04	1.0E-04	6.3E-04	3.9E-04	7.8E-04	3.9E-04
89	89	0.0054	0.0008	0.0010	5.5E-04	3.7E-04	5.5E-04	9.9E-05	6.0E-04	3.7E-04	7.4E-04	3.7E-04
90	90	0.0052	0.0007	0.0010	5.3E-04	3.6E-04	5.2E-04	9.4E-05	5.7E-04	3.5E-04	7.0E-04	3.5E-04

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
91	91	0.0154	0.0022	0.0029	1.6E-03	1.1E-03	1.6E-03	2.8E-04	1.7E-03	1.0E-03	2.1E-03	1.0E-03
92	92	0.0157	0.0022	0.0029	1.6E-03	1.1E-03	1.6E-03	2.9E-04	1.7E-03	1.1E-03	2.1E-03	1.1E-03
93	93	0.0180	0.0026	0.0033	1.8E-03	1.2E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.4E-03	1.2E-03
94	94	0.0190	0.0027	0.0035	1.9E-03	1.3E-03	1.9E-03	3.5E-04	2.1E-03	1.3E-03	2.6E-03	1.3E-03
95	95	0.0209	0.0030	0.0039	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
96	96	0.0226	0.0032	0.0042	2.3E-03	1.6E-03	2.3E-03	4.1E-04	2.5E-03	1.5E-03	3.1E-03	1.5E-03
97	97	0.0210	0.0030	0.0039	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
98	98	0.0182	0.0026	0.0034	1.9E-03	1.3E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.5E-03	1.2E-03
99	99	0.0178	0.0025	0.0033	1.8E-03	1.2E-03	1.8E-03	3.2E-04	2.0E-03	1.2E-03	2.4E-03	1.2E-03
100	100	0.0089	0.0013	0.0016	9.0E-04	6.1E-04	9.0E-04	1.6E-04	9.8E-04	6.0E-04	1.2E-03	6.0E-04
101	101	0.0074	0.0011	0.0014	7.5E-04	5.1E-04	7.5E-04	1.3E-04	8.2E-04	5.0E-04	1.0E-03	5.0E-04
102	102	0.0069	0.0010	0.0013	7.1E-04	4.8E-04	7.0E-04	1.3E-04	7.7E-04	4.7E-04	9.4E-04	4.7E-04
103	103	0.0066	0.0009	0.0012	6.7E-04	4.5E-04	6.7E-04	1.2E-04	7.3E-04	4.5E-04	9.0E-04	4.5E-04
104	104	0.0061	0.0009	0.0011	6.3E-04	4.2E-04	6.2E-04	1.1E-04	6.8E-04	4.2E-04	8.3E-04	4.2E-04
105	105	0.0055	0.0008	0.0010	5.7E-04	3.8E-04	5.6E-04	1.0E-04	6.1E-04	3.8E-04	7.5E-04	3.8E-04
106	106	0.0163	0.0023	0.0030	1.7E-03	1.1E-03	1.6E-03	3.0E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03
107	107	0.0168	0.0024	0.0031	1.7E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.1E-03	2.3E-03	1.1E-03
108	108	0.0190	0.0027	0.0035	1.9E-03	1.3E-03	1.9E-03	3.5E-04	2.1E-03	1.3E-03	2.6E-03	1.3E-03
109	109	0.0198	0.0028	0.0037	2.0E-03	1.4E-03	2.0E-03	3.6E-04	2.2E-03	1.3E-03	2.7E-03	1.3E-03
110	110	0.0228	0.0032	0.0042	2.3E-03	1.6E-03	2.3E-03	4.1E-04	2.5E-03	1.5E-03	3.1E-03	1.5E-03
111	111	0.0263	0.0037	0.0049	2.7E-03	1.8E-03	2.7E-03	4.8E-04	2.9E-03	1.8E-03	3.6E-03	1.8E-03
112	112	0.0284	0.0040	0.0053	2.9E-03	2.0E-03	2.9E-03	5.2E-04	3.1E-03	1.9E-03	3.9E-03	1.9E-03
113	113	0.0286	0.0041	0.0053	2.9E-03	2.0E-03	2.9E-03	5.2E-04	3.2E-03	1.9E-03	3.9E-03	1.9E-03
114	114	0.0274	0.0039	0.0051	2.8E-03	1.9E-03	2.8E-03	5.0E-04	3.0E-03	1.9E-03	3.7E-03	1.9E-03
115	115	0.0082	0.0012	0.0015	8.4E-04	5.7E-04	8.3E-04	1.5E-04	9.1E-04	5.6E-04	1.1E-03	5.6E-04
116	116	0.0079	0.0011	0.0015	8.1E-04	5.5E-04	8.0E-04	1.4E-04	8.8E-04	5.4E-04	1.1E-03	5.4E-04
117	117	0.0077	0.0011	0.0014	7.9E-04	5.3E-04	7.8E-04	1.4E-04	8.5E-04	5.2E-04	1.0E-03	5.2E-04
118	118	0.0067	0.0010	0.0013	6.9E-04	4.6E-04	6.8E-04	1.2E-04	7.4E-04	4.6E-04	9.2E-04	4.6E-04
119	119	0.0057	0.0008	0.0011	5.8E-04	3.9E-04	5.8E-04	1.0E-04	6.3E-04	3.9E-04	7.8E-04	3.9E-04
120	120	0.0187	0.0027	0.0035	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.1E-03	1.3E-03	2.5E-03	1.3E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
121	121	0.0174	0.0025	0.0032	1.8E-03	1.2E-03	1.8E-03	3.2E-04	1.9E-03	1.2E-03	2.4E-03	1.2E-03
122	122	0.0199	0.0028	0.0037	2.0E-03	1.4E-03	2.0E-03	3.6E-04	2.2E-03	1.3E-03	2.7E-03	1.3E-03
123	123	0.0235	0.0033	0.0044	2.4E-03	1.6E-03	2.4E-03	4.3E-04	2.6E-03	1.6E-03	3.2E-03	1.6E-03
124	124	0.0279	0.0040	0.0052	2.8E-03	1.9E-03	2.8E-03	5.1E-04	3.1E-03	1.9E-03	3.8E-03	1.9E-03
125	125	0.0318	0.0045	0.0059	3.2E-03	2.2E-03	3.2E-03	5.8E-04	3.5E-03	2.2E-03	4.3E-03	2.2E-03
126	126	0.0396	0.0056	0.0074	4.0E-03	2.7E-03	4.0E-03	7.2E-04	4.4E-03	2.7E-03	5.4E-03	2.7E-03
127	127	0.0473	0.0067	0.0088	4.8E-03	3.3E-03	4.8E-03	8.6E-04	5.2E-03	3.2E-03	6.4E-03	3.2E-03
128	128	0.0132	0.0019	0.0025	1.3E-03	9.1E-04	1.3E-03	2.4E-04	1.5E-03	9.0E-04	1.8E-03	9.0E-04
129	129	0.0111	0.0016	0.0021	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
130	130	0.0094	0.0013	0.0017	9.6E-04	6.5E-04	9.5E-04	1.7E-04	1.0E-03	6.4E-04	1.3E-03	6.4E-04
131	131	0.0076	0.0011	0.0014	7.8E-04	5.3E-04	7.7E-04	1.4E-04	8.4E-04	5.2E-04	1.0E-03	5.2E-04
132	132	0.0053	0.0007	0.0010	5.4E-04	3.6E-04	5.3E-04	9.6E-05	5.8E-04	3.6E-04	7.1E-04	3.6E-04
133	133	0.0171	0.0024	0.0032	1.7E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
134	134	0.0216	0.0031	0.0040	2.2E-03	1.5E-03	2.2E-03	3.9E-04	2.4E-03	1.5E-03	2.9E-03	1.5E-03
135	135	0.0272	0.0039	0.0051	2.8E-03	1.9E-03	2.8E-03	5.0E-04	3.0E-03	1.9E-03	3.7E-03	1.9E-03
136	136	0.0317	0.0045	0.0059	3.2E-03	2.2E-03	3.2E-03	5.8E-04	3.5E-03	2.2E-03	4.3E-03	2.2E-03
137	137	0.0388	0.0055	0.0072	4.0E-03	2.7E-03	3.9E-03	7.1E-04	4.3E-03	2.6E-03	5.3E-03	2.6E-03
138	138	0.0546	0.0077	0.0101	5.6E-03	3.8E-03	5.5E-03	9.9E-04	6.0E-03	3.7E-03	7.4E-03	3.7E-03
139	139	0.1149	0.0163	0.0214	1.2E-02	7.9E-03	1.2E-02	2.1E-03	1.3E-02	7.8E-03	1.6E-02	7.8E-03
140	140	0.0135	0.0019	0.0025	1.4E-03	9.3E-04	1.4E-03	2.5E-04	1.5E-03	9.2E-04	1.8E-03	9.2E-04
141	141	0.0106	0.0015	0.0020	1.1E-03	7.3E-04	1.1E-03	1.9E-04	1.2E-03	7.2E-04	1.4E-03	7.2E-04
142	142	0.0088	0.0012	0.0016	9.0E-04	6.0E-04	8.9E-04	1.6E-04	9.7E-04	6.0E-04	1.2E-03	6.0E-04
143	143	0.0059	0.0008	0.0011	6.0E-04	4.0E-04	5.9E-04	1.1E-04	6.5E-04	4.0E-04	8.0E-04	4.0E-04
144	144	0.0252	0.0036	0.0047	2.6E-03	1.7E-03	2.6E-03	4.6E-04	2.8E-03	1.7E-03	3.4E-03	1.7E-03
145	145	0.0332	0.0047	0.0062	3.4E-03	2.3E-03	3.4E-03	6.0E-04	3.7E-03	2.3E-03	4.5E-03	2.3E-03
146	146	0.0399	0.0057	0.0074	4.1E-03	2.7E-03	4.0E-03	7.3E-04	4.4E-03	2.7E-03	5.4E-03	2.7E-03
147	147	0.0532	0.0076	0.0099	5.4E-03	3.7E-03	5.4E-03	9.7E-04	5.9E-03	3.6E-03	7.2E-03	3.6E-03
148	148	0.0783	0.0111	0.0146	8.0E-03	5.4E-03	7.9E-03	1.4E-03	8.6E-03	5.3E-03	1.1E-02	5.3E-03
149	149	0.0706	0.0100	0.0131	7.2E-03	4.9E-03	7.1E-03	1.3E-03	7.8E-03	4.8E-03	9.6E-03	4.8E-03
150	150	0.0409	0.0058	0.0076	4.2E-03	2.8E-03	4.1E-03	7.4E-04	4.5E-03	2.8E-03	5.6E-03	2.8E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
151	151	0.0303	0.0043	0.0056	3.1E-03	2.1E-03	3.1E-03	5.5E-04	3.3E-03	2.1E-03	4.1E-03	2.1E-03
152	152	0.0246	0.0035	0.0046	2.5E-03	1.7E-03	2.5E-03	4.5E-04	2.7E-03	1.7E-03	3.3E-03	1.7E-03
153	153	0.0143	0.0020	0.0027	1.5E-03	9.8E-04	1.4E-03	2.6E-04	1.6E-03	9.7E-04	1.9E-03	9.7E-04
154	154	0.0117	0.0017	0.0022	1.2E-03	8.0E-04	1.2E-03	2.1E-04	1.3E-03	7.9E-04	1.6E-03	7.9E-04
155	155	0.0095	0.0014	0.0018	9.7E-04	6.5E-04	9.6E-04	1.7E-04	1.0E-03	6.5E-04	1.3E-03	6.5E-04
156	156	0.0081	0.0012	0.0015	8.3E-04	5.6E-04	8.2E-04	1.5E-04	9.0E-04	5.5E-04	1.1E-03	5.5E-04
157	157	0.0672	0.0095	0.0125	6.9E-03	4.6E-03	6.8E-03	1.2E-03	7.4E-03	4.6E-03	9.1E-03	4.6E-03
158	158	0.0757	0.0107	0.0141	7.7E-03	5.2E-03	7.6E-03	1.4E-03	8.4E-03	5.1E-03	1.0E-02	5.1E-03
159	159	0.0913	0.0130	0.0170	9.3E-03	6.3E-03	9.2E-03	1.7E-03	1.0E-02	6.2E-03	1.2E-02	6.2E-03
160	160	0.0509	0.0072	0.0095	5.2E-03	3.5E-03	5.1E-03	9.3E-04	5.6E-03	3.5E-03	6.9E-03	3.5E-03
161	161	0.0332	0.0047	0.0062	3.4E-03	2.3E-03	3.4E-03	6.0E-04	3.7E-03	2.3E-03	4.5E-03	2.3E-03
162	162	0.0244	0.0035	0.0045	2.5E-03	1.7E-03	2.5E-03	4.4E-04	2.7E-03	1.7E-03	3.3E-03	1.7E-03
163	163	0.0118	0.0017	0.0022	1.2E-03	8.1E-04	1.2E-03	2.1E-04	1.3E-03	8.0E-04	1.6E-03	8.0E-04
164	164	0.0103	0.0015	0.0019	1.1E-03	7.1E-04	1.0E-03	1.9E-04	1.1E-03	7.0E-04	1.4E-03	7.0E-04
165	165	0.0086	0.0012	0.0016	8.8E-04	6.0E-04	8.7E-04	1.6E-04	9.5E-04	5.9E-04	1.2E-03	5.9E-04
166	166	0.1075	0.0153	0.0200	1.1E-02	7.4E-03	1.1E-02	2.0E-03	1.2E-02	7.3E-03	1.5E-02	7.3E-03
167	167	0.0591	0.0084	0.0110	6.0E-03	4.1E-03	6.0E-03	1.1E-03	6.5E-03	4.0E-03	8.0E-03	4.0E-03
168	168	0.0405	0.0058	0.0075	4.1E-03	2.8E-03	4.1E-03	7.4E-04	4.5E-03	2.8E-03	5.5E-03	2.8E-03
169	169	0.0287	0.0041	0.0053	2.9E-03	2.0E-03	2.9E-03	5.2E-04	3.2E-03	1.9E-03	3.9E-03	1.9E-03
170	170	0.0218	0.0031	0.0041	2.2E-03	1.5E-03	2.2E-03	4.0E-04	2.4E-03	1.5E-03	3.0E-03	1.5E-03
171	171	0.0137	0.0019	0.0025	1.4E-03	9.4E-04	1.4E-03	2.5E-04	1.5E-03	9.3E-04	1.9E-03	9.3E-04
172	172	0.0104	0.0015	0.0019	1.1E-03	7.1E-04	1.0E-03	1.9E-04	1.1E-03	7.1E-04	1.4E-03	7.1E-04
173	173	0.0086	0.0012	0.0016	8.8E-04	5.9E-04	8.7E-04	1.6E-04	9.5E-04	5.8E-04	1.2E-03	5.8E-04
174	174	0.1721	0.0244	0.0320	1.8E-02	1.2E-02	1.7E-02	3.1E-03	1.9E-02	1.2E-02	2.3E-02	1.2E-02
175	175	0.1086	0.0154	0.0202	1.1E-02	7.5E-03	1.1E-02	2.0E-03	1.2E-02	7.4E-03	1.5E-02	7.4E-03
176	176	0.0671	0.0095	0.0125	6.8E-03	4.6E-03	6.8E-03	1.2E-03	7.4E-03	4.6E-03	9.1E-03	4.6E-03
177	177	0.0455	0.0065	0.0085	4.6E-03	3.1E-03	4.6E-03	8.3E-04	5.0E-03	3.1E-03	6.2E-03	3.1E-03
178	178	0.0321	0.0046	0.0060	3.3E-03	2.2E-03	3.2E-03	5.8E-04	3.5E-03	2.2E-03	4.4E-03	2.2E-03
179	179	0.0233	0.0033	0.0043	2.4E-03	1.6E-03	2.4E-03	4.2E-04	2.6E-03	1.6E-03	3.2E-03	1.6E-03
180	180	0.0180	0.0026	0.0033	1.8E-03	1.2E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.4E-03	1.2E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
181	181	0.0125	0.0018	0.0023	1.3E-03	8.6E-04	1.3E-03	2.3E-04	1.4E-03	8.5E-04	1.7E-03	8.5E-04
182	182	0.0102	0.0014	0.0019	1.0E-03	7.0E-04	1.0E-03	1.9E-04	1.1E-03	6.9E-04	1.4E-03	6.9E-04
183	183	0.1438	0.0204	0.0267	1.5E-02	9.9E-03	1.5E-02	2.6E-03	1.6E-02	9.8E-03	2.0E-02	9.8E-03
184	184	0.1018	0.0145	0.0189	1.0E-02	7.0E-03	1.0E-02	1.9E-03	1.1E-02	6.9E-03	1.4E-02	6.9E-03
185	185	0.0710	0.0101	0.0132	7.2E-03	4.9E-03	7.2E-03	1.3E-03	7.8E-03	4.8E-03	9.6E-03	4.8E-03
186	186	0.0485	0.0069	0.0090	4.9E-03	3.3E-03	4.9E-03	8.8E-04	5.4E-03	3.3E-03	6.6E-03	3.3E-03
187	187	0.0355	0.0050	0.0066	3.6E-03	2.4E-03	3.6E-03	6.5E-04	3.9E-03	2.4E-03	4.8E-03	2.4E-03
188	188	0.0263	0.0037	0.0049	2.7E-03	1.8E-03	2.7E-03	4.8E-04	2.9E-03	1.8E-03	3.6E-03	1.8E-03
189	189	0.0203	0.0029	0.0038	2.1E-03	1.4E-03	2.1E-03	3.7E-04	2.2E-03	1.4E-03	2.8E-03	1.4E-03
190	190	0.0162	0.0023	0.0030	1.6E-03	1.1E-03	1.6E-03	2.9E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03
191	191	0.1675	0.0238	0.0311	1.7E-02	1.2E-02	1.7E-02	3.0E-03	1.8E-02	1.1E-02	2.3E-02	1.1E-02
192	192	0.1212	0.0172	0.0225	1.2E-02	8.3E-03	1.2E-02	2.2E-03	1.3E-02	8.2E-03	1.6E-02	8.2E-03
193	193	0.0897	0.0127	0.0167	9.1E-03	6.2E-03	9.1E-03	1.6E-03	9.9E-03	6.1E-03	1.2E-02	6.1E-03
194	194	0.0670	0.0095	0.0125	6.8E-03	4.6E-03	6.8E-03	1.2E-03	7.4E-03	4.6E-03	9.1E-03	4.6E-03
195	195	0.0495	0.0070	0.0092	5.0E-03	3.4E-03	5.0E-03	9.0E-04	5.5E-03	3.4E-03	6.7E-03	3.4E-03
196	196	0.0370	0.0053	0.0069	3.8E-03	2.5E-03	3.7E-03	6.7E-04	4.1E-03	2.5E-03	5.0E-03	2.5E-03
197	197	0.0286	0.0041	0.0053	2.9E-03	2.0E-03	2.9E-03	5.2E-04	3.2E-03	1.9E-03	3.9E-03	1.9E-03
198	198	0.0219	0.0031	0.0041	2.2E-03	1.5E-03	2.2E-03	4.0E-04	2.4E-03	1.5E-03	3.0E-03	1.5E-03
199	199	0.0176	0.0025	0.0033	1.8E-03	1.2E-03	1.8E-03	3.2E-04	1.9E-03	1.2E-03	2.4E-03	1.2E-03
200	200	0.0145	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.6E-04	1.6E-03	9.9E-04	2.0E-03	9.9E-04
201	201	0.0654	0.0093	0.0122	6.7E-03	4.5E-03	6.6E-03	1.2E-03	7.2E-03	4.4E-03	8.9E-03	4.4E-03
202	202	0.0996	0.0141	0.0185	1.0E-02	6.9E-03	1.0E-02	1.8E-03	1.1E-02	6.8E-03	1.4E-02	6.8E-03
203	203	0.1180	0.0168	0.0219	1.2E-02	8.1E-03	1.2E-02	2.1E-03	1.3E-02	8.0E-03	1.6E-02	8.0E-03
204	204	0.1283	0.0182	0.0239	1.3E-02	8.8E-03	1.3E-02	2.3E-03	1.4E-02	8.7E-03	1.7E-02	8.7E-03
205	205	0.1186	0.0168	0.0221	1.2E-02	8.2E-03	1.2E-02	2.2E-03	1.3E-02	8.1E-03	1.6E-02	8.1E-03
206	206	0.0982	0.0139	0.0183	1.0E-02	6.8E-03	9.9E-03	1.8E-03	1.1E-02	6.7E-03	1.3E-02	6.7E-03
207	207	0.0790	0.0112	0.0147	8.1E-03	5.4E-03	8.0E-03	1.4E-03	8.7E-03	5.4E-03	1.1E-02	5.4E-03
208	208	0.0623	0.0088	0.0116	6.3E-03	4.3E-03	6.3E-03	1.1E-03	6.9E-03	4.2E-03	8.5E-03	4.2E-03
209	209	0.0481	0.0068	0.0089	4.9E-03	3.3E-03	4.9E-03	8.7E-04	5.3E-03	3.3E-03	6.5E-03	3.3E-03
210	210	0.0375	0.0053	0.0070	3.8E-03	2.6E-03	3.8E-03	6.8E-04	4.1E-03	2.6E-03	5.1E-03	2.6E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
211	211	0.0295	0.0042	0.0055	3.0E-03	2.0E-03	3.0E-03	5.4E-04	3.3E-03	2.0E-03	4.0E-03	2.0E-03
212	212	0.0231	0.0033	0.0043	2.4E-03	1.6E-03	2.3E-03	4.2E-04	2.5E-03	1.6E-03	3.1E-03	1.6E-03
213	213	0.0189	0.0027	0.0035	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.1E-03	1.3E-03	2.6E-03	1.3E-03
214	214	0.0151	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.7E-03	1.0E-03	2.0E-03	1.0E-03
215	215	0.0126	0.0018	0.0023	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
216	216	0.0304	0.0043	0.0057	3.1E-03	2.1E-03	3.1E-03	5.5E-04	3.4E-03	2.1E-03	4.1E-03	2.1E-03
217	217	0.0352	0.0050	0.0065	3.6E-03	2.4E-03	3.6E-03	6.4E-04	3.9E-03	2.4E-03	4.8E-03	2.4E-03
218	218	0.0485	0.0069	0.0090	4.9E-03	3.3E-03	4.9E-03	8.8E-04	5.4E-03	3.3E-03	6.6E-03	3.3E-03
219	219	0.0622	0.0088	0.0116	6.3E-03	4.3E-03	6.3E-03	1.1E-03	6.9E-03	4.2E-03	8.4E-03	4.2E-03
220	220	0.0734	0.0104	0.0136	7.5E-03	5.1E-03	7.4E-03	1.3E-03	8.1E-03	5.0E-03	1.0E-02	5.0E-03
221	221	0.0780	0.0111	0.0145	7.9E-03	5.4E-03	7.9E-03	1.4E-03	8.6E-03	5.3E-03	1.1E-02	5.3E-03
222	222	0.0749	0.0106	0.0139	7.6E-03	5.2E-03	7.6E-03	1.4E-03	8.3E-03	5.1E-03	1.0E-02	5.1E-03
223	223	0.0656	0.0093	0.0122	6.7E-03	4.5E-03	6.6E-03	1.2E-03	7.2E-03	4.5E-03	8.9E-03	4.5E-03
224	224	0.0548	0.0078	0.0102	5.6E-03	3.8E-03	5.5E-03	1.0E-03	6.0E-03	3.7E-03	7.4E-03	3.7E-03
225	225	0.0444	0.0063	0.0083	4.5E-03	3.1E-03	4.5E-03	8.1E-04	4.9E-03	3.0E-03	6.0E-03	3.0E-03
226	226	0.0357	0.0051	0.0066	3.6E-03	2.5E-03	3.6E-03	6.5E-04	3.9E-03	2.4E-03	4.8E-03	2.4E-03
227	227	0.0290	0.0041	0.0054	3.0E-03	2.0E-03	2.9E-03	5.3E-04	3.2E-03	2.0E-03	3.9E-03	2.0E-03
228	228	0.0234	0.0033	0.0044	2.4E-03	1.6E-03	2.4E-03	4.3E-04	2.6E-03	1.6E-03	3.2E-03	1.6E-03
229	229	0.0190	0.0027	0.0035	1.9E-03	1.3E-03	1.9E-03	3.5E-04	2.1E-03	1.3E-03	2.6E-03	1.3E-03
230	230	0.0156	0.0022	0.0029	1.6E-03	1.1E-03	1.6E-03	2.8E-04	1.7E-03	1.1E-03	2.1E-03	1.1E-03
231	231	0.0125	0.0018	0.0023	1.3E-03	8.6E-04	1.3E-03	2.3E-04	1.4E-03	8.5E-04	1.7E-03	8.5E-04
232	232	0.0213	0.0030	0.0040	2.2E-03	1.5E-03	2.2E-03	3.9E-04	2.4E-03	1.4E-03	2.9E-03	1.4E-03
233	233	0.0225	0.0032	0.0042	2.3E-03	1.5E-03	2.3E-03	4.1E-04	2.5E-03	1.5E-03	3.0E-03	1.5E-03
234	234	0.0297	0.0042	0.0055	3.0E-03	2.0E-03	3.0E-03	5.4E-04	3.3E-03	2.0E-03	4.0E-03	2.0E-03
235	235	0.0381	0.0054	0.0071	3.9E-03	2.6E-03	3.9E-03	6.9E-04	4.2E-03	2.6E-03	5.2E-03	2.6E-03
236	236	0.0466	0.0066	0.0087	4.8E-03	3.2E-03	4.7E-03	8.5E-04	5.1E-03	3.2E-03	6.3E-03	3.2E-03
237	237	0.0546	0.0077	0.0101	5.6E-03	3.8E-03	5.5E-03	9.9E-04	6.0E-03	3.7E-03	7.4E-03	3.7E-03
238	238	0.0556	0.0079	0.0103	5.7E-03	3.8E-03	5.6E-03	1.0E-03	6.1E-03	3.8E-03	7.6E-03	3.8E-03
239	239	0.0517	0.0073	0.0096	5.3E-03	3.6E-03	5.2E-03	9.4E-04	5.7E-03	3.5E-03	7.0E-03	3.5E-03
240	240	0.0459	0.0065	0.0085	4.7E-03	3.2E-03	4.6E-03	8.4E-04	5.1E-03	3.1E-03	6.2E-03	3.1E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
241	241	0.0389	0.0055	0.0072	4.0E-03	2.7E-03	3.9E-03	7.1E-04	4.3E-03	2.6E-03	5.3E-03	2.6E-03
242	242	0.0328	0.0047	0.0061	3.3E-03	2.3E-03	3.3E-03	6.0E-04	3.6E-03	2.2E-03	4.4E-03	2.2E-03
243	243	0.0273	0.0039	0.0051	2.8E-03	1.9E-03	2.8E-03	5.0E-04	3.0E-03	1.9E-03	3.7E-03	1.9E-03
244	244	0.0228	0.0032	0.0042	2.3E-03	1.6E-03	2.3E-03	4.2E-04	2.5E-03	1.6E-03	3.1E-03	1.6E-03
245	245	0.0185	0.0026	0.0034	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.0E-03	1.3E-03	2.5E-03	1.3E-03
246	246	0.0157	0.0022	0.0029	1.6E-03	1.1E-03	1.6E-03	2.9E-04	1.7E-03	1.1E-03	2.1E-03	1.1E-03
247	247	0.0127	0.0018	0.0024	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
248	248	0.0174	0.0025	0.0032	1.8E-03	1.2E-03	1.8E-03	3.2E-04	1.9E-03	1.2E-03	2.4E-03	1.2E-03
249	249	0.0172	0.0024	0.0032	1.8E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
250	250	0.0202	0.0029	0.0038	2.1E-03	1.4E-03	2.0E-03	3.7E-04	2.2E-03	1.4E-03	2.7E-03	1.4E-03
251	251	0.0259	0.0037	0.0048	2.6E-03	1.8E-03	2.6E-03	4.7E-04	2.9E-03	1.8E-03	3.5E-03	1.8E-03
252	252	0.0329	0.0047	0.0061	3.4E-03	2.3E-03	3.3E-03	6.0E-04	3.6E-03	2.2E-03	4.5E-03	2.2E-03
253	253	0.0383	0.0054	0.0071	3.9E-03	2.6E-03	3.9E-03	7.0E-04	4.2E-03	2.6E-03	5.2E-03	2.6E-03
254	254	0.0408	0.0058	0.0076	4.2E-03	2.8E-03	4.1E-03	7.4E-04	4.5E-03	2.8E-03	5.5E-03	2.8E-03
255	255	0.0405	0.0057	0.0075	4.1E-03	2.8E-03	4.1E-03	7.4E-04	4.5E-03	2.8E-03	5.5E-03	2.8E-03
256	256	0.0379	0.0054	0.0070	3.9E-03	2.6E-03	3.8E-03	6.9E-04	4.2E-03	2.6E-03	5.1E-03	2.6E-03
257	257	0.0338	0.0048	0.0063	3.4E-03	2.3E-03	3.4E-03	6.2E-04	3.7E-03	2.3E-03	4.6E-03	2.3E-03
258	258	0.0294	0.0042	0.0055	3.0E-03	2.0E-03	3.0E-03	5.3E-04	3.2E-03	2.0E-03	4.0E-03	2.0E-03
259	259	0.0252	0.0036	0.0047	2.6E-03	1.7E-03	2.5E-03	4.6E-04	2.8E-03	1.7E-03	3.4E-03	1.7E-03
260	260	0.0216	0.0031	0.0040	2.2E-03	1.5E-03	2.2E-03	3.9E-04	2.4E-03	1.5E-03	2.9E-03	1.5E-03
261	261	0.0180	0.0026	0.0033	1.8E-03	1.2E-03	1.8E-03	3.3E-04	2.0E-03	1.2E-03	2.4E-03	1.2E-03
262	262	0.0153	0.0022	0.0029	1.6E-03	1.1E-03	1.6E-03	2.8E-04	1.7E-03	1.0E-03	2.1E-03	1.0E-03
263	263	0.0127	0.0018	0.0024	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
264	264	0.0117	0.0017	0.0022	1.2E-03	8.0E-04	1.2E-03	2.1E-04	1.3E-03	7.9E-04	1.6E-03	7.9E-04
265	265	0.0113	0.0016	0.0021	1.1E-03	7.8E-04	1.1E-03	2.1E-04	1.2E-03	7.7E-04	1.5E-03	7.7E-04
266	266	0.0116	0.0017	0.0022	1.2E-03	8.0E-04	1.2E-03	2.1E-04	1.3E-03	7.9E-04	1.6E-03	7.9E-04
267	267	0.0134	0.0019	0.0025	1.4E-03	9.2E-04	1.4E-03	2.4E-04	1.5E-03	9.1E-04	1.8E-03	9.1E-04
268	268	0.0133	0.0019	0.0025	1.4E-03	9.1E-04	1.3E-03	2.4E-04	1.5E-03	9.0E-04	1.8E-03	9.0E-04
269	269	0.0150	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.7E-03	1.0E-03	2.0E-03	1.0E-03
270	270	0.0185	0.0026	0.0034	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.0E-03	1.3E-03	2.5E-03	1.3E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
271	271	0.0235	0.0033	0.0044	2.4E-03	1.6E-03	2.4E-03	4.3E-04	2.6E-03	1.6E-03	3.2E-03	1.6E-03
272	272	0.0279	0.0040	0.0052	2.8E-03	1.9E-03	2.8E-03	5.1E-04	3.1E-03	1.9E-03	3.8E-03	1.9E-03
273	273	0.0308	0.0044	0.0057	3.1E-03	2.1E-03	3.1E-03	5.6E-04	3.4E-03	2.1E-03	4.2E-03	2.1E-03
274	274	0.0318	0.0045	0.0059	3.2E-03	2.2E-03	3.2E-03	5.8E-04	3.5E-03	2.2E-03	4.3E-03	2.2E-03
275	275	0.0308	0.0044	0.0057	3.1E-03	2.1E-03	3.1E-03	5.6E-04	3.4E-03	2.1E-03	4.2E-03	2.1E-03
276	276	0.0288	0.0041	0.0054	2.9E-03	2.0E-03	2.9E-03	5.2E-04	3.2E-03	2.0E-03	3.9E-03	2.0E-03
277	277	0.0259	0.0037	0.0048	2.6E-03	1.8E-03	2.6E-03	4.7E-04	2.9E-03	1.8E-03	3.5E-03	1.8E-03
278	278	0.0229	0.0033	0.0043	2.3E-03	1.6E-03	2.3E-03	4.2E-04	2.5E-03	1.6E-03	3.1E-03	1.6E-03
279	279	0.0201	0.0029	0.0037	2.1E-03	1.4E-03	2.0E-03	3.7E-04	2.2E-03	1.4E-03	2.7E-03	1.4E-03
280	280	0.0172	0.0024	0.0032	1.8E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
281	281	0.0145	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.6E-04	1.6E-03	9.9E-04	2.0E-03	9.9E-04
282	282	0.0122	0.0017	0.0023	1.2E-03	8.4E-04	1.2E-03	2.2E-04	1.4E-03	8.3E-04	1.7E-03	8.3E-04
283	283	0.0093	0.0013	0.0017	9.4E-04	6.4E-04	9.4E-04	1.7E-04	1.0E-03	6.3E-04	1.3E-03	6.3E-04
284	284	0.0089	0.0013	0.0017	9.1E-04	6.1E-04	9.0E-04	1.6E-04	9.8E-04	6.0E-04	1.2E-03	6.0E-04
285	285	0.0087	0.0012	0.0016	8.9E-04	6.0E-04	8.8E-04	1.6E-04	9.6E-04	5.9E-04	1.2E-03	5.9E-04
286	286	0.0092	0.0013	0.0017	9.4E-04	6.3E-04	9.3E-04	1.7E-04	1.0E-03	6.3E-04	1.3E-03	6.3E-04
287	287	0.0105	0.0015	0.0020	1.1E-03	7.2E-04	1.1E-03	1.9E-04	1.2E-03	7.2E-04	1.4E-03	7.2E-04
288	288	0.0115	0.0016	0.0021	1.2E-03	7.9E-04	1.2E-03	2.1E-04	1.3E-03	7.8E-04	1.6E-03	7.8E-04
289	289	0.0119	0.0017	0.0022	1.2E-03	8.2E-04	1.2E-03	2.2E-04	1.3E-03	8.1E-04	1.6E-03	8.1E-04
290	290	0.0144	0.0020	0.0027	1.5E-03	9.9E-04	1.5E-03	2.6E-04	1.6E-03	9.8E-04	2.0E-03	9.8E-04
291	291	0.0176	0.0025	0.0033	1.8E-03	1.2E-03	1.8E-03	3.2E-04	1.9E-03	1.2E-03	2.4E-03	1.2E-03
292	292	0.0210	0.0030	0.0039	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
293	293	0.0237	0.0034	0.0044	2.4E-03	1.6E-03	2.4E-03	4.3E-04	2.6E-03	1.6E-03	3.2E-03	1.6E-03
294	294	0.0252	0.0036	0.0047	2.6E-03	1.7E-03	2.5E-03	4.6E-04	2.8E-03	1.7E-03	3.4E-03	1.7E-03
295	295	0.0253	0.0036	0.0047	2.6E-03	1.7E-03	2.6E-03	4.6E-04	2.8E-03	1.7E-03	3.4E-03	1.7E-03
296	296	0.0244	0.0035	0.0045	2.5E-03	1.7E-03	2.5E-03	4.4E-04	2.7E-03	1.7E-03	3.3E-03	1.7E-03
297	297	0.0228	0.0032	0.0042	2.3E-03	1.6E-03	2.3E-03	4.1E-04	2.5E-03	1.5E-03	3.1E-03	1.5E-03
298	298	0.0207	0.0029	0.0038	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
299	299	0.0184	0.0026	0.0034	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.0E-03	1.3E-03	2.5E-03	1.3E-03
300	300	0.0161	0.0023	0.0030	1.6E-03	1.1E-03	1.6E-03	2.9E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
301	301	0.0133	0.0019	0.0025	1.4E-03	9.1E-04	1.3E-03	2.4E-04	1.5E-03	9.0E-04	1.8E-03	9.0E-04
302	302	0.0117	0.0017	0.0022	1.2E-03	8.1E-04	1.2E-03	2.1E-04	1.3E-03	8.0E-04	1.6E-03	8.0E-04
303	303	0.0079	0.0011	0.0015	8.0E-04	5.4E-04	8.0E-04	1.4E-04	8.7E-04	5.4E-04	1.1E-03	5.4E-04
304	304	0.0072	0.0010	0.0013	7.4E-04	5.0E-04	7.3E-04	1.3E-04	8.0E-04	4.9E-04	9.8E-04	4.9E-04
305	305	0.0071	0.0010	0.0013	7.3E-04	4.9E-04	7.2E-04	1.3E-04	7.9E-04	4.9E-04	9.7E-04	4.9E-04
306	306	0.0069	0.0010	0.0013	7.0E-04	4.8E-04	7.0E-04	1.3E-04	7.6E-04	4.7E-04	9.4E-04	4.7E-04
307	307	0.0071	0.0010	0.0013	7.2E-04	4.9E-04	7.2E-04	1.3E-04	7.9E-04	4.8E-04	9.6E-04	4.8E-04
308	308	0.0079	0.0011	0.0015	8.0E-04	5.4E-04	7.9E-04	1.4E-04	8.7E-04	5.3E-04	1.1E-03	5.3E-04
309	309	0.0089	0.0013	0.0017	9.0E-04	6.1E-04	9.0E-04	1.6E-04	9.8E-04	6.0E-04	1.2E-03	6.0E-04
310	310	0.0096	0.0014	0.0018	9.8E-04	6.6E-04	9.7E-04	1.8E-04	1.1E-03	6.5E-04	1.3E-03	6.5E-04
311	311	0.0113	0.0016	0.0021	1.2E-03	7.8E-04	1.1E-03	2.1E-04	1.3E-03	7.7E-04	1.5E-03	7.7E-04
312	312	0.0136	0.0019	0.0025	1.4E-03	9.4E-04	1.4E-03	2.5E-04	1.5E-03	9.3E-04	1.8E-03	9.3E-04
313	313	0.0162	0.0023	0.0030	1.6E-03	1.1E-03	1.6E-03	2.9E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03
314	314	0.0185	0.0026	0.0034	1.9E-03	1.3E-03	1.9E-03	3.4E-04	2.0E-03	1.3E-03	2.5E-03	1.3E-03
315	315	0.0202	0.0029	0.0037	2.1E-03	1.4E-03	2.0E-03	3.7E-04	2.2E-03	1.4E-03	2.7E-03	1.4E-03
316	316	0.0209	0.0030	0.0039	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
317	317	0.0207	0.0029	0.0038	2.1E-03	1.4E-03	2.1E-03	3.8E-04	2.3E-03	1.4E-03	2.8E-03	1.4E-03
318	318	0.0198	0.0028	0.0037	2.0E-03	1.4E-03	2.0E-03	3.6E-04	2.2E-03	1.3E-03	2.7E-03	1.3E-03
319	319	0.0184	0.0026	0.0034	1.9E-03	1.3E-03	1.9E-03	3.3E-04	2.0E-03	1.3E-03	2.5E-03	1.3E-03
320	320	0.0166	0.0024	0.0031	1.7E-03	1.1E-03	1.7E-03	3.0E-04	1.8E-03	1.1E-03	2.3E-03	1.1E-03
321	321	0.0149	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
322	322	0.0124	0.0018	0.0023	1.3E-03	8.5E-04	1.3E-03	2.3E-04	1.4E-03	8.4E-04	1.7E-03	8.4E-04
323	323	0.0111	0.0016	0.0021	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
324	324	0.0077	0.0011	0.0014	7.8E-04	5.3E-04	7.7E-04	1.4E-04	8.5E-04	5.2E-04	1.0E-03	5.2E-04
325	325	0.0067	0.0009	0.0012	6.8E-04	4.6E-04	6.7E-04	1.2E-04	7.4E-04	4.5E-04	9.0E-04	4.5E-04
326	326	0.0065	0.0009	0.0012	6.6E-04	4.5E-04	6.6E-04	1.2E-04	7.2E-04	4.4E-04	8.8E-04	4.4E-04
327	327	0.0059	0.0008	0.0011	6.0E-04	4.0E-04	5.9E-04	1.1E-04	6.5E-04	4.0E-04	8.0E-04	4.0E-04
328	328	0.0059	0.0008	0.0011	6.0E-04	4.0E-04	5.9E-04	1.1E-04	6.5E-04	4.0E-04	8.0E-04	4.0E-04
329	329	0.0064	0.0009	0.0012	6.5E-04	4.4E-04	6.4E-04	1.2E-04	7.0E-04	4.3E-04	8.7E-04	4.3E-04
330	330	0.0067	0.0009	0.0012	6.8E-04	4.6E-04	6.7E-04	1.2E-04	7.3E-04	4.5E-04	9.0E-04	4.5E-04

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
331	331	0.0072	0.0010	0.0013	7.4E-04	5.0E-04	7.3E-04	1.3E-04	8.0E-04	4.9E-04	9.8E-04	4.9E-04
332	332	0.0081	0.0012	0.0015	8.3E-04	5.6E-04	8.2E-04	1.5E-04	8.9E-04	5.5E-04	1.1E-03	5.5E-04
333	333	0.0092	0.0013	0.0017	9.4E-04	6.3E-04	9.3E-04	1.7E-04	1.0E-03	6.3E-04	1.2E-03	6.3E-04
334	334	0.0108	0.0015	0.0020	1.1E-03	7.5E-04	1.1E-03	2.0E-04	1.2E-03	7.4E-04	1.5E-03	7.4E-04
335	335	0.0128	0.0018	0.0024	1.3E-03	8.8E-04	1.3E-03	2.3E-04	1.4E-03	8.7E-04	1.7E-03	8.7E-04
336	336	0.0147	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
337	337	0.0162	0.0023	0.0030	1.7E-03	1.1E-03	1.6E-03	3.0E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03
338	338	0.0173	0.0025	0.0032	1.8E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
339	339	0.0176	0.0025	0.0033	1.8E-03	1.2E-03	1.8E-03	3.2E-04	1.9E-03	1.2E-03	2.4E-03	1.2E-03
340	340	0.0172	0.0024	0.0032	1.8E-03	1.2E-03	1.7E-03	3.1E-04	1.9E-03	1.2E-03	2.3E-03	1.2E-03
341	341	0.0163	0.0023	0.0030	1.7E-03	1.1E-03	1.7E-03	3.0E-04	1.8E-03	1.1E-03	2.2E-03	1.1E-03
342	342	0.0147	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
343	343	0.0135	0.0019	0.0025	1.4E-03	9.3E-04	1.4E-03	2.5E-04	1.5E-03	9.2E-04	1.8E-03	9.2E-04
344	344	0.0115	0.0016	0.0021	1.2E-03	7.9E-04	1.2E-03	2.1E-04	1.3E-03	7.8E-04	1.6E-03	7.8E-04
345	345	0.0104	0.0015	0.0019	1.1E-03	7.2E-04	1.1E-03	1.9E-04	1.2E-03	7.1E-04	1.4E-03	7.1E-04
346	346	0.0058	0.0008	0.0011	5.9E-04	4.0E-04	5.9E-04	1.1E-04	6.4E-04	4.0E-04	7.9E-04	4.0E-04
347	347	0.0056	0.0008	0.0010	5.7E-04	3.9E-04	5.7E-04	1.0E-04	6.2E-04	3.8E-04	7.6E-04	3.8E-04
348	348	0.0054	0.0008	0.0010	5.5E-04	3.7E-04	5.4E-04	9.8E-05	5.9E-04	3.7E-04	7.3E-04	3.7E-04
349	349	0.0051	0.0007	0.0009	5.2E-04	3.5E-04	5.1E-04	9.3E-05	5.6E-04	3.5E-04	6.9E-04	3.5E-04
350	350	0.0051	0.0007	0.0010	5.2E-04	3.5E-04	5.2E-04	9.4E-05	5.7E-04	3.5E-04	7.0E-04	3.5E-04
351	351	0.0055	0.0008	0.0010	5.6E-04	3.8E-04	5.5E-04	1.0E-04	6.0E-04	3.7E-04	7.4E-04	3.7E-04
352	352	0.0058	0.0008	0.0011	5.9E-04	4.0E-04	5.9E-04	1.1E-04	6.4E-04	4.0E-04	7.9E-04	4.0E-04
353	353	0.0062	0.0009	0.0011	6.3E-04	4.2E-04	6.2E-04	1.1E-04	6.8E-04	4.2E-04	8.4E-04	4.2E-04
354	354	0.0068	0.0010	0.0013	6.9E-04	4.7E-04	6.8E-04	1.2E-04	7.5E-04	4.6E-04	9.2E-04	4.6E-04
355	355	0.0074	0.0011	0.0014	7.6E-04	5.1E-04	7.5E-04	1.4E-04	8.2E-04	5.0E-04	1.0E-03	5.0E-04
356	356	0.0088	0.0013	0.0016	9.0E-04	6.1E-04	8.9E-04	1.6E-04	9.8E-04	6.0E-04	1.2E-03	6.0E-04
357	357	0.0103	0.0015	0.0019	1.1E-03	7.1E-04	1.0E-03	1.9E-04	1.1E-03	7.0E-04	1.4E-03	7.0E-04
358	358	0.0119	0.0017	0.0022	1.2E-03	8.2E-04	1.2E-03	2.2E-04	1.3E-03	8.1E-04	1.6E-03	8.1E-04
359	359	0.0133	0.0019	0.0025	1.4E-03	9.2E-04	1.3E-03	2.4E-04	1.5E-03	9.0E-04	1.8E-03	9.0E-04
360	360	0.0144	0.0020	0.0027	1.5E-03	9.9E-04	1.5E-03	2.6E-04	1.6E-03	9.8E-04	1.9E-03	9.8E-04

Big Canyon Phase 2

Construction Non-Cancer Health Risk Summary - 3rd Trimester Start

	Receptor	*HI*
Max	174	0.1721
Min	6	0.0019

Receptor #		Total Risk	1A	1B	2A	2B	2C	3A	3B	3C	4	5
361	361	0.0149	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.6E-03	1.0E-03	2.0E-03	1.0E-03
362	362	0.0150	0.0021	0.0028	1.5E-03	1.0E-03	1.5E-03	2.7E-04	1.7E-03	1.0E-03	2.0E-03	1.0E-03
363	363	0.0145	0.0021	0.0027	1.5E-03	1.0E-03	1.5E-03	2.6E-04	1.6E-03	9.8E-04	2.0E-03	9.8E-04
364	364	0.0131	0.0019	0.0024	1.3E-03	9.0E-04	1.3E-03	2.4E-04	1.4E-03	8.9E-04	1.8E-03	8.9E-04
365	365	0.0123	0.0017	0.0023	1.2E-03	8.4E-04	1.2E-03	2.2E-04	1.4E-03	8.3E-04	1.7E-03	8.3E-04
366	366	0.0107	0.0015	0.0020	1.1E-03	7.3E-04	1.1E-03	1.9E-04	1.2E-03	7.3E-04	1.4E-03	7.3E-04
367	367	0.0098	0.0014	0.0018	1.0E-03	6.7E-04	9.9E-04	1.8E-04	1.1E-03	6.6E-04	1.3E-03	6.6E-04
368	368	0.0051	0.0007	0.0009	5.2E-04	3.5E-04	5.1E-04	9.2E-05	5.6E-04	3.4E-04	6.9E-04	3.4E-04
369	369	0.0050	0.0007	0.0009	5.1E-04	3.4E-04	5.0E-04	9.0E-05	5.5E-04	3.4E-04	6.7E-04	3.4E-04
370	370	0.0047	0.0007	0.0009	4.8E-04	3.2E-04	4.7E-04	8.5E-05	5.2E-04	3.2E-04	6.4E-04	3.2E-04
371	371	0.0044	0.0006	0.0008	4.5E-04	3.0E-04	4.4E-04	8.0E-05	4.8E-04	3.0E-04	5.9E-04	3.0E-04
372	372	0.0046	0.0006	0.0008	4.6E-04	3.1E-04	4.6E-04	8.3E-05	5.0E-04	3.1E-04	6.2E-04	3.1E-04
373	373	0.0044	0.0006	0.0008	4.5E-04	3.1E-04	4.5E-04	8.1E-05	4.9E-04	3.0E-04	6.0E-04	3.0E-04
374	374	0.0048	0.0007	0.0009	4.9E-04	3.3E-04	4.9E-04	8.8E-05	5.4E-04	3.3E-04	6.6E-04	3.3E-04
375	375	0.0050	0.0007	0.0009	5.1E-04	3.5E-04	5.1E-04	9.2E-05	5.6E-04	3.4E-04	6.8E-04	3.4E-04
376	376	0.0055	0.0008	0.0010	5.6E-04	3.8E-04	5.6E-04	1.0E-04	6.1E-04	3.7E-04	7.5E-04	3.7E-04
377	377	0.0060	0.0008	0.0011	6.1E-04	4.1E-04	6.0E-04	1.1E-04	6.6E-04	4.1E-04	8.1E-04	4.1E-04
378	378	0.0064	0.0009	0.0012	6.5E-04	4.4E-04	6.4E-04	1.2E-04	7.0E-04	4.3E-04	8.6E-04	4.3E-04
379	379	0.0073	0.0010	0.0014	7.5E-04	5.1E-04	7.4E-04	1.3E-04	8.1E-04	5.0E-04	1.0E-03	5.0E-04
380	380	0.0081	0.0012	0.0015	8.3E-04	5.6E-04	8.2E-04	1.5E-04	9.0E-04	5.5E-04	1.1E-03	5.5E-04
381	381	0.0098	0.0014	0.0018	1.0E-03	6.7E-04	9.9E-04	1.8E-04	1.1E-03	6.6E-04	1.3E-03	6.6E-04
382	382	0.0110	0.0016	0.0020	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
383	383	0.0120	0.0017	0.0022	1.2E-03	8.3E-04	1.2E-03	2.2E-04	1.3E-03	8.2E-04	1.6E-03	8.2E-04
384	384	0.0127	0.0018	0.0024	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
385	385	0.0129	0.0018	0.0024	1.3E-03	8.9E-04	1.3E-03	2.3E-04	1.4E-03	8.8E-04	1.7E-03	8.8E-04
386	386	0.0127	0.0018	0.0024	1.3E-03	8.7E-04	1.3E-03	2.3E-04	1.4E-03	8.6E-04	1.7E-03	8.6E-04
387	387	0.0117	0.0017	0.0022	1.2E-03	8.0E-04	1.2E-03	2.1E-04	1.3E-03	7.9E-04	1.6E-03	7.9E-04
388	388	0.0111	0.0016	0.0021	1.1E-03	7.6E-04	1.1E-03	2.0E-04	1.2E-03	7.5E-04	1.5E-03	7.5E-04
389	389	0.0099	0.0014	0.0018	1.0E-03	6.8E-04	1.0E-03	1.8E-04	1.1E-03	6.7E-04	1.3E-03	6.7E-04
390	390	0.0091	0.0013	0.0017	9.3E-04	6.3E-04	9.2E-04	1.7E-04	1.0E-03	6.2E-04	1.2E-03	6.2E-04

Risk Calculations - 3rd Trimester Start
Construction Phase 1A

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)	
1	0.14257	0.0143	2.0E-03	361	1	0.96	1E-06	7.0E-07	1.1	10	0.03	70	1	3.80E-09	0.0038	**Max**
2	0.13369	0.0143	1.9E-03	361	1	0.96	1E-06	6.6E-07	1.1	10	0.03	70	1	3.56E-09	0.0036	2.28E-01
3	0.12214	0.0143	1.7E-03	361	1	0.96	1E-06	6.0E-07	1.1	10	0.03	70	1	3.25E-09	0.0033	
4	0.11318	0.0143	1.6E-03	361	1	0.96	1E-06	5.6E-07	1.1	10	0.03	70	1	3.01E-09	0.0030	
5	0.10329	0.0143	1.5E-03	361	1	0.96	1E-06	5.1E-07	1.1	10	0.03	70	1	2.75E-09	0.0028	
6	0.0959	0.0143	1.4E-03	361	1	0.96	1E-06	4.7E-07	1.1	10	0.03	70	1	2.55E-09	0.0026	
7	0.18122	0.0143	2.6E-03	361	1	0.96	1E-06	9.0E-07	1.1	10	0.03	70	1	4.83E-09	0.0048	
8	0.16599	0.0143	2.4E-03	361	1	0.96	1E-06	8.2E-07	1.1	10	0.03	70	1	4.42E-09	0.0044	
9	0.14564	0.0143	2.1E-03	361	1	0.96	1E-06	7.2E-07	1.1	10	0.03	70	1	3.88E-09	0.0039	
10	0.13566	0.0143	1.9E-03	361	1	0.96	1E-06	6.7E-07	1.1	10	0.03	70	1	3.61E-09	0.0036	
11	0.11905	0.0143	1.7E-03	361	1	0.96	1E-06	5.9E-07	1.1	10	0.03	70	1	3.17E-09	0.0032	
12	0.11174	0.0143	1.6E-03	361	1	0.96	1E-06	5.5E-07	1.1	10	0.03	70	1	2.98E-09	0.0030	
13	0.10516	0.0143	1.5E-03	361	1	0.96	1E-06	5.2E-07	1.1	10	0.03	70	1	2.80E-09	0.0028	
14	0.19891	0.0143	2.8E-03	361	1	0.96	1E-06	9.8E-07	1.1	10	0.03	70	1	5.30E-09	0.0053	
15	0.18538	0.0143	2.6E-03	361	1	0.96	1E-06	9.2E-07	1.1	10	0.03	70	1	4.94E-09	0.0049	
16	0.16647	0.0143	2.4E-03	361	1	0.96	1E-06	8.2E-07	1.1	10	0.03	70	1	4.43E-09	0.0044	
17	0.14661	0.0143	2.1E-03	361	1	0.96	1E-06	7.2E-07	1.1	10	0.03	70	1	3.90E-09	0.0039	
18	0.13322	0.0143	1.9E-03	361	1	0.96	1E-06	6.6E-07	1.1	10	0.03	70	1	3.55E-09	0.0035	
19	0.12149	0.0143	1.7E-03	361	1	0.96	1E-06	6.0E-07	1.1	10	0.03	70	1	3.24E-09	0.0032	
20	0.11331	0.0143	1.6E-03	361	1	0.96	1E-06	5.6E-07	1.1	10	0.03	70	1	3.02E-09	0.0030	
21	0.43801	0.0143	6.3E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.17E-08	0.0117	
22	0.5016	0.0143	7.2E-03	361	1	0.96	1E-06	2.5E-06	1.1	10	0.03	70	1	1.34E-08	0.0134	
23	0.53845	0.0143	7.7E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.43E-08	0.0143	
24	0.55059	0.0143	7.9E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.47E-08	0.0147	
25	0.61064	0.0143	8.7E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.63E-08	0.0163	

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
26	0.59517	0.0143	8.5E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.58E-08	0.0158
27	0.54814	0.0143	7.8E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.46E-08	0.0146
28	0.48705	0.0143	7.0E-03	361	1	0.96	1E-06	2.4E-06	1.1	10	0.03	70	1	1.30E-08	0.0130
29	0.41251	0.0143	5.9E-03	361	1	0.96	1E-06	2.0E-06	1.1	10	0.03	70	1	1.10E-08	0.0110
30	0.27062	0.0143	3.9E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	7.21E-09	0.0072
31	0.24985	0.0143	3.6E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.65E-09	0.0067
32	0.20383	0.0143	2.9E-03	361	1	0.96	1E-06	1.0E-06	1.1	10	0.03	70	1	5.43E-09	0.0054
33	0.19347	0.0143	2.8E-03	361	1	0.96	1E-06	9.6E-07	1.1	10	0.03	70	1	5.15E-09	0.0052
34	0.16069	0.0143	2.3E-03	361	1	0.96	1E-06	7.9E-07	1.1	10	0.03	70	1	4.28E-09	0.0043
35	0.14853	0.0143	2.1E-03	361	1	0.96	1E-06	7.3E-07	1.1	10	0.03	70	1	3.96E-09	0.0040
36	0.1328	0.0143	1.9E-03	361	1	0.96	1E-06	6.6E-07	1.1	10	0.03	70	1	3.54E-09	0.0035
37	0.12553	0.0143	1.8E-03	361	1	0.96	1E-06	6.2E-07	1.1	10	0.03	70	1	3.34E-09	0.0033
38	0.59038	0.0143	8.4E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.57E-08	0.0157
39	0.53496	0.0143	7.6E-03	361	1	0.96	1E-06	2.6E-06	1.1	10	0.03	70	1	1.42E-08	0.0142
40	0.57248	0.0143	8.2E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.52E-08	0.0152
41	0.58509	0.0143	8.4E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.56E-08	0.0156
42	0.61645	0.0143	8.8E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.64E-08	0.0164
43	0.63781	0.0143	9.1E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.70E-08	0.0170
44	0.60659	0.0143	8.7E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.62E-08	0.0162
45	0.53649	0.0143	7.7E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.43E-08	0.0143
46	0.4596	0.0143	6.6E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.22E-08	0.0122
47	0.41777	0.0143	6.0E-03	361	1	0.96	1E-06	2.1E-06	1.1	10	0.03	70	1	1.11E-08	0.0111
48	0.3294	0.0143	4.7E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.77E-09	0.0088
49	0.28523	0.0143	4.1E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.60E-09	0.0076
50	0.25804	0.0143	3.7E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.87E-09	0.0069

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
51	0.23121	0.0143	3.3E-03	361	1	0.96	1E-06	1.1E-06	1.1	10	0.03	70	1	6.16E-09	0.0062
52	0.18436	0.0143	2.6E-03	361	1	0.96	1E-06	9.1E-07	1.1	10	0.03	70	1	4.91E-09	0.0049
53	0.16289	0.0143	2.3E-03	361	1	0.96	1E-06	8.1E-07	1.1	10	0.03	70	1	4.34E-09	0.0043
54	0.14939	0.0143	2.1E-03	361	1	0.96	1E-06	7.4E-07	1.1	10	0.03	70	1	3.98E-09	0.0040
55	0.15235	0.0143	2.2E-03	361	1	0.96	1E-06	7.5E-07	1.1	10	0.03	70	1	4.06E-09	0.0041
56	0.55797	0.0143	8.0E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.49E-08	0.0149
57	0.56885	0.0143	8.1E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.51E-08	0.0151
58	0.58821	0.0143	8.4E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.57E-08	0.0157
59	0.68345	0.0143	9.8E-03	361	1	0.96	1E-06	3.4E-06	1.1	10	0.03	70	1	1.82E-08	0.0182
60	0.69254	0.0143	9.9E-03	361	1	0.96	1E-06	3.4E-06	1.1	10	0.03	70	1	1.84E-08	0.0184
61	0.73699	0.0143	1.1E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.96E-08	0.0196
62	0.72167	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.92E-08	0.0192
63	0.62652	0.0143	8.9E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.67E-08	0.0167
64	0.56525	0.0143	8.1E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.51E-08	0.0151
65	0.46307	0.0143	6.6E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.23E-08	0.0123
66	0.46763	0.0143	6.7E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.25E-08	0.0125
67	0.32884	0.0143	4.7E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.76E-09	0.0088
68	0.29277	0.0143	4.2E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.80E-09	0.0078
69	0.27065	0.0143	3.9E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	7.21E-09	0.0072
70	0.26125	0.0143	3.7E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.96E-09	0.0070
71	0.20425	0.0143	2.9E-03	361	1	0.96	1E-06	1.0E-06	1.1	10	0.03	70	1	5.44E-09	0.0054
72	0.1906	0.0143	2.7E-03	361	1	0.96	1E-06	9.4E-07	1.1	10	0.03	70	1	5.08E-09	0.0051
73	0.22012	0.0143	3.1E-03	361	1	0.96	1E-06	1.1E-06	1.1	10	0.03	70	1	5.86E-09	0.0059
74	0.62675	0.0143	8.9E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.67E-08	0.0167
75	0.65056	0.0143	9.3E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.73E-08	0.0173

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
76	0.65456	0.0143	9.3E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.74E-08	0.0174
77	0.73638	0.0143	1.1E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.96E-08	0.0196
78	0.8471	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.26E-08	0.0226
79	0.88849	0.0143	1.3E-02	361	1	0.96	1E-06	4.4E-06	1.1	10	0.03	70	1	2.37E-08	0.0237
80	0.90496	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.41E-08	0.0241
81	0.82607	0.0143	1.2E-02	361	1	0.96	1E-06	4.1E-06	1.1	10	0.03	70	1	2.20E-08	0.0220
82	0.70876	0.0143	1.0E-02	361	1	0.96	1E-06	3.5E-06	1.1	10	0.03	70	1	1.89E-08	0.0189
83	0.59652	0.0143	8.5E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.59E-08	0.0159
84	0.67997	0.0143	9.7E-03	361	1	0.96	1E-06	3.4E-06	1.1	10	0.03	70	1	1.81E-08	0.0181
85	0.34615	0.0143	4.9E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	9.22E-09	0.0092
86	0.31525	0.0143	4.5E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.40E-09	0.0084
87	0.30195	0.0143	4.3E-03	361	1	0.96	1E-06	1.5E-06	1.1	10	0.03	70	1	8.04E-09	0.0080
88	0.28593	0.0143	4.1E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.61E-09	0.0076
89	0.2696	0.0143	3.8E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	7.18E-09	0.0072
90	0.25777	0.0143	3.7E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.86E-09	0.0069
91	0.7657	0.0143	1.1E-02	361	1	0.96	1E-06	3.8E-06	1.1	10	0.03	70	1	2.04E-08	0.0204
92	0.78216	0.0143	1.1E-02	361	1	0.96	1E-06	3.9E-06	1.1	10	0.03	70	1	2.08E-08	0.0208
93	0.89506	0.0143	1.3E-02	361	1	0.96	1E-06	4.4E-06	1.1	10	0.03	70	1	2.38E-08	0.0238
94	0.94714	0.0143	1.4E-02	361	1	0.96	1E-06	4.7E-06	1.1	10	0.03	70	1	2.52E-08	0.0252
95	1.04003	0.0143	1.5E-02	361	1	0.96	1E-06	5.1E-06	1.1	10	0.03	70	1	2.77E-08	0.0277
96	1.12421	0.0143	1.6E-02	361	1	0.96	1E-06	5.6E-06	1.1	10	0.03	70	1	2.99E-08	0.0299
97	1.04229	0.0143	1.5E-02	361	1	0.96	1E-06	5.2E-06	1.1	10	0.03	70	1	2.78E-08	0.0278
98	0.90305	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.40E-08	0.0240
99	0.88258	0.0143	1.3E-02	361	1	0.96	1E-06	4.4E-06	1.1	10	0.03	70	1	2.35E-08	0.0235
100	0.44117	0.0143	6.3E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.17E-08	0.0117

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
101	0.36795	0.0143	5.3E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.80E-09	0.0098
102	0.34454	0.0143	4.9E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	9.18E-09	0.0092
103	0.32801	0.0143	4.7E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.73E-09	0.0087
104	0.30575	0.0143	4.4E-03	361	1	0.96	1E-06	1.5E-06	1.1	10	0.03	70	1	8.14E-09	0.0081
105	0.27575	0.0143	3.9E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.34E-09	0.0073
106	0.80913	0.0143	1.2E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.15E-08	0.0215
107	0.83667	0.0143	1.2E-02	361	1	0.96	1E-06	4.1E-06	1.1	10	0.03	70	1	2.23E-08	0.0223
108	0.94434	0.0143	1.3E-02	361	1	0.96	1E-06	4.7E-06	1.1	10	0.03	70	1	2.51E-08	0.0251
109	0.98691	0.0143	1.4E-02	361	1	0.96	1E-06	4.9E-06	1.1	10	0.03	70	1	2.63E-08	0.0263
110	1.13153	0.0143	1.6E-02	361	1	0.96	1E-06	5.6E-06	1.1	10	0.03	70	1	3.01E-08	0.0301
111	1.3058	0.0143	1.9E-02	361	1	0.96	1E-06	6.5E-06	1.1	10	0.03	70	1	3.48E-08	0.0348
112	1.41351	0.0143	2.0E-02	361	1	0.96	1E-06	7.0E-06	1.1	10	0.03	70	1	3.76E-08	0.0376
113	1.42196	0.0143	2.0E-02	361	1	0.96	1E-06	7.0E-06	1.1	10	0.03	70	1	3.79E-08	0.0379
114	1.36036	0.0143	1.9E-02	361	1	0.96	1E-06	6.7E-06	1.1	10	0.03	70	1	3.62E-08	0.0362
115	0.40925	0.0143	5.8E-03	361	1	0.96	1E-06	2.0E-06	1.1	10	0.03	70	1	1.09E-08	0.0109
116	0.39445	0.0143	5.6E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.05E-08	0.0105
117	0.38313	0.0143	5.5E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.02E-08	0.0102
118	0.33537	0.0143	4.8E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	8.93E-09	0.0089
119	0.28473	0.0143	4.1E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.58E-09	0.0076
120	0.92954	0.0143	1.3E-02	361	1	0.96	1E-06	4.6E-06	1.1	10	0.03	70	1	2.48E-08	0.0248
121	0.86551	0.0143	1.2E-02	361	1	0.96	1E-06	4.3E-06	1.1	10	0.03	70	1	2.30E-08	0.0230
122	0.98739	0.0143	1.4E-02	361	1	0.96	1E-06	4.9E-06	1.1	10	0.03	70	1	2.63E-08	0.0263
123	1.16933	0.0143	1.7E-02	361	1	0.96	1E-06	5.8E-06	1.1	10	0.03	70	1	3.11E-08	0.0311
124	1.386	0.0143	2.0E-02	361	1	0.96	1E-06	6.9E-06	1.1	10	0.03	70	1	3.69E-08	0.0369
125	1.58316	0.0143	2.3E-02	361	1	0.96	1E-06	7.8E-06	1.1	10	0.03	70	1	4.22E-08	0.0422

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
126	1.96907	0.0143	2.8E-02	361	1	0.96	1E-06	9.7E-06	1.1	10	0.03	70	1	5.24E-08	0.0524
127	2.35262	0.0143	3.4E-02	361	1	0.96	1E-06	1.2E-05	1.1	10	0.03	70	1	6.26E-08	0.0626
128	0.65638	0.0143	9.4E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.75E-08	0.0175
129	0.55176	0.0143	7.9E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.47E-08	0.0147
130	0.46604	0.0143	6.7E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.24E-08	0.0124
131	0.38018	0.0143	5.4E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.01E-08	0.0101
132	0.26126	0.0143	3.7E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.96E-09	0.0070
133	0.85154	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.27E-08	0.0227
134	1.07595	0.0143	1.5E-02	361	1	0.96	1E-06	5.3E-06	1.1	10	0.03	70	1	2.87E-08	0.0287
135	1.3543	0.0143	1.9E-02	361	1	0.96	1E-06	6.7E-06	1.1	10	0.03	70	1	3.61E-08	0.0361
136	1.57548	0.0143	2.2E-02	361	1	0.96	1E-06	7.8E-06	1.1	10	0.03	70	1	4.20E-08	0.0420
137	1.93144	0.0143	2.8E-02	361	1	0.96	1E-06	9.5E-06	1.1	10	0.03	70	1	5.14E-08	0.0514
138	2.71283	0.0143	3.9E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	7.22E-08	0.0722
139	5.71455	0.0143	8.2E-02	361	1	0.96	1E-06	2.8E-05	1.1	10	0.03	70	1	1.52E-07	0.1522
140	0.67028	0.0143	9.6E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.78E-08	0.0178
141	0.52905	0.0143	7.6E-03	361	1	0.96	1E-06	2.6E-06	1.1	10	0.03	70	1	1.41E-08	0.0141
142	0.43694	0.0143	6.2E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.16E-08	0.0116
143	0.29239	0.0143	4.2E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.79E-09	0.0078
144	1.25505	0.0143	1.8E-02	361	1	0.96	1E-06	6.2E-06	1.1	10	0.03	70	1	3.34E-08	0.0334
145	1.65273	0.0143	2.4E-02	361	1	0.96	1E-06	8.2E-06	1.1	10	0.03	70	1	4.40E-08	0.0440
146	1.98418	0.0143	2.8E-02	361	1	0.96	1E-06	9.8E-06	1.1	10	0.03	70	1	5.28E-08	0.0528
147	2.64664	0.0143	3.8E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	7.05E-08	0.0705
148	3.89148	0.0143	5.6E-02	361	1	0.96	1E-06	1.9E-05	1.1	10	0.03	70	1	1.04E-07	0.1036
149	3.51153	0.0143	5.0E-02	361	1	0.96	1E-06	1.7E-05	1.1	10	0.03	70	1	9.35E-08	0.0935
150	2.03503	0.0143	2.9E-02	361	1	0.96	1E-06	1.0E-05	1.1	10	0.03	70	1	5.42E-08	0.0542

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
151	1.50481	0.0143	2.1E-02	361	1	0.96	1E-06	7.4E-06	1.1	10	0.03	70	1	4.01E-08	0.0401
152	1.22329	0.0143	1.7E-02	361	1	0.96	1E-06	6.0E-06	1.1	10	0.03	70	1	3.26E-08	0.0326
153	0.70991	0.0143	1.0E-02	361	1	0.96	1E-06	3.5E-06	1.1	10	0.03	70	1	1.89E-08	0.0189
154	0.58106	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.55E-08	0.0155
155	0.47279	0.0143	6.8E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.26E-08	0.0126
156	0.40353	0.0143	5.8E-03	361	1	0.96	1E-06	2.0E-06	1.1	10	0.03	70	1	1.07E-08	0.0107
157	3.34251	0.0143	4.8E-02	361	1	0.96	1E-06	1.7E-05	1.1	10	0.03	70	1	8.90E-08	0.0890
158	3.76257	0.0143	5.4E-02	361	1	0.96	1E-06	1.9E-05	1.1	10	0.03	70	1	1.00E-07	0.1002
159	4.54045	0.0143	6.5E-02	361	1	0.96	1E-06	2.2E-05	1.1	10	0.03	70	1	1.21E-07	0.1209
160	2.52972	0.0143	3.6E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	6.74E-08	0.0674
161	1.65138	0.0143	2.4E-02	361	1	0.96	1E-06	8.2E-06	1.1	10	0.03	70	1	4.40E-08	0.0440
162	1.21511	0.0143	1.7E-02	361	1	0.96	1E-06	6.0E-06	1.1	10	0.03	70	1	3.24E-08	0.0324
163	0.58478	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.56E-08	0.0156
164	0.51231	0.0143	7.3E-03	361	1	0.96	1E-06	2.5E-06	1.1	10	0.03	70	1	1.36E-08	0.0136
165	0.43002	0.0143	6.1E-03	361	1	0.96	1E-06	2.1E-06	1.1	10	0.03	70	1	1.15E-08	0.0115
166	5.34751	0.0143	7.6E-02	361	1	0.96	1E-06	2.6E-05	1.1	10	0.03	70	1	1.42E-07	0.1424
167	2.93781	0.0143	4.2E-02	361	1	0.96	1E-06	1.5E-05	1.1	10	0.03	70	1	7.82E-08	0.0782
168	2.01593	0.0143	2.9E-02	361	1	0.96	1E-06	1.0E-05	1.1	10	0.03	70	1	5.37E-08	0.0537
169	1.42521	0.0143	2.0E-02	361	1	0.96	1E-06	7.0E-06	1.1	10	0.03	70	1	3.80E-08	0.0380
170	1.08462	0.0143	1.5E-02	361	1	0.96	1E-06	5.4E-06	1.1	10	0.03	70	1	2.89E-08	0.0289
171	0.68161	0.0143	9.7E-03	361	1	0.96	1E-06	3.4E-06	1.1	10	0.03	70	1	1.82E-08	0.0182
172	0.51579	0.0143	7.4E-03	361	1	0.96	1E-06	2.5E-06	1.1	10	0.03	70	1	1.37E-08	0.0137
173	0.42776	0.0143	6.1E-03	361	1	0.96	1E-06	2.1E-06	1.1	10	0.03	70	1	1.14E-08	0.0114
174	8.55485	0.0143	1.2E-01	361	1	0.96	1E-06	4.2E-05	1.1	10	0.03	70	1	2.28E-07	0.2278
175	5.40053	0.0143	7.7E-02	361	1	0.96	1E-06	2.7E-05	1.1	10	0.03	70	1	1.44E-07	0.1438

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
176	3.33391	0.0143	4.8E-02	361	1	0.96	1E-06	1.6E-05	1.1	10	0.03	70	1	8.88E-08	0.0888
177	2.2635	0.0143	3.2E-02	361	1	0.96	1E-06	1.1E-05	1.1	10	0.03	70	1	6.03E-08	0.0603
178	1.59628	0.0143	2.3E-02	361	1	0.96	1E-06	7.9E-06	1.1	10	0.03	70	1	4.25E-08	0.0425
179	1.15673	0.0143	1.7E-02	361	1	0.96	1E-06	5.7E-06	1.1	10	0.03	70	1	3.08E-08	0.0308
180	0.89425	0.0143	1.3E-02	361	1	0.96	1E-06	4.4E-06	1.1	10	0.03	70	1	2.38E-08	0.0238
181	0.62061	0.0143	8.9E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.65E-08	0.0165
182	0.50601	0.0143	7.2E-03	361	1	0.96	1E-06	2.5E-06	1.1	10	0.03	70	1	1.35E-08	0.0135
183	7.15077	0.0143	1.0E-01	361	1	0.96	1E-06	3.5E-05	1.1	10	0.03	70	1	1.90E-07	0.1904
184	5.06388	0.0143	7.2E-02	361	1	0.96	1E-06	2.5E-05	1.1	10	0.03	70	1	1.35E-07	0.1349
185	3.52857	0.0143	5.0E-02	361	1	0.96	1E-06	1.7E-05	1.1	10	0.03	70	1	9.40E-08	0.0940
186	2.41297	0.0143	3.4E-02	361	1	0.96	1E-06	1.2E-05	1.1	10	0.03	70	1	6.43E-08	0.0643
187	1.76478	0.0143	2.5E-02	361	1	0.96	1E-06	8.7E-06	1.1	10	0.03	70	1	4.70E-08	0.0470
188	1.30975	0.0143	1.9E-02	361	1	0.96	1E-06	6.5E-06	1.1	10	0.03	70	1	3.49E-08	0.0349
189	1.01047	0.0143	1.4E-02	361	1	0.96	1E-06	5.0E-06	1.1	10	0.03	70	1	2.69E-08	0.0269
190	0.80384	0.0143	1.1E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.14E-08	0.0214
191	8.32687	0.0143	1.2E-01	361	1	0.96	1E-06	4.1E-05	1.1	10	0.03	70	1	2.22E-07	0.2217
192	6.02533	0.0143	8.6E-02	361	1	0.96	1E-06	3.0E-05	1.1	10	0.03	70	1	1.60E-07	0.1605
193	4.45973	0.0143	6.4E-02	361	1	0.96	1E-06	2.2E-05	1.1	10	0.03	70	1	1.19E-07	0.1188
194	3.33262	0.0143	4.8E-02	361	1	0.96	1E-06	1.6E-05	1.1	10	0.03	70	1	8.87E-08	0.0887
195	2.46305	0.0143	3.5E-02	361	1	0.96	1E-06	1.2E-05	1.1	10	0.03	70	1	6.56E-08	0.0656
196	1.84191	0.0143	2.6E-02	361	1	0.96	1E-06	9.1E-06	1.1	10	0.03	70	1	4.90E-08	0.0490
197	1.42077	0.0143	2.0E-02	361	1	0.96	1E-06	7.0E-06	1.1	10	0.03	70	1	3.78E-08	0.0378
198	1.08702	0.0143	1.6E-02	361	1	0.96	1E-06	5.4E-06	1.1	10	0.03	70	1	2.89E-08	0.0289
199	0.87584	0.0143	1.3E-02	361	1	0.96	1E-06	4.3E-06	1.1	10	0.03	70	1	2.33E-08	0.0233
200	0.72192	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.92E-08	0.0192

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
201	3.24959	0.0143	4.6E-02	361	1	0.96	1E-06	1.6E-05	1.1	10	0.03	70	1	8.65E-08	0.0865
202	4.95098	0.0143	7.1E-02	361	1	0.96	1E-06	2.4E-05	1.1	10	0.03	70	1	1.32E-07	0.1318
203	5.8668	0.0143	8.4E-02	361	1	0.96	1E-06	2.9E-05	1.1	10	0.03	70	1	1.56E-07	0.1562
204	6.38123	0.0143	9.1E-02	361	1	0.96	1E-06	3.2E-05	1.1	10	0.03	70	1	1.70E-07	0.1699
205	5.89622	0.0143	8.4E-02	361	1	0.96	1E-06	2.9E-05	1.1	10	0.03	70	1	1.57E-07	0.1570
206	4.88452	0.0143	7.0E-02	361	1	0.96	1E-06	2.4E-05	1.1	10	0.03	70	1	1.30E-07	0.1301
207	3.92915	0.0143	5.6E-02	361	1	0.96	1E-06	1.9E-05	1.1	10	0.03	70	1	1.05E-07	0.1046
208	3.09747	0.0143	4.4E-02	361	1	0.96	1E-06	1.5E-05	1.1	10	0.03	70	1	8.25E-08	0.0825
209	2.38952	0.0143	3.4E-02	361	1	0.96	1E-06	1.2E-05	1.1	10	0.03	70	1	6.36E-08	0.0636
210	1.86639	0.0143	2.7E-02	361	1	0.96	1E-06	9.2E-06	1.1	10	0.03	70	1	4.97E-08	0.0497
211	1.46676	0.0143	2.1E-02	361	1	0.96	1E-06	7.2E-06	1.1	10	0.03	70	1	3.91E-08	0.0391
212	1.14687	0.0143	1.6E-02	361	1	0.96	1E-06	5.7E-06	1.1	10	0.03	70	1	3.05E-08	0.0305
213	0.93847	0.0143	1.3E-02	361	1	0.96	1E-06	4.6E-06	1.1	10	0.03	70	1	2.50E-08	0.0250
214	0.74904	0.0143	1.1E-02	361	1	0.96	1E-06	3.7E-06	1.1	10	0.03	70	1	1.99E-08	0.0199
215	0.62804	0.0143	9.0E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.67E-08	0.0167
216	1.51358	0.0143	2.2E-02	361	1	0.96	1E-06	7.5E-06	1.1	10	0.03	70	1	4.03E-08	0.0403
217	1.75108	0.0143	2.5E-02	361	1	0.96	1E-06	8.7E-06	1.1	10	0.03	70	1	4.66E-08	0.0466
218	2.40965	0.0143	3.4E-02	361	1	0.96	1E-06	1.2E-05	1.1	10	0.03	70	1	6.42E-08	0.0642
219	3.09162	0.0143	4.4E-02	361	1	0.96	1E-06	1.5E-05	1.1	10	0.03	70	1	8.23E-08	0.0823
220	3.64843	0.0143	5.2E-02	361	1	0.96	1E-06	1.8E-05	1.1	10	0.03	70	1	9.72E-08	0.0972
221	3.87704	0.0143	5.5E-02	361	1	0.96	1E-06	1.9E-05	1.1	10	0.03	70	1	1.03E-07	0.1032
222	3.7245	0.0143	5.3E-02	361	1	0.96	1E-06	1.8E-05	1.1	10	0.03	70	1	9.92E-08	0.0992
223	3.25928	0.0143	4.7E-02	361	1	0.96	1E-06	1.6E-05	1.1	10	0.03	70	1	8.68E-08	0.0868
224	2.72345	0.0143	3.9E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	7.25E-08	0.0725
225	2.20632	0.0143	3.2E-02	361	1	0.96	1E-06	1.1E-05	1.1	10	0.03	70	1	5.88E-08	0.0588

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
226	1.77318	0.0143	2.5E-02	361	1	0.96	1E-06	8.8E-06	1.1	10	0.03	70	1	4.72E-08	0.0472
227	1.44239	0.0143	2.1E-02	361	1	0.96	1E-06	7.1E-06	1.1	10	0.03	70	1	3.84E-08	0.0384
228	1.16513	0.0143	1.7E-02	361	1	0.96	1E-06	5.8E-06	1.1	10	0.03	70	1	3.10E-08	0.0310
229	0.94394	0.0143	1.3E-02	361	1	0.96	1E-06	4.7E-06	1.1	10	0.03	70	1	2.51E-08	0.0251
230	0.77791	0.0143	1.1E-02	361	1	0.96	1E-06	3.8E-06	1.1	10	0.03	70	1	2.07E-08	0.0207
231	0.62195	0.0143	8.9E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.66E-08	0.0166
232	1.05953	0.0143	1.5E-02	361	1	0.96	1E-06	5.2E-06	1.1	10	0.03	70	1	2.82E-08	0.0282
233	1.11661	0.0143	1.6E-02	361	1	0.96	1E-06	5.5E-06	1.1	10	0.03	70	1	2.97E-08	0.0297
234	1.47792	0.0143	2.1E-02	361	1	0.96	1E-06	7.3E-06	1.1	10	0.03	70	1	3.94E-08	0.0394
235	1.89467	0.0143	2.7E-02	361	1	0.96	1E-06	9.4E-06	1.1	10	0.03	70	1	5.05E-08	0.0505
236	2.31891	0.0143	3.3E-02	361	1	0.96	1E-06	1.1E-05	1.1	10	0.03	70	1	6.18E-08	0.0618
237	2.71307	0.0143	3.9E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	7.22E-08	0.0722
238	2.76677	0.0143	4.0E-02	361	1	0.96	1E-06	1.4E-05	1.1	10	0.03	70	1	7.37E-08	0.0737
239	2.56931	0.0143	3.7E-02	361	1	0.96	1E-06	1.3E-05	1.1	10	0.03	70	1	6.84E-08	0.0684
240	2.2825	0.0143	3.3E-02	361	1	0.96	1E-06	1.1E-05	1.1	10	0.03	70	1	6.08E-08	0.0608
241	1.93631	0.0143	2.8E-02	361	1	0.96	1E-06	9.6E-06	1.1	10	0.03	70	1	5.16E-08	0.0516
242	1.63045	0.0143	2.3E-02	361	1	0.96	1E-06	8.1E-06	1.1	10	0.03	70	1	4.34E-08	0.0434
243	1.35634	0.0143	1.9E-02	361	1	0.96	1E-06	6.7E-06	1.1	10	0.03	70	1	3.61E-08	0.0361
244	1.13547	0.0143	1.6E-02	361	1	0.96	1E-06	5.6E-06	1.1	10	0.03	70	1	3.02E-08	0.0302
245	0.91896	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.45E-08	0.0245
246	0.77965	0.0143	1.1E-02	361	1	0.96	1E-06	3.9E-06	1.1	10	0.03	70	1	2.08E-08	0.0208
247	0.63206	0.0143	9.0E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.68E-08	0.0168
248	0.86538	0.0143	1.2E-02	361	1	0.96	1E-06	4.3E-06	1.1	10	0.03	70	1	2.30E-08	0.0230
249	0.85659	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.28E-08	0.0228
250	1.00342	0.0143	1.4E-02	361	1	0.96	1E-06	5.0E-06	1.1	10	0.03	70	1	2.67E-08	0.0267

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
251	1.28849	0.0143	1.8E-02	361	1	0.96	1E-06	6.4E-06	1.1	10	0.03	70	1	3.43E-08	0.0343
252	1.63636	0.0143	2.3E-02	361	1	0.96	1E-06	8.1E-06	1.1	10	0.03	70	1	4.36E-08	0.0436
253	1.90198	0.0143	2.7E-02	361	1	0.96	1E-06	9.4E-06	1.1	10	0.03	70	1	5.06E-08	0.0506
254	2.02634	0.0143	2.9E-02	361	1	0.96	1E-06	1.0E-05	1.1	10	0.03	70	1	5.40E-08	0.0540
255	2.01179	0.0143	2.9E-02	361	1	0.96	1E-06	9.9E-06	1.1	10	0.03	70	1	5.36E-08	0.0536
256	1.88256	0.0143	2.7E-02	361	1	0.96	1E-06	9.3E-06	1.1	10	0.03	70	1	5.01E-08	0.0501
257	1.68205	0.0143	2.4E-02	361	1	0.96	1E-06	8.3E-06	1.1	10	0.03	70	1	4.48E-08	0.0448
258	1.46116	0.0143	2.1E-02	361	1	0.96	1E-06	7.2E-06	1.1	10	0.03	70	1	3.89E-08	0.0389
259	1.25462	0.0143	1.8E-02	361	1	0.96	1E-06	6.2E-06	1.1	10	0.03	70	1	3.34E-08	0.0334
260	1.07567	0.0143	1.5E-02	361	1	0.96	1E-06	5.3E-06	1.1	10	0.03	70	1	2.86E-08	0.0286
261	0.89369	0.0143	1.3E-02	361	1	0.96	1E-06	4.4E-06	1.1	10	0.03	70	1	2.38E-08	0.0238
262	0.7632	0.0143	1.1E-02	361	1	0.96	1E-06	3.8E-06	1.1	10	0.03	70	1	2.03E-08	0.0203
263	0.63167	0.0143	9.0E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.68E-08	0.0168
264	0.58009	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.54E-08	0.0154
265	0.56073	0.0143	8.0E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.49E-08	0.0149
266	0.57902	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.54E-08	0.0154
267	0.66488	0.0143	9.5E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.77E-08	0.0177
268	0.66061	0.0143	9.4E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.76E-08	0.0176
269	0.74394	0.0143	1.1E-02	361	1	0.96	1E-06	3.7E-06	1.1	10	0.03	70	1	1.98E-08	0.0198
270	0.92034	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.45E-08	0.0245
271	1.1693	0.0143	1.7E-02	361	1	0.96	1E-06	5.8E-06	1.1	10	0.03	70	1	3.11E-08	0.0311
272	1.38588	0.0143	2.0E-02	361	1	0.96	1E-06	6.8E-06	1.1	10	0.03	70	1	3.69E-08	0.0369
273	1.53028	0.0143	2.2E-02	361	1	0.96	1E-06	7.6E-06	1.1	10	0.03	70	1	4.08E-08	0.0408
274	1.58042	0.0143	2.3E-02	361	1	0.96	1E-06	7.8E-06	1.1	10	0.03	70	1	4.21E-08	0.0421
275	1.5324	0.0143	2.2E-02	361	1	0.96	1E-06	7.6E-06	1.1	10	0.03	70	1	4.08E-08	0.0408

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
276	1.43091	0.0143	2.0E-02	361	1	0.96	1E-06	7.1E-06	1.1	10	0.03	70	1	3.81E-08	0.0381
277	1.28867	0.0143	1.8E-02	361	1	0.96	1E-06	6.4E-06	1.1	10	0.03	70	1	3.43E-08	0.0343
278	1.14049	0.0143	1.6E-02	361	1	0.96	1E-06	5.6E-06	1.1	10	0.03	70	1	3.04E-08	0.0304
279	1.0007	0.0143	1.4E-02	361	1	0.96	1E-06	4.9E-06	1.1	10	0.03	70	1	2.66E-08	0.0266
280	0.85395	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.27E-08	0.0227
281	0.7216	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.92E-08	0.0192
282	0.60823	0.0143	8.7E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.62E-08	0.0162
283	0.46088	0.0143	6.6E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.23E-08	0.0123
284	0.44204	0.0143	6.3E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.18E-08	0.0118
285	0.43325	0.0143	6.2E-03	361	1	0.96	1E-06	2.1E-06	1.1	10	0.03	70	1	1.15E-08	0.0115
286	0.45841	0.0143	6.5E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.22E-08	0.0122
287	0.52307	0.0143	7.5E-03	361	1	0.96	1E-06	2.6E-06	1.1	10	0.03	70	1	1.39E-08	0.0139
288	0.56987	0.0143	8.1E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.52E-08	0.0152
289	0.59322	0.0143	8.5E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.58E-08	0.0158
290	0.71744	0.0143	1.0E-02	361	1	0.96	1E-06	3.5E-06	1.1	10	0.03	70	1	1.91E-08	0.0191
291	0.87548	0.0143	1.3E-02	361	1	0.96	1E-06	4.3E-06	1.1	10	0.03	70	1	2.33E-08	0.0233
292	1.04219	0.0143	1.5E-02	361	1	0.96	1E-06	5.2E-06	1.1	10	0.03	70	1	2.78E-08	0.0278
293	1.17605	0.0143	1.7E-02	361	1	0.96	1E-06	5.8E-06	1.1	10	0.03	70	1	3.13E-08	0.0313
294	1.25313	0.0143	1.8E-02	361	1	0.96	1E-06	6.2E-06	1.1	10	0.03	70	1	3.34E-08	0.0334
295	1.25792	0.0143	1.8E-02	361	1	0.96	1E-06	6.2E-06	1.1	10	0.03	70	1	3.35E-08	0.0335
296	1.21473	0.0143	1.7E-02	361	1	0.96	1E-06	6.0E-06	1.1	10	0.03	70	1	3.23E-08	0.0323
297	1.13348	0.0143	1.6E-02	361	1	0.96	1E-06	5.6E-06	1.1	10	0.03	70	1	3.02E-08	0.0302
298	1.02677	0.0143	1.5E-02	361	1	0.96	1E-06	5.1E-06	1.1	10	0.03	70	1	2.73E-08	0.0273
299	0.91652	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.44E-08	0.0244
300	0.80208	0.0143	1.1E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.14E-08	0.0214

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
301	0.6609	0.0143	9.4E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.76E-08	0.0176
302	0.58197	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.55E-08	0.0155
303	0.39159	0.0143	5.6E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.04E-08	0.0104
304	0.35914	0.0143	5.1E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.56E-09	0.0096
305	0.35529	0.0143	5.1E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.46E-09	0.0095
306	0.34386	0.0143	4.9E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	9.16E-09	0.0092
307	0.35356	0.0143	5.0E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	9.42E-09	0.0094
308	0.39073	0.0143	5.6E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.04E-08	0.0104
309	0.44141	0.0143	6.3E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.18E-08	0.0118
310	0.47846	0.0143	6.8E-03	361	1	0.96	1E-06	2.4E-06	1.1	10	0.03	70	1	1.27E-08	0.0127
311	0.56418	0.0143	8.1E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.50E-08	0.0150
312	0.67741	0.0143	9.7E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.80E-08	0.0180
313	0.80426	0.0143	1.1E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.14E-08	0.0214
314	0.92054	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.45E-08	0.0245
315	1.00261	0.0143	1.4E-02	361	1	0.96	1E-06	5.0E-06	1.1	10	0.03	70	1	2.67E-08	0.0267
316	1.03928	0.0143	1.5E-02	361	1	0.96	1E-06	5.1E-06	1.1	10	0.03	70	1	2.77E-08	0.0277
317	1.02828	0.0143	1.5E-02	361	1	0.96	1E-06	5.1E-06	1.1	10	0.03	70	1	2.74E-08	0.0274
318	0.98264	0.0143	1.4E-02	361	1	0.96	1E-06	4.9E-06	1.1	10	0.03	70	1	2.62E-08	0.0262
319	0.91474	0.0143	1.3E-02	361	1	0.96	1E-06	4.5E-06	1.1	10	0.03	70	1	2.44E-08	0.0244
320	0.82666	0.0143	1.2E-02	361	1	0.96	1E-06	4.1E-06	1.1	10	0.03	70	1	2.20E-08	0.0220
321	0.74121	0.0143	1.1E-02	361	1	0.96	1E-06	3.7E-06	1.1	10	0.03	70	1	1.97E-08	0.0197
322	0.6153	0.0143	8.8E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.64E-08	0.0164
323	0.55156	0.0143	7.9E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.47E-08	0.0147
324	0.38105	0.0143	5.4E-03	361	1	0.96	1E-06	1.9E-06	1.1	10	0.03	70	1	1.01E-08	0.0101
325	0.33126	0.0143	4.7E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.82E-09	0.0088

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
326	0.32305	0.0143	4.6E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.60E-09	0.0086
327	0.29252	0.0143	4.2E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.79E-09	0.0078
328	0.29248	0.0143	4.2E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.79E-09	0.0078
329	0.317	0.0143	4.5E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.44E-09	0.0084
330	0.33066	0.0143	4.7E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.81E-09	0.0088
331	0.35869	0.0143	5.1E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.55E-09	0.0096
332	0.40288	0.0143	5.8E-03	361	1	0.96	1E-06	2.0E-06	1.1	10	0.03	70	1	1.07E-08	0.0107
333	0.4573	0.0143	6.5E-03	361	1	0.96	1E-06	2.3E-06	1.1	10	0.03	70	1	1.22E-08	0.0122
334	0.53898	0.0143	7.7E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.44E-08	0.0144
335	0.63508	0.0143	9.1E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.69E-08	0.0169
336	0.73114	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.95E-08	0.0195
337	0.80795	0.0143	1.2E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.15E-08	0.0215
338	0.85925	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.29E-08	0.0229
339	0.87375	0.0143	1.2E-02	361	1	0.96	1E-06	4.3E-06	1.1	10	0.03	70	1	2.33E-08	0.0233
340	0.85425	0.0143	1.2E-02	361	1	0.96	1E-06	4.2E-06	1.1	10	0.03	70	1	2.27E-08	0.0227
341	0.81269	0.0143	1.2E-02	361	1	0.96	1E-06	4.0E-06	1.1	10	0.03	70	1	2.16E-08	0.0216
342	0.72959	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.94E-08	0.0194
343	0.67174	0.0143	9.6E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.79E-08	0.0179
344	0.57305	0.0143	8.2E-03	361	1	0.96	1E-06	2.8E-06	1.1	10	0.03	70	1	1.53E-08	0.0153
345	0.51872	0.0143	7.4E-03	361	1	0.96	1E-06	2.6E-06	1.1	10	0.03	70	1	1.38E-08	0.0138
346	0.29019	0.0143	4.1E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.73E-09	0.0077
347	0.27864	0.0143	4.0E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.42E-09	0.0074
348	0.26697	0.0143	3.8E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	7.11E-09	0.0071
349	0.25326	0.0143	3.6E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.74E-09	0.0067
350	0.25562	0.0143	3.6E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	6.81E-09	0.0068

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
351	0.2724	0.0143	3.9E-03	361	1	0.96	1E-06	1.3E-06	1.1	10	0.03	70	1	7.25E-09	0.0073
352	0.28943	0.0143	4.1E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.71E-09	0.0077
353	0.3067	0.0143	4.4E-03	361	1	0.96	1E-06	1.5E-06	1.1	10	0.03	70	1	8.17E-09	0.0082
354	0.33648	0.0143	4.8E-03	361	1	0.96	1E-06	1.7E-06	1.1	10	0.03	70	1	8.96E-09	0.0090
355	0.3689	0.0143	5.3E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.82E-09	0.0098
356	0.44002	0.0143	6.3E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.17E-08	0.0117
357	0.51306	0.0143	7.3E-03	361	1	0.96	1E-06	2.5E-06	1.1	10	0.03	70	1	1.37E-08	0.0137
358	0.59206	0.0143	8.5E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.58E-08	0.0158
359	0.66144	0.0143	9.4E-03	361	1	0.96	1E-06	3.3E-06	1.1	10	0.03	70	1	1.76E-08	0.0176
360	0.71417	0.0143	1.0E-02	361	1	0.96	1E-06	3.5E-06	1.1	10	0.03	70	1	1.90E-08	0.0190
361	0.73968	0.0143	1.1E-02	361	1	0.96	1E-06	3.7E-06	1.1	10	0.03	70	1	1.97E-08	0.0197
362	0.74345	0.0143	1.1E-02	361	1	0.96	1E-06	3.7E-06	1.1	10	0.03	70	1	1.98E-08	0.0198
363	0.71982	0.0143	1.0E-02	361	1	0.96	1E-06	3.6E-06	1.1	10	0.03	70	1	1.92E-08	0.0192
364	0.65107	0.0143	9.3E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.73E-08	0.0173
365	0.60983	0.0143	8.7E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.62E-08	0.0162
366	0.53056	0.0143	7.6E-03	361	1	0.96	1E-06	2.6E-06	1.1	10	0.03	70	1	1.41E-08	0.0141
367	0.48574	0.0143	6.9E-03	361	1	0.96	1E-06	2.4E-06	1.1	10	0.03	70	1	1.29E-08	0.0129
368	0.25159	0.0143	3.6E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.70E-09	0.0067
369	0.24678	0.0143	3.5E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.57E-09	0.0066
370	0.23335	0.0143	3.3E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.21E-09	0.0062
371	0.21774	0.0143	3.1E-03	361	1	0.96	1E-06	1.1E-06	1.1	10	0.03	70	1	5.80E-09	0.0058
372	0.22662	0.0143	3.2E-03	361	1	0.96	1E-06	1.1E-06	1.1	10	0.03	70	1	6.03E-09	0.0060
373	0.22108	0.0143	3.2E-03	361	1	0.96	1E-06	1.1E-06	1.1	10	0.03	70	1	5.89E-09	0.0059
374	0.24111	0.0143	3.4E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.42E-09	0.0064
375	0.25062	0.0143	3.6E-03	361	1	0.96	1E-06	1.2E-06	1.1	10	0.03	70	1	6.67E-09	0.0067

Big Canyon Phase 2

Risk from Construction Phase 1A

Risk from 3rd Trimester

Receptor #	Conc	g/sec	Cair	DBR	A	EF	Constant1	DOSE	CPF	ASF	ED	AT	FAH	(3rd Tri)	(Risk / Mill)
376	0.27425	0.0143	3.9E-03	361	1	0.96	1E-06	1.4E-06	1.1	10	0.03	70	1	7.30E-09	0.0073
377	0.29662	0.0143	4.2E-03	361	1	0.96	1E-06	1.5E-06	1.1	10	0.03	70	1	7.90E-09	0.0079
378	0.31582	0.0143	4.5E-03	361	1	0.96	1E-06	1.6E-06	1.1	10	0.03	70	1	8.41E-09	0.0084
379	0.36484	0.0143	5.2E-03	361	1	0.96	1E-06	1.8E-06	1.1	10	0.03	70	1	9.72E-09	0.0097
380	0.40393	0.0143	5.8E-03	361	1	0.96	1E-06	2.0E-06	1.1	10	0.03	70	1	1.08E-08	0.0108
381	0.48601	0.0143	6.9E-03	361	1	0.96	1E-06	2.4E-06	1.1	10	0.03	70	1	1.29E-08	0.0129
382	0.5477	0.0143	7.8E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.46E-08	0.0146
383	0.59749	0.0143	8.5E-03	361	1	0.96	1E-06	3.0E-06	1.1	10	0.03	70	1	1.59E-08	0.0159
384	0.62971	0.0143	9.0E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.68E-08	0.0168
385	0.64012	0.0143	9.1E-03	361	1	0.96	1E-06	3.2E-06	1.1	10	0.03	70	1	1.70E-08	0.0170
386	0.62903	0.0143	9.0E-03	361	1	0.96	1E-06	3.1E-06	1.1	10	0.03	70	1	1.68E-08	0.0168
387	0.5807	0.0143	8.3E-03	361	1	0.96	1E-06	2.9E-06	1.1	10	0.03	70	1	1.55E-08	0.0155
388	0.55072	0.0143	7.9E-03	361	1	0.96	1E-06	2.7E-06	1.1	10	0.03	70	1	1.47E-08	0.0147
389	0.49043	0.0143	7.0E-03	361	1	0.96	1E-06	2.4E-06	1.1	10	0.03	70	1	1.31E-08	0.0131
390	0.45288	0.0143	6.5E-03	361	1	0.96	1E-06	2.2E-06	1.1	10	0.03	70	1	1.21E-08	0.0121

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI	
1	2.04E-03	5	4.07E-04	**Max**
2	1.91E-03	5	3.82E-04	2.44E-02
3	1.74E-03	5	3.49E-04	
4	1.62E-03	5	3.23E-04	
5	1.47E-03	5	2.95E-04	
6	1.37E-03	5	2.74E-04	
7	2.59E-03	5	5.18E-04	
8	2.37E-03	5	4.74E-04	
9	2.08E-03	5	4.16E-04	
10	1.94E-03	5	3.87E-04	
11	1.70E-03	5	3.40E-04	
12	1.60E-03	5	3.19E-04	
13	1.50E-03	5	3.00E-04	
14	2.84E-03	5	5.68E-04	
15	2.65E-03	5	5.29E-04	
16	2.38E-03	5	4.75E-04	
17	2.09E-03	5	4.19E-04	
18	1.90E-03	5	3.80E-04	
19	1.73E-03	5	3.47E-04	
20	1.62E-03	5	3.24E-04	
21	6.25E-03	5	1.25E-03	
22	7.16E-03	5	1.43E-03	
23	7.69E-03	5	1.54E-03	
24	7.86E-03	5	1.57E-03	
25	8.72E-03	5	1.74E-03	

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
26	8.50E-03	5	1.70E-03
27	7.83E-03	5	1.57E-03
28	6.95E-03	5	1.39E-03
29	5.89E-03	5	1.18E-03
30	3.86E-03	5	7.73E-04
31	3.57E-03	5	7.13E-04
32	2.91E-03	5	5.82E-04
33	2.76E-03	5	5.52E-04
34	2.29E-03	5	4.59E-04
35	2.12E-03	5	4.24E-04
36	1.90E-03	5	3.79E-04
37	1.79E-03	5	3.58E-04
38	8.43E-03	5	1.69E-03
39	7.64E-03	5	1.53E-03
40	8.17E-03	5	1.63E-03
41	8.35E-03	5	1.67E-03
42	8.80E-03	5	1.76E-03
43	9.11E-03	5	1.82E-03
44	8.66E-03	5	1.73E-03
45	7.66E-03	5	1.53E-03
46	6.56E-03	5	1.31E-03
47	5.97E-03	5	1.19E-03
48	4.70E-03	5	9.41E-04
49	4.07E-03	5	8.15E-04
50	3.68E-03	5	7.37E-04

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
51	3.30E-03	5	6.60E-04
52	2.63E-03	5	5.26E-04
53	2.33E-03	5	4.65E-04
54	2.13E-03	5	4.27E-04
55	2.18E-03	5	4.35E-04
56	7.97E-03	5	1.59E-03
57	8.12E-03	5	1.62E-03
58	8.40E-03	5	1.68E-03
59	9.76E-03	5	1.95E-03
60	9.89E-03	5	1.98E-03
61	1.05E-02	5	2.10E-03
62	1.03E-02	5	2.06E-03
63	8.95E-03	5	1.79E-03
64	8.07E-03	5	1.61E-03
65	6.61E-03	5	1.32E-03
66	6.68E-03	5	1.34E-03
67	4.70E-03	5	9.39E-04
68	4.18E-03	5	8.36E-04
69	3.86E-03	5	7.73E-04
70	3.73E-03	5	7.46E-04
71	2.92E-03	5	5.83E-04
72	2.72E-03	5	5.44E-04
73	3.14E-03	5	6.29E-04
74	8.95E-03	5	1.79E-03
75	9.29E-03	5	1.86E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
76	9.35E-03	5	1.87E-03
77	1.05E-02	5	2.10E-03
78	1.21E-02	5	2.42E-03
79	1.27E-02	5	2.54E-03
80	1.29E-02	5	2.58E-03
81	1.18E-02	5	2.36E-03
82	1.01E-02	5	2.02E-03
83	8.52E-03	5	1.70E-03
84	9.71E-03	5	1.94E-03
85	4.94E-03	5	9.88E-04
86	4.50E-03	5	9.00E-04
87	4.31E-03	5	8.62E-04
88	4.08E-03	5	8.17E-04
89	3.85E-03	5	7.70E-04
90	3.68E-03	5	7.36E-04
91	1.09E-02	5	2.19E-03
92	1.12E-02	5	2.23E-03
93	1.28E-02	5	2.56E-03
94	1.35E-02	5	2.70E-03
95	1.48E-02	5	2.97E-03
96	1.61E-02	5	3.21E-03
97	1.49E-02	5	2.98E-03
98	1.29E-02	5	2.58E-03
99	1.26E-02	5	2.52E-03
100	6.30E-03	5	1.26E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
101	5.25E-03	5	1.05E-03
102	4.92E-03	5	9.84E-04
103	4.68E-03	5	9.37E-04
104	4.37E-03	5	8.73E-04
105	3.94E-03	5	7.87E-04
106	1.16E-02	5	2.31E-03
107	1.19E-02	5	2.39E-03
108	1.35E-02	5	2.70E-03
109	1.41E-02	5	2.82E-03
110	1.62E-02	5	3.23E-03
111	1.86E-02	5	3.73E-03
112	2.02E-02	5	4.04E-03
113	2.03E-02	5	4.06E-03
114	1.94E-02	5	3.88E-03
115	5.84E-03	5	1.17E-03
116	5.63E-03	5	1.13E-03
117	5.47E-03	5	1.09E-03
118	4.79E-03	5	9.58E-04
119	4.07E-03	5	8.13E-04
120	1.33E-02	5	2.65E-03
121	1.24E-02	5	2.47E-03
122	1.41E-02	5	2.82E-03
123	1.67E-02	5	3.34E-03
124	1.98E-02	5	3.96E-03
125	2.26E-02	5	4.52E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
126	2.81E-02	5	5.62E-03
127	3.36E-02	5	6.72E-03
128	9.37E-03	5	1.87E-03
129	7.88E-03	5	1.58E-03
130	6.65E-03	5	1.33E-03
131	5.43E-03	5	1.09E-03
132	3.73E-03	5	7.46E-04
133	1.22E-02	5	2.43E-03
134	1.54E-02	5	3.07E-03
135	1.93E-02	5	3.87E-03
136	2.25E-02	5	4.50E-03
137	2.76E-02	5	5.52E-03
138	3.87E-02	5	7.75E-03
139	8.16E-02	5	1.63E-02
140	9.57E-03	5	1.91E-03
141	7.55E-03	5	1.51E-03
142	6.24E-03	5	1.25E-03
143	4.17E-03	5	8.35E-04
144	1.79E-02	5	3.58E-03
145	2.36E-02	5	4.72E-03
146	2.83E-02	5	5.67E-03
147	3.78E-02	5	7.56E-03
148	5.56E-02	5	1.11E-02
149	5.01E-02	5	1.00E-02
150	2.91E-02	5	5.81E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
151	2.15E-02	5	4.30E-03
152	1.75E-02	5	3.49E-03
153	1.01E-02	5	2.03E-03
154	8.30E-03	5	1.66E-03
155	6.75E-03	5	1.35E-03
156	5.76E-03	5	1.15E-03
157	4.77E-02	5	9.55E-03
158	5.37E-02	5	1.07E-02
159	6.48E-02	5	1.30E-02
160	3.61E-02	5	7.22E-03
161	2.36E-02	5	4.72E-03
162	1.73E-02	5	3.47E-03
163	8.35E-03	5	1.67E-03
164	7.31E-03	5	1.46E-03
165	6.14E-03	5	1.23E-03
166	7.64E-02	5	1.53E-02
167	4.19E-02	5	8.39E-03
168	2.88E-02	5	5.76E-03
169	2.03E-02	5	4.07E-03
170	1.55E-02	5	3.10E-03
171	9.73E-03	5	1.95E-03
172	7.36E-03	5	1.47E-03
173	6.11E-03	5	1.22E-03
174	1.22E-01	5	2.44E-02
175	7.71E-02	5	1.54E-02

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
176	4.76E-02	5	9.52E-03
177	3.23E-02	5	6.46E-03
178	2.28E-02	5	4.56E-03
179	1.65E-02	5	3.30E-03
180	1.28E-02	5	2.55E-03
181	8.86E-03	5	1.77E-03
182	7.22E-03	5	1.44E-03
183	1.02E-01	5	2.04E-02
184	7.23E-02	5	1.45E-02
185	5.04E-02	5	1.01E-02
186	3.45E-02	5	6.89E-03
187	2.52E-02	5	5.04E-03
188	1.87E-02	5	3.74E-03
189	1.44E-02	5	2.89E-03
190	1.15E-02	5	2.30E-03
191	1.19E-01	5	2.38E-02
192	8.60E-02	5	1.72E-02
193	6.37E-02	5	1.27E-02
194	4.76E-02	5	9.52E-03
195	3.52E-02	5	7.03E-03
196	2.63E-02	5	5.26E-03
197	2.03E-02	5	4.06E-03
198	1.55E-02	5	3.10E-03
199	1.25E-02	5	2.50E-03
200	1.03E-02	5	2.06E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
201	4.64E-02	5	9.28E-03
202	7.07E-02	5	1.41E-02
203	8.38E-02	5	1.68E-02
204	9.11E-02	5	1.82E-02
205	8.42E-02	5	1.68E-02
206	6.97E-02	5	1.39E-02
207	5.61E-02	5	1.12E-02
208	4.42E-02	5	8.85E-03
209	3.41E-02	5	6.82E-03
210	2.66E-02	5	5.33E-03
211	2.09E-02	5	4.19E-03
212	1.64E-02	5	3.28E-03
213	1.34E-02	5	2.68E-03
214	1.07E-02	5	2.14E-03
215	8.97E-03	5	1.79E-03
216	2.16E-02	5	4.32E-03
217	2.50E-02	5	5.00E-03
218	3.44E-02	5	6.88E-03
219	4.41E-02	5	8.83E-03
220	5.21E-02	5	1.04E-02
221	5.54E-02	5	1.11E-02
222	5.32E-02	5	1.06E-02
223	4.65E-02	5	9.31E-03
224	3.89E-02	5	7.78E-03
225	3.15E-02	5	6.30E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
226	2.53E-02	5	5.06E-03
227	2.06E-02	5	4.12E-03
228	1.66E-02	5	3.33E-03
229	1.35E-02	5	2.70E-03
230	1.11E-02	5	2.22E-03
231	8.88E-03	5	1.78E-03
232	1.51E-02	5	3.03E-03
233	1.59E-02	5	3.19E-03
234	2.11E-02	5	4.22E-03
235	2.71E-02	5	5.41E-03
236	3.31E-02	5	6.62E-03
237	3.87E-02	5	7.75E-03
238	3.95E-02	5	7.90E-03
239	3.67E-02	5	7.34E-03
240	3.26E-02	5	6.52E-03
241	2.76E-02	5	5.53E-03
242	2.33E-02	5	4.66E-03
243	1.94E-02	5	3.87E-03
244	1.62E-02	5	3.24E-03
245	1.31E-02	5	2.62E-03
246	1.11E-02	5	2.23E-03
247	9.02E-03	5	1.80E-03
248	1.24E-02	5	2.47E-03
249	1.22E-02	5	2.45E-03
250	1.43E-02	5	2.87E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
251	1.84E-02	5	3.68E-03
252	2.34E-02	5	4.67E-03
253	2.72E-02	5	5.43E-03
254	2.89E-02	5	5.79E-03
255	2.87E-02	5	5.75E-03
256	2.69E-02	5	5.38E-03
257	2.40E-02	5	4.80E-03
258	2.09E-02	5	4.17E-03
259	1.79E-02	5	3.58E-03
260	1.54E-02	5	3.07E-03
261	1.28E-02	5	2.55E-03
262	1.09E-02	5	2.18E-03
263	9.02E-03	5	1.80E-03
264	8.28E-03	5	1.66E-03
265	8.01E-03	5	1.60E-03
266	8.27E-03	5	1.65E-03
267	9.49E-03	5	1.90E-03
268	9.43E-03	5	1.89E-03
269	1.06E-02	5	2.12E-03
270	1.31E-02	5	2.63E-03
271	1.67E-02	5	3.34E-03
272	1.98E-02	5	3.96E-03
273	2.18E-02	5	4.37E-03
274	2.26E-02	5	4.51E-03
275	2.19E-02	5	4.38E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
276	2.04E-02	5	4.09E-03
277	1.84E-02	5	3.68E-03
278	1.63E-02	5	3.26E-03
279	1.43E-02	5	2.86E-03
280	1.22E-02	5	2.44E-03
281	1.03E-02	5	2.06E-03
282	8.68E-03	5	1.74E-03
283	6.58E-03	5	1.32E-03
284	6.31E-03	5	1.26E-03
285	6.19E-03	5	1.24E-03
286	6.55E-03	5	1.31E-03
287	7.47E-03	5	1.49E-03
288	8.14E-03	5	1.63E-03
289	8.47E-03	5	1.69E-03
290	1.02E-02	5	2.05E-03
291	1.25E-02	5	2.50E-03
292	1.49E-02	5	2.98E-03
293	1.68E-02	5	3.36E-03
294	1.79E-02	5	3.58E-03
295	1.80E-02	5	3.59E-03
296	1.73E-02	5	3.47E-03
297	1.62E-02	5	3.24E-03
298	1.47E-02	5	2.93E-03
299	1.31E-02	5	2.62E-03
300	1.15E-02	5	2.29E-03

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
301	9.44E-03	5	1.89E-03
302	8.31E-03	5	1.66E-03
303	5.59E-03	5	1.12E-03
304	5.13E-03	5	1.03E-03
305	5.07E-03	5	1.01E-03
306	4.91E-03	5	9.82E-04
307	5.05E-03	5	1.01E-03
308	5.58E-03	5	1.12E-03
309	6.30E-03	5	1.26E-03
310	6.83E-03	5	1.37E-03
311	8.06E-03	5	1.61E-03
312	9.67E-03	5	1.93E-03
313	1.15E-02	5	2.30E-03
314	1.31E-02	5	2.63E-03
315	1.43E-02	5	2.86E-03
316	1.48E-02	5	2.97E-03
317	1.47E-02	5	2.94E-03
318	1.40E-02	5	2.81E-03
319	1.31E-02	5	2.61E-03
320	1.18E-02	5	2.36E-03
321	1.06E-02	5	2.12E-03
322	8.79E-03	5	1.76E-03
323	7.88E-03	5	1.58E-03
324	5.44E-03	5	1.09E-03
325	4.73E-03	5	9.46E-04

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
326	4.61E-03	5	9.23E-04
327	4.18E-03	5	8.35E-04
328	4.18E-03	5	8.35E-04
329	4.53E-03	5	9.05E-04
330	4.72E-03	5	9.44E-04
331	5.12E-03	5	1.02E-03
332	5.75E-03	5	1.15E-03
333	6.53E-03	5	1.31E-03
334	7.70E-03	5	1.54E-03
335	9.07E-03	5	1.81E-03
336	1.04E-02	5	2.09E-03
337	1.15E-02	5	2.31E-03
338	1.23E-02	5	2.45E-03
339	1.25E-02	5	2.50E-03
340	1.22E-02	5	2.44E-03
341	1.16E-02	5	2.32E-03
342	1.04E-02	5	2.08E-03
343	9.59E-03	5	1.92E-03
344	8.18E-03	5	1.64E-03
345	7.41E-03	5	1.48E-03
346	4.14E-03	5	8.29E-04
347	3.98E-03	5	7.96E-04
348	3.81E-03	5	7.62E-04
349	3.62E-03	5	7.23E-04
350	3.65E-03	5	7.30E-04

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
351	3.89E-03	5	7.78E-04
352	4.13E-03	5	8.27E-04
353	4.38E-03	5	8.76E-04
354	4.80E-03	5	9.61E-04
355	5.27E-03	5	1.05E-03
356	6.28E-03	5	1.26E-03
357	7.33E-03	5	1.47E-03
358	8.45E-03	5	1.69E-03
359	9.44E-03	5	1.89E-03
360	1.02E-02	5	2.04E-03
361	1.06E-02	5	2.11E-03
362	1.06E-02	5	2.12E-03
363	1.03E-02	5	2.06E-03
364	9.30E-03	5	1.86E-03
365	8.71E-03	5	1.74E-03
366	7.58E-03	5	1.52E-03
367	6.94E-03	5	1.39E-03
368	3.59E-03	5	7.18E-04
369	3.52E-03	5	7.05E-04
370	3.33E-03	5	6.66E-04
371	3.11E-03	5	6.22E-04
372	3.24E-03	5	6.47E-04
373	3.16E-03	5	6.31E-04
374	3.44E-03	5	6.89E-04
375	3.58E-03	5	7.16E-04

Big Canyon Phase 2

Risk from Construction Phase 1A

Non Cancer Risk

Receptor #	Conc	REL	HI
376	3.92E-03	5	7.83E-04
377	4.24E-03	5	8.47E-04
378	4.51E-03	5	9.02E-04
379	5.21E-03	5	1.04E-03
380	5.77E-03	5	1.15E-03
381	6.94E-03	5	1.39E-03
382	7.82E-03	5	1.56E-03
383	8.53E-03	5	1.71E-03
384	8.99E-03	5	1.80E-03
385	9.14E-03	5	1.83E-03
386	8.98E-03	5	1.80E-03
387	8.29E-03	5	1.66E-03
388	7.86E-03	5	1.57E-03
389	7.00E-03	5	1.40E-03
390	6.47E-03	5	1.29E-03