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STAFF REPORT: REGULAR CALENDAR

Application No.:	**5-23-0337**
Applicants:	**City of Newport Beach, Newport Bay Conservancy, and California Department of Fish Wildlife**
Location:	29.5 acres of habitat in Big Canyon Nature Park, Newport Beach, Orange County
Project Description:	Phase 3 of the Big Canyon Restoration Project will restore historic tidal influence to the canyon, remove invasive vegetation and selenium contamination, and restore 16 total acres of native coastal salt marsh, riparian habitat, and alkali meadow habitat. The proposal includes 47,914 cy of cut and 30,900 cy of fill.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Big Canyon Nature Park is a 60-acre coastal canyon located in Newport Beach, Orange County **(Exhibit 1)**. The canyon receives freshwater flows from an approximately three-mile upstream watershed and is one of the last remaining undeveloped canyons along the Upper Newport Bay. Roughly two-thirds of the canyon is owned by the City of Newport Beach and the remaining portion is owned by the California Department of Fish and Wildlife (CDFW). The City, CDFW, and Newport Bay Conservancy are applicants for the subject application.

Urbanization of this watershed has significantly degraded water quality and native habitat in Big Canyon. The canyon was originally subject to tidal action from Upper Newport Bay, allowing a greater range of native habitat types. But in the mid-1900's, sections of the bay were filled for farming use and roadways. Coastal salt marsh was transformed into upland and riparian habitat. Invasive, non-native vegetation displaced many native plant communities in the canyon. Tree groves became infested with polyphagous shot hole borer beetles (PSHBBs) carrying fungal disease. A freshwater pond formed in the lower canyon that bred mosquitoes. Naturally-occurring selenium in the soil was mobilized by constant flows through the canyon to accumulate in toxic amounts, contaminating the sources of freshwater on which plants and wildlife rely.

In 2016 and 2019, the Commission approved coastal development permits (CDPs) for the City of Newport Beach to conduct Big Canyon Restoration Project Phases I and 2, respectively. Phase 1 included hydrology improvements in the northernmost six acres, where freshwater flows enter the canyon. Phase 2 included restoration and drainage improvements in the 11.3 acres of the canyon immediately west of Phase 1. The proposed project is the third and final phase of the Big Canyon Restoration Project.

The applicants propose restoration and hydrology improvements in the lower 29.5 acres of Big Canyon. The project consists of three main components: 1) restoration of tidal influence in the northern canyon to create a native salt marsh; 2) realignment of existing freshwater flows to improve drainage and water quality on-site; and 3) improvements to the existing public trails and signage in Big Canyon Nature Park. While the Commission certified the City's Local Coastal Program (LCP) in 2017, the project site is located on public trust lands within the Commission's retained permit jurisdiction. Therefore, the standard of review is the Chapter 3 policies of the Coastal Act with the certified LCP providing guidance.

Staff recommends APPROVAL of the proposed project with eight (8) special conditions requiring: 1) a habitat restoration plan; 2) nesting bird protection measures; 3) herbicide use protocols; 4) other agency approvals; 5) construction best management practices; 6) a construction staging plan; 7) assumption of risk; and 8) protection of archaeological and tribal cultural resources.

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I. MOTION AND RESOLUTION

Motion: I move that the Commission **approve** Coastal Development Permit (CDP) Application No. 5-23-0337 pursuant to the staff recommendation.

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

Resolution: The Commission hereby approves Coastal Development Permit Application No. 5-23-0337 and adopts the findings set forth below on grounds that the development, as conditioned, will be in conformity with the Chapter 3 policies of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that will substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the applicants or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the applicants to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Final Habitat Restoration Plan.** The permittees shall submit a Final Habitat Restoration Plan to the Executive Director that is consistent with the Habitat Restoration & Adaption Plan, prepared by Trestles Environmental Corporation and Tidal Influence on November 2022, and includes the following requirements:

   A. The permittees shall submit annual monitoring reports, prepared by the project biologist after the initial planting period, for Executive Director review. The annual monitoring reports shall detail progress toward meeting the below success criteria. At the end of the five-year monitoring period, the final annual monitoring report shall confirm that the following success criteria have been met:

      i. At least 75% absolute cover of native plant species in each specific habitat revegetation area;

      ii. No more than 5% absolute cover of non-native invasive plant species in each specific habitat revegetation area;

      iii. At least five native species listed in the subject, habitat-specific plant palette shall present in each relevant revegetation zone in the project site; and

      iv. Replacement of all removed or damaged salt marsh bird's beak and California boxthorn plants.

   B. If the success criteria are not met by the end of the five-year monitoring period, the permittees shall apply for a CDP amendment with rationale for adjusting the success criteria or for an adaptive restoration plan that includes adjustments and actions for meeting the success criteria .

   The permittees shall undertake development in accordance with the final Habitat Restoration Plan approved by the Executive Director. Any proposed changes to the approved, final Habitat Restoration Plan shall be reported to the Executive Director. No changes to the approved, final Habitat Restoration Plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. **Nesting Bird Protection Measures**. Restoration work and vegetation maintenance activities shall be conducted outside the bird nesting season to the maximum extent feasible. If work is conducted during the bird nesting season (from February 1 to August 31), prior to commencement of approved tree trimming or non-native tree removal activities at any given site within the project area, the permittees shall undertake development in compliance with all the following measures to protect sensitive bird nesting habitat:

A. A survey for nesting birds in and adjacent to the project work area shall be conducted by a qualified biologist prior to tree trimming and prior to non-native tree removal each day such activities are conducted.

B. If any sensitive bird habitat area is detected (i.e., detection of an active nesting area of sensitive species), the biologist shall determine the extent of a work-free buffer zone to be established around the nest, and work in the buffer zone shall be delayed until after the young have fledged and the nest is vacated, as determined by additional surveys conducted by a qualified biologist. The workfree buffer zone shall be a minimum of 500 feet for nesting raptors and a minimum of 300 feet for other special-status bird species. The workfree buffer zone may be reduced to a minimum of 100 feet if the noise does not exceed 65 decibels and a qualified ornithologist monitors the bird's behavior to confirm no signs of stress.

C. The project biologist(s) shall be present on site during all tree trimming and non-native tree removal activities to (a) enforce the protective buffers, and (b) monitor active nests and breeding birds for signs of distress or abnormal behavior. If signs of distress or disturbance are observed, the project biologist(s) shall have discretion to enlarge the buffers, halt project activities, or implement other measures necessary to protect active nests and breeding.

3. Herbicide Use Protocols. The permittees shall carry out the Integrated Pest Management Plan submitted by Newport Bay Conservancy on May 22, 2023, including the following requirements:

A. Non-chemical treatment methods such as mowing and hand-removal shall be used wherever feasible. If non-chemical methods are infeasible, chemical treatment methods shall utilize the least toxic and least persistent herbicides appropriate and effective for the respective target non-native specie(s). The use of herbicides shall be minimized and non-targeted species avoided.

B. Herbicide use shall be restricted to the herbicide types and application methods proposed in the Integrated Pest Management Plan dated May 22, 2023 and the Details on Herbicide Use Areas for Big Canyon – Phase 3 Integrated Pest Management Plan dated June 22, 2023.

C. The use of non-ionic surfactants shall be prohibited. Surfactants shall be limited to the use of crop oil concentrate at a 1% v/v concentration (one milliliter of surfactant to 100 milliliters of herbicide solution), including Agri-Dex,™ Competitor,™ and Hasten EA.™

D. No herbicide application shall occur when on-site wind speeds exceed five miles per hour; within 48 hours before a predicted rain event; or within 72 hours after a rain event.

E. All vegetation removal, both manual and chemical, shall be monitored by the project biologist to protect native vegetation, wildlife, and water quality from

adverse impacts. All herbicide use shall be conducted by a California-licensed Pest Control Advisor and/or Qualified Applicator to ensure the appropriate herbicide is applied per the herbicide label instructions.

F. Prior to any herbicide use, the project biologist shall conduct a daily survey of the proposed area of work to determine the presence of any native vegetation. If native species are identified within the area of proposed work, the project biologist shall notify herbicide applicators and/or delineate the native vegetation with fencing or survey flags.

G. If removal of non-native and invasive vegetation is required near creek or wetland habitat, the applicants shall either remove non-native or invasive vegetation by hand or utilize herbicides specifically approved for aquatic use.

H. Any application of herbicides conducted after initial removal of the target species biomass (i.e. re-treatment) shall be scheduled to occur before the target species' flowering and seed distribution season.

The permittees shall undertake development in accordance with the final Integrated Pest Management Plan approved by the Executive Director. Any proposed changes to the approved, final Integrated Pest Management Plan shall be reported to the Executive Director. No changes to the approved, final Integrated Pest Management Plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

4. **Other Agency Approvals.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittees shall provide to the Executive Director copies of all permits issued by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and Environmental Protection Agency, or letter(s) of permission, or evidence that no permit or permission is required. The permittees shall inform the Executive Director of any changes to the project required by these resource agencies. Such changes shall not be incorporated into the project until the permittees obtain a Commission amendment to this coastal development permit, unless the Executive Director issues a written determination that no amendment is legally required.

5. **Best Management Practices (BMPs).**

A. The permittees shall comply with the following construction-related requirements and shall do so in a manner that complies with all relevant local, state and federal laws applicable to each requirement:

i. No construction materials, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters, or be subject to wave, wind, rain, or tidal erosion and dispersion;

ii. Any fueling and maintenance of equipment shall occur within paved areas outside of environmentally sensitive habitat areas or within designated staging areas. Mechanized heavy equipment and other vehicles used during maintenance activities shall not be refueled or washed within 100 feet of coastal waters;

iii. Maintenance vehicles shall be restricted to designated routes. Maintenance equipment and materials shall be stored only in designated staging and stockpiling areas;

iv. Fuels, lubricants, and solvents shall not be allowed to enter the coastal waters or wetlands. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call. Any accidental spill shall be rapidly contained and cleaned up;

v. BMPs shall be implemented to control erosion from any disturbed areas and to prevent sediment and potential pollutants from entering coastal waters and native habitat plant communities during maintenance activities;

vi. Erosion control and sedimentation BMPs shall be used to control dust and sedimentation impacts to coastal waters during construction. BMPs shall include, but are not limited to, the placement of sand bags around drainage inlets to prevent runoff and sediment transport into coastal waters; and

vii. All construction materials, excluding lumber, shall be covered and enclosed on all sides, and stored as far from a storm drain inlet as possible.

B. BMPs designed to prevent spillage and runoff of construction-related materials, sediment, or contaminants associated with construction activity shall be implemented prior to the onset of such activity. Selected BMPs shall be maintained in a functional condition throughout the duration of the project. Such measures shall be used during construction:

i. The permittees shall maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems. Washout from concrete trucks shall be disposed of at a location not subject to runoff and more than 50 feet away from a storm drain, open ditch or surface water;

ii. The permittees shall provide adequate disposal facilities for solid waste, including excess concrete, produced during construction;

iii. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting shall be prohibited, to minimize wildlife

entanglement and plastic debris pollution. Only 100% biodegradable (not photodegradable) natural fiber netting shall be allowed;

iv. Containment products, including, but not limited to, tarps or debris booms, shall be used to capture and prevent the discharge of construction pollutants into the adjacent waterway; and

v. All construction equipment shall use vegetable oil-based hydraulic fluids or biodiesel.

6. **Construction Staging Plan.** The permittees shall carry out the approved Constriction Staging Plan received by Commission staff on July 14, 2023, including the following requirements:

   A. The permittees shall maintain at least 19 vehicle parking spaces and two bus parking spaces as available to the public at 1900 Back Bay Drive for the duration of work.

   B. Construction staging shall not block the primary entrance or exit to the parking lot or require the closure of educational programs (except for temporary, small-scale trail closures or rescheduled programs to accommodate restoration work.)

   Any proposed changes to the approved, final Construction Staging Plan shall be reported to the Executive Director. No changes to the approved, final Construction Staging Plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the permittees acknowledge and agree (i) that the site may be subject to hazards from storms, sea level rise, fluvial or tidal induced erosion, earthquakes, and other hazards; (ii) to assume the risks to the permittees and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; (v) that sea level rise could render it difficult or impossible to provide services to the site (e.g., maintenance of roadways, utilities, sewage or water systems), thereby constraining allowed uses of the site or rendering it uninhabitable; and (vi) that the development may be required to be removed or relocated and the site restored if it becomes unsafe or if removal is required pursuant to the Coastal Act.

8. Protection of Archaeological and Tribal Cultural Resources. The permittees shall undertake development in compliance with the following mitigation measures to protect archaeological, including tribal cultural resources:

A. AT LEAST ONE MONTH PRIOR TO COMMENCEMENT OF ANY GROUND-DISTURBING CONSTRUCTION ACTIVITIES, the permittees shall (i) notify the representatives of Native American Tribes listed on an updated Native American Heritage Commission (NAHC) contact list; (ii) invite all Tribal representatives on that list to be present and to monitor ground-disturbing activities; and (iii) arrange for any invited Tribal representative that requests to monitor and a qualified archaeological monitor to be present to observe project activities with the potential to impact archaeological and/or tribal cultural resources. The monitor(s) shall have experience monitoring for archaeological resources of the local area during excavation projects, be competent to identify significant resource types, and be aware of recommended Tribal procedures for the inadvertent discovery of archaeological resources and human remains.

B. If an area of archaeological resources is discovered during ground-disturbing activities, all construction shall cease and shall not recommence except as provided in subsection (C) hereof, and the permittees shall retain an archaeologist or tribal cultural resource specialist qualified to analyze the significance of the find in consultation with the Native American Tribes listed on the NAHC list. The specialist shall immediately notify the Tribes on the NAHC list. An “exclusion zone” where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area that includes a reasonable buffer zone recommended by the monitor(s). Project activities may continue outside of the exclusion zone.

C. Should human remains be discovered on-site during the course of the project, immediately after such discovery, the on-site archaeologist and Native American monitor shall notify the County Coroner within 24 hours of such discovery, and all construction activities shall be temporarily halted until the remains can be identified. The Native American group/person deemed acceptable by the NAHC shall participate in the identification process, pursuant to Public Resources Code Section 5097.98. Should the human remains be determined to be that of a Native American, the permittees shall comply with the requirements of Section 5097.98. Within five (5) calendar days of such notification, the permittees shall notify the Executive Director of the discovery of human remains.

D. Permittees seeking to recommence construction within the exclusion zone following discovery of the archaeological resources shall submit a Supplementary Archaeological Plan (SAP) prepared by the project archaeologist in consultation with the Native American Tribes listed on the NAHC list for the review and written approval of the Executive Director. If the Executive Director approves the SAP and determines that the SAP’s recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after this determination is made by the Executive Director in writing. If the Executive

Director approves the SAP but determines that the changes therein are not de minimis, construction may not recommence until after an amendment to this permit is approved by the Commission.

IV. FINDINGS AND DECLARATIONS

A. Project Location, Background, and Description

Project Location

Big Canyon Nature Park is a 60-acre coastal canyon located in Newport Beach, Orange County **(Exhibit 1).** Big Canyon is bounded by Upper Newport Bay on the western side, residential communities on the northern and southern sides, and Jamboree Road on the eastern side. It is one of the few remaining, undeveloped canyons along Upper Newport Bay, with canyon bluffs towering over a perennial creek, dense vegetation, and a network of public trails. Roughly two-thirds of the canyon is owned by the City of Newport Beach, while the remaining, western-most portion is owned by CDFW. The Newport Bay Conservancy is a non-profit organization that participates in restoration projects throughout Newport Bay. All three parties are applicants for the subject application.

Project Background

Big Canyon Creek receives freshwater flows from an approximately three-mile, upstream watershed. Urbanization of this watershed has significantly degraded water quality and native habitat in Big Canyon over the last century. The canyon was originally subject to tidal action from Upper Newport Bay, allowing a greater range of native habitat types. But in the mid-1900's, sections of the bay were filled for farming uses and roadways. Surrounding urbanization became an unflagging source of freshwater runoff in the canyon.

As a result, Big Canyon lost all tidal influence and the coastal salt marsh was transformed into upland and riparian habitat. Invasive, non-native vegetation displaced many native plant communities in the canyon. Tree groves became infested with PSHB beetles *(Euwallacea fornicates)* carrying fungal disease. A freshwater pond formed in the lower canyon and bred mosquitoes. Naturally-occurring selenium in the soil was mobilized by constant flows through the canyon and accumulated in toxic amounts, contaminating the sources of freshwater on which plants and wildlife rely.

In November 1980, the South Coast Regional Commission approved CDP No. P-80-7346 for the Orange County Sanitation District to abandon existing sewer line features extending through Big Canyon. The Regional Commission's action was appealed to the State Coastal Commission via Appeal No. 332-80. In February 1981, the project was approved on appeal with special conditions requiring restoration of an existing, seven-acre, freshwater canyon marsh to mitigate adverse impacts to light-footed clapper rail *(Rallus longirostris levipes)*.

In August 2000, the Commission approved CDP No. 5-00-144 for the Orange County Sanitation District to conduct additional sewer line improvements and relocation of existing storm drain inlet along Back Bay Drive.

In September 2009, the City submitted CDP Application No. 5-09-113 to restore natural resources and water quality for the entire 60-acre canyon. When the Commission identified concerns with potential impacts to salt marsh bird's beak *(Cordylanthus maritimus)* and insufficient selenium remediation, the City withdrew the application in favor of a redesigned and multi-phased approach.

In August 2016, the Commission approved CDP No. 5-16-0059 for the City to conduct Phase 1 of the Big Canyon Restoration Project **(Exhibit 2)**. The first phase included hydrology improvements in the northernmost six acres of the canyon. The project diverted stormwater into a separate drainage path to slow and filter flows before ultimate arrival at a new, 0.25-acre wetland and riparian habitat area.

In September 2019, the Commission approved CDP No. 5-19-0213 for the City to conduct Phase 2 of the Big Canyon Restoration Project **(Exhibit 2)**. The second phase included habitat and drainage improvements in the 11.3 acres of the canyon immediately west of Phase 1. The project removed approximately nine acres of invasive, non-native vegetation for replacement with native vegetation resistant to PSHBBs, including alkali meadow, riparian habitat, and upland transition habitat. The project also stabilized an existing pond with rip-rap.

Project Description

The proposed project is the third and final phase of the Big Canyon Restoration Project. The applicants propose restoration and hydrology improvements in the lower 29.5 acres of Big Canyon located between Upper Newport Bay and the western limits of Phase 2. Construction would begin in the fall season of 2023 and conclude within one year. Monitoring and habitat maintenance would occur over the following five years.

First, the project would restore tidal influence in the lower, northern canyon **(Exhibit 3)**. The applicants would remove the artificial berm separating Phase 2 from Phase 3, remove the invasive, non-native Brazilian pepper tree grove (*Schinus terebinthifolia*), and dredge existing sediment sills from the portion of Upper Newport Bay abutting Big Canyon. The work would result in a new, coastal salt marsh in the northern lower canyon. Transitional habitat zones would be established in rings around the salt marsh to preserve habitat diversity with future sea level rise.

Second, the project would realign Big Canyon Creek to connect with the realigned channel in Phase 2 and direct flows away from the proposed salt marsh. Grading and levee improvements would eliminate stagnation during low flows, reducing accumulation of selenium and mosquito breeding habitat. The existing marsh pond would be filled with sediment graded from other areas of the canyon. Excavated soil contaminated with selenium would be deposited in the southern uplands of the canyon, where it would not interact with freshwater or tides. Upland vegetation would establish over the permanent stockpile and the threat of bioavailability would be neutralized.

Lastly, the project would alter the existing network of pedestrian trails in Big Canyon. The applicants would remove the portion of pedestrian trail bisecting the berm proposed for elimination. The removed trail would be replaced with a new maintenance access road located near the berm. Other portions of trail would be upgraded with geotextile bases to widen and stabilize the walkways.[1] Educational signage would be posted at the four corners of the canyon.

B. Standard of Review

The City of Newport Beach's LCP was effectively certified on January 13, 2017. The standard of review for development located in the City's permit jurisdiction is the City's certified LCP. However, the subject site constitutes public trust lands located within the Commission's retained permit jurisdiction. Therefore, the standard of review is the Chapter 3 policies of the Coastal Act with the City's certified LCP serving as guidance.

C. Biological Resources

Section 30107.5 of the Coastal Act defines "ESHA" as:

> "Environmentally sensitive area" means 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 30231 of the Coastal Act states:

> The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233(a) of the Coastal Act states:

> The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

[1] Geotextile bases are permeable fabrics that reduce erosion and stabilize walkways. (Ref. https://www.sciencedirect.com/topics/engineering/geotextile)

…(7) Nature study, aquaculture, or similar resource dependent activities. …

Section 30236 of the Coastal Act states:

> Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Section 30240 of the Coastal Act states:

> (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
>
> (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The City's certified LUP contains the following polices, in relevant part:

> Policy 4.1.1 Environmentally Sensitive Habitats
>
> 14. Require mitigation in the form of habitat creation or substantial restoration for allowable impacts to ESHA and other sensitive resources that cannot be avoided through the implementation of siting and design alternatives. …
>
> 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. ...Unless it is 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.
>
> Policy 4.1.3 Environmental Study Areas
>
> Study Area No. 7: Mouth of Big Canyon
>
> 1. Utilize the following mitigation measures to reduce the potential for adverse impacts to ESA natural habitats from sources including, but not limited to, those identified in Table 4.1.1: …

> 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.
>
> D. Participate in programs to control sedimentation into and within Upper Newport Bay. …

Section 30231 of the Coastal Act requires that the biological productivity of streams be maintained and restored by protecting riparian habitats and their associated vegetation buffer areas. Section 30233(a) requires that any project involving dredging of open coastal waters constitute a specifically allowed use, be the least environmentally damaging alternative feasible, and adequately mitigate any unavoidable, adverse environmental impacts. Section 30236 limits the purposes of alterations of waterways to the improvement of habitat, among other purposes. Section 30240 limits ESHA impacts to only resource-dependent uses.

Site Characterization

Certified LUP Policy 4.1.3 designates the mouth of Big Canyon (i.e. the project site) as an Environmental Study Area, or a natural habitat area with regulations to protect sensitive plants and wildlife. The applicants submitted multiple habitat surveys of the area conducted by Trestles Environmental Consulting between June 2021 and May 2022. The surveys show at least 17 habitat types in the project site, grouped mainly by their proximity to saltwater and freshwater flows.

The roughly four-acre portion of Upper Newport Bay proposed for dredging is dominated by native pickleweed mats *(Salicornia pacifica)*, salt marsh bird's beak, and mudflats **(Photo 1 of Exhibit 4)**. Moving further into the canyon, the vegetation diverges into three main habitat areas: a northern tree grove, a central freshwater marsh, and southern uplands.

The northern tree grove encompasses roughly seven acres and presents as a lush forest, despite significant degradation by non-native, invasive species and PSHBBs **(Photo 2 of Exhibit 4)**. The grove is dominated by non-native, invasive Brazilian pepper trees *(Schinus mole)* interspersed with some native arroyo willow *(Salix lasiolepis).*

The central freshwater marsh is located south of the tree grove and encompasses roughly four acres of habitat bounded by pedestrian trails **(Photo 3 of Exhibit 4)**. Big Canyon Creek routes directly through the marsh and into an artificial pond constructed in the 1980's, which inadvertently concentrated selenium in massive amounts **(Photo 4 of Exhibit 4)**. The pond is ringed by bulrushes *(Schoenoplectus californicus)* and cattails *(Typha spp.)* extending tall shoots up from the muddy substrate. The pond is largely absent of southwestern pond turtles *(Actinemys marmorata pallida)* due to a lack of basking sites, but many common bird species nest in the fringing habitat.

The southern uplands are located south of the central marsh and encompass roughly 10 acres of habitat, including a small pocket of wetland in the westernmost corner **(Photo 5 of Exhibit 4)**. No freshwater flows to this portion of the canyon, resulting in a

broad swath of dry scrub habitat. Plant communities found here include saltbush *(Atriplex spp.)*, coyote brush *(Baccharis pilularis)*, coastal sagebrush *(Artemisia californica)*, and disturbed Menzies' goldenbush scrub *(Isocoma menziesii)*.

Section 30107.5 defines ESHA as any habitat occupied by rare species, or especially valuable, and that can be easily disturbed or degraded by human disturbance or development. Sensitive wildlife was observed in the applicants' habitat surveys, including California gnatcatcher *(Polioptila californica californica)* and Least Bell's vireo *(Vireo bellii pusillus).* Sensitive vegetation was also observed, including Southern tarplant *(Centromadia parryii ssp.)* and salt marsh bird's beak*.* Additionally, the project site includes jurisdictional wetlands, freshwater creeks, and associated riparian habitat that support sensitive species (including Least Bell's vireo.)

These habitats and species are considered rare in southern California, while the history of Big Canyon demonstrates how easily the subject habitat can be disturbed by human activity and development. Therefore, Commission environmental program manager Dr. Jonna Engel has reviewed the biological reports submitted with this application and determined that, under Section 30107.5, the entire proposed area of work rises to the level of ESHA.

Allowable Use

The sole purpose of the project is to improve native habitat quality in Big Canyon. The prior two restoration phases have already produced a significant improvement in water quality and native coverage in the upper northern canyon. The subject project would extend these benefits to the lower southern canyon.

Therefore, the project meets the first requirement of Section 30233(a)(6) as a restoration project and the third prong of Section 30236 as development primarily intended to improve natural habitat. Improvement of natural habitat is a resource-dependent use allowed within ESHA under Section 30240(a). In addition to specifying allowed uses, these policies require that the project constitutes the least environmentally damaging alternative feasible.

Alternatives Analysis

The applicants provided an analysis of alternative projects intended to restore habitat quality in Big Canyon with limited impacts to ESHA.

1. **No Project.** The applicants could opt not to complete the final phase of the 14-year long restoration of Big Canyon. No dredging or grading would occur. Salt marsh bird's beak and pickleweed would remain undisturbed in Upper Newport Bay. Selenium would accumulate in greater and greater concentrations at the pond, killing future wildlife and vegetation. Non-native, invasive species would increase coverage in the absence of controlling efforts, displace sensitive vegetative species, and provide a lower quality of habitat for nesting birds. The canyon would remain dominated by upland and riparian habitat. The historic salt marsh habitat would not be re-created. The lower canyon would be flooded within 75 years in the event of 6.8 ft. of sea level rise (described in detail in the 'Coastal

Hazards' subsection), but the absence of dredging may reduce the scale of inundation. Alternative 1 poses the least degree of short-term adverse environmental impacts, but increases the degree of long-term impacts by allowing degradation to proceed.

2. **Vegetative Restoration Only.** The applicants could forgo hydrological improvements and limit work to the replacement of invasive vegetation with native species. Other than filling the artificial pond and relocating contaminated sediment in an onsite berm, no changes to existing creek flows or tidal influence would occur. The lower canyon would be flooded within 75 years in the event of 6.8 ft. of sea level rise, but the absence of dredging may reduce the scale of inundation. The applicants would attempt to work around sensitive native vegetation; removal of native plants would be limited to those already compromised by fungal infection or invasive species. But the habitat surveys show a dense patchwork of overlapping vegetation zones—it may not be possible to remove undesirable vegetation without tramping sensitive species. Ineffective restoration in the lower canyon could undo some of the upper canyon improvements by allowing invasive species to spread further. Additionally, the absence of drainage improvements would limit the scope of native habitat types available in the canyon and continue Selenium accumulation. Alternative 2 eliminates adverse impacts to Upper Newport Bay vegetation, but increases short-term and long-term adverse impacts to canyon vegetation.

3. **Salt Marsh Restoration Only.** The applicants could extend tidal influence throughout the entire 30-acre lower canyon and create a much larger salt marsh to reflect likely historic conditions. The northern culvert connecting the bay to the canyon would be widened and the lower canyon would be graded into a floodplain. The northern fork of Big Canyon Creek would be eliminated and all freshwater flows would be directed southward to a widened, upgraded southern waterway. The pond would be filled and become part of the marsh. Since all portions of the lower canyon would be tidally influenced, excavated sediment contaminated with selenium would have to be moved to an offsite landfill. All existing vegetation, both native and non-native, would be removed for installation of new marsh plants. The lower canyon would be flooded to a much greater extent in the event of 6.8 ft. of sea level rise and the salt marsh would become open waters, unable to migrate outward in the absence of transitional habitat and space. Alternative 3 poses the greatest impact to bay habitat and limits habitat diversity in the canyon to salt marsh (and limited riparian) vegetation. It would also result in the greatest future loss of habitat, as the increased tidal influence would submerge most of the restored area.

4. **Proposed Project.** As previously described, the applicants would remove approximately 16 acres of invasive and degraded native habitat; realign the creek and fill the pond; dredge 1,215 cubic yards of sediment from Upper Newport Bay to restore tidal influence in the northern lower canyon; and establish 16 acres of new native vegetation, including a salt marsh with transitional alkali meadows and upland zones. In the event of 6.8 ft. of sea level rise, the canyon would flood

> and the transitional habitat zones would morph into migrating salt marsh. Any removed or damaged sensitive plant species would be replaced at a 1:1 impact-to-mitigation ratio. The project would conclude the 14-year, 60-acre restoration of Big Canyon. Alternative 4 was designed to minimize short-term adverse environmental impacts for long-term habitat and water quality improvements.

The myriad of issues facing Big Canyon today—parasitic infestation, fungal disease, selenium contamination, and invasive species contamination—demonstrates a clear need for restoration and water quality improvements. Alternative 1 (No Project) offers no benefit to the existing habitat and threatens further degradation of habitat values on-site. Alternative 2 (Non-Native Vegetation Removal Only) may worsen the degree of invasive contamination on-site and trample native habitat, while also failing to address selenium contamination and the absence of salt marsh habitat. Alternative 3 (Salt Marsh Restoration Only) would require significantly more dredging in open coastal waters, limit habitat diversity, and ultimately prove futile with inundation from sea level rise. It is also financially infeasible.

Alternative 4 (Proposed Project) was designed by the applicants in collaboration with multiple resource agencies, including the U.S. Army Corps of Engineers and CDFW. The applicants have hosted interagency advisory meetings on the project (which Commission staff attended) and continually updated the project to address resource agency concerns for over a year. The proposed project minimizes environmental impacts and creek bed alteration to the greatest extent feasible. Any adverse impacts to sensitive, native wildlife and vegetation would be mitigated by direct replacement of impacted plants and overall habitat enhancement.

Thus, as proposed, the project meets the second criteria of sections 30233(a), 30236, and 30240 as the least environmentally damaging alternative feasible. For consistency with these policies, the project must also provide adequate mitigation for all unavoidable, adverse environmental impacts.

Impact Mitigation

The applicants submitted a Habitat Restoration and Adaption Plan (“Restoration Plan”), prepared by Trestles Environmental Corporation and Tidal Influence, dated November 2022. The restoration plan includes five general categories of plant palettes: salt marsh, southern willow scrub, mule fat scrub, coastal sage scrub, and alkali meadow.[2] Riparian vegetation, alkali meadow, and coastal sage scrub would be established via hydroseeding. Other habitats would be established with container plants and cuttings collected near the project site.

The restoration plan also includes performance standards specific to each habitat type and each year of the five-year monitoring period. All habitat types must meet at least 50% absolute cover of native plant species within five years, although some habitat

[2] The restoration plan technically includes nine plant palette tables, but similar and overlapping palettes were not described for brevity.

types are required to meet a higher percentage of native cover. For example, the alkali meadow area requires at least 70% absolute native cover for success.

Also, all habitat types are limited to no more than 10% absolute non-native cover of invasive species designated by California Invasive Plant Council (Cal-IPC) as high-risk. (Cal-IPC defines high-risk invasive species as producing "severe ecological impacts on physical processes, plant and animal communities, and vegetation structure.") Some habitat types are required to maintain a lower percentage. For example, salt marsh cannot contain any invasive species designated by Cal-IPC as high-risk. Other habitat types are prohibited from exceeding 10% or containing a single, specified invasive species, like swamp saltbush *(Atriplex amnicola)* in the coastal sage scrub area and non-native sea lavender *(Limonium spp.)* in the salt marsh. Overall, the proposed performance criteria are highly specialized and restrictive.

If successful, the project would result in approximately three acres of salt marsh, five acres of native riparian habitat, three acres of alkali meadow, and five acres of coastal sage scrub. This would replace the existing, degraded habitat on-site with 16 total acres of new and restored native habitat. All impacted, sensitive, native plant species (including salt marsh bird's beak*)* would be replaced via seeds collected under a scientific collection permit from CDFW. The applicants propose submittal of annual monitoring reports to the Commission and all relevant local resource permitting agencies.

To ensure potential adverse impacts to ESHA are mitigated, **Special Condition 1** requires the applicants to conform to the submitted restoration plan and submit annual monitoring reports for five years following the initial planting period. While the restoration plan includes a greater scope of performance standards, the Commission's senior ecologist determined the following success criteria would be adequate to confirm ESHA enhancement: at least 50% absolute cover of native plant species in each specific habitat revegetation area; no more than 10% absolute cover of non-native invasive plant species in each specific habitat revegetation area; and at least three native species listed in the subject, habitat-specific plant palette present in each relevant revegetation zone in the project site. These performance standards were determined by the Commission's senior ecologist in conformance with the applicant's proposal. If the project does not meet these standards, **Special Condition 1** requires the applicants to apply for an amendment to the subject CDP for adaptive restoration.

In past actions the Commission has required mitigation for any adverse impacts to ESHA at a 3:1 ratio of new-to-impacted habitat. However, the subject project proposes only temporary adverse impacts to existing ESHA and permanent beneficial impacts (i.e. improved irrigation, restoration of tidal influence, and reduced non-native invasive vegetative cover on-site.) Therefore, additional mitigation is not necessary.

The applicants have also designed the timing of the project to minimize and mitigate any unavoidable impacts.

Timing of Construction

Vegetation removal would begin in the Fall season of 2023 and is proposed for completion within a year. The applicants provided a construction schedule offering duration ranges in weeks. Staff have simplified the schedule in the following summary.

In the first two months (likely September and October), the applicants would install erosion controls, upgrade access roads, and clear invasive vegetation. In the following 19 weeks (likely October through January), the applicants would conduct the bulk of grading activities. Grading would occur prior to bird nesting season. In the following 15 weeks (likely mid-February through May), the applicants would install temporary irrigation, additional soil, and plantings for the new habitat.

To avoid and minimize disturbance to nesting birds, **Special Condition 2** requires the permittees to conduct vegetation maintenance outside the bird nesting season (between February 1st and August 31st) to the maximum extent feasible. If avoiding this timeframe is infeasible, a qualified biologist shall survey for nesting birds in and adjacent to the project work area each day tree-trimming and/or vegetation removal is conducted. Detection of an active nesting area for sensitive bird species shall require the biologist to establish a buffer zone until the young have fledged and the nest is vacated. The work-free buffer zone shall be a minimum of 500 feet for nesting raptors and a minimum of 300 feet for other special-status bird species. The workfree buffer zone may be reduced to a minimum of 100 feet if the noise does not exceed 65 decibels and a qualified ornithologist monitors the bird's behavior to confirm no signs of stress. The project biologist shall be present during all tree trimming and vegetation removal.

The five-year monitoring period will begin once the project biologist has certified planting installation as complete. The young native plants will be especially vulnerable to displacement by opportunistic non-native species in the first year. Thus, the applicants' invasive removal campaign will be particularly aggressive in the first year of monitoring. Successful removal requires an integrated pest management plan, including manual, mechanical, and chemical methods of removal.

Integrated Pest Management Plan

The applicants have submitted an Integrated Pest Management Plan (IPM) dated May 22, 2023. The IPM identifies all invasive species in the project vicinity and proposes specific removal methods for each species.

The IPM lists 25 invasive plant species present in the proposed area of work, including, but not limited to, tree tobacco *(Nicotiana glauca),* pepper trees *(Schinus spp.),* giant reeds *(Arundo donax)*, ngaio *(Myoporum laetum),* fountain grass *(Pennisetum setaceum),* and iceplant (multiple genera present). Cal-IPC has given many of these species a high-risk or moderate-risk invasiveness rating in the California Invasive Plant Inventory Database. The applicants would prioritize removal of high-risk invasive species to optimize efforts.

The applicants will minimize herbicide application to the greatest extent feasible through repeated weed-whacking and manual root-pulling. However, these methods are unlikely to eliminate all remnant fragments and seeds from the high-risk invasive species. Even

if the applicants were able to remove every root and regenerative fragment from a given area, the scope of surrounding invasives suggests recontamination is likely. There are more than 16 acres of well-established, non-native plant communities on-site—repeated manual removal would be a Sisyphean task.

Thus, if subsequent contamination reaches an action threshold (i.e. a magnitude or coverage requiring immediate remediation), a licensed applicator will select the least toxic and persistent herbicides feasible. Each herbicide product will be selected based on the target plants and proximity to water. Non-aquatic glyphosates and hexazinone compounds—like Roundup™ and Velpar™—would be limited to upland vegetation. Aquatic glyphosates and Triclopyr compounds—like Rodeo™ and Garlon 3-A™—would be applied to invasive wetland vegetation. Organic herbicides—like salt-based soap and phytotoxic oils—will be used for certain broadleaf, graminoid, and perennial plants.

Non-toxic and brightly-colored dye would be added to herbicide to improve visibility during application. Herbicide preparation would not occur within 100 feet of open waters. Application would be limited to dry and sunny conditions when wind speeds are less than five miles per hour. Treated plants and stumps would not be disturbed until the herbicide has had time to take effect, as specified on each pesticide label.

Surfactants are added to liquid herbicides to reduce the surface tension and allow spreading. Without surfactants, herbicides may bead on waxy plant surfaces rather than coating them. However, certain types pose risks to surrounding wildlife. CDFW's senior environmental scientist, Dr. Krista Hoffman, has reviewed the surfactants in the IPM and recommends against the use of non-ionic surfactants, as these contain alkylphenol ethoxylates and similar compounds toxic to aquatic species and most pollinators. Instead Dr. Hoffman recommends the use of a non-toxic, petroleum-based crop oil concentrate (COC), like Agri-Dex,™ Competitor,™ and Hasten EA.™ She also recommends using a one percent volume per volume (v/v) concentration, or one milliliter of COC to 100 milliliters of herbicide solution.

To ensure the lowest-risk surfactants are used, **Special Condition 3** prohibits the use of non-ionic surfactants and limits surfactants to COCs mixed at a one percent v/v concentration. Excluding surfactants, all other provisions of the IPM shall be adhered to. **Special Condition 3** requires all herbicide use to be conducted by a California-licensed Pest Control Advisor or Qualified Applicator. Prior to any herbicide use, the project biologist shall conduct a daily survey of the proposed area of work to determine the presence of any native vegetation. If native species are identified within the area of proposed work, the project biologist shall notify herbicide applicators and/or delineate the native vegetation with fencing or survey flags.

The timing of vegetation removal (both manual and chemical) would depend on seasonal rains and temperatures during each year of project implementation—the submitted IPM recommends different timing for some invasive species to avoid impacts to adjacent sensitive species. Sea lavender, for example, would be removed early in the salt marsh bird's beak growing season to avoid harming nearby emergent buds. But all removal activities will occur before seeding seasons to avoid inadvertent propagation.

Special Condition 3 prohibits the applicants from applying herbicide when on-site wind speeds exceed five miles per hour, within 48 hours before a predicted rain event, or within 72 hours after a rain event.

Special Condition 4 requires the applicants to comply with all local resource agency requirements and submit any project revisions to the Executive Director for determination whether a CDP amendment is required. This includes significant alterations to the proposed herbicide types and application methods.

Thus, as proposed and conditioned, the project meets the third criteria of sections 30233(a), 30236, and 30240 by adequately mitigating all unavoidable, adverse environmental impacts.

Conclusion

The project area contains sensitive habitat and open coastal waters protected under Chapter 3 policies of the Coastal Act; however, the proposed development will serve a coastal-dependent use as a restoration study, constitute the least environmentally damaging alternative feasible, and adequately mitigate unavoidable impacts to ESHA. Therefore, as proposed and conditioned, the project is consistent with Chapter 3 policies of the Coastal Act regarding protection of biological resources, as well as relevant policies of the certified LUP.

D. Water Quality

Section 30230 of the Coastal Act states:

> Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

> The biological productivity and quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The City's certified LUP contains the following relevant language and policies:

> 4.3.1 [Total Maximum Daily Load] TMDL

> 8. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur. …
>
> 22. Require beachfront and waterfront development to incorporate BMPs designed to prevent or minimize polluted runoff to beach and coastal waters. …

Sections 30230 and 30231 of the Coastal Act require the enhancement, and restoration of biological productivity in coastal waters, in part by limiting waste introduction to the greatest extent feasible. Certified LUP Policy 4.3.2 requires promotion of "pollution prevention and elimination methods" to protect against hazardous spills.

Big Canyon is located downstream of a three-mile long watershed, beginning in the San Joaquin Hills and flowing through the perennial Big Canyon Creek into Upper Newport Bay. The freshwater creek also receives a significant amount of dry-weather runoff from surrounding urban development, including a golf course located immediately upstream.

The project includes 1,215 cubic yards of dredging and 24.5 cubic yards of fill in an approximately four-acre area of Upper Newport Bay. The use of excavation equipment in open coastal waters poses the risk of sediment and debris pollution. The grading activities in the lower canyon and storage of construction equipment in the parking lot also pose a potential threat to surrounding water quality. The applicants submitted a Water Quality Plan dated November 18, 2022 and a Stormwater Pollution Prevention Plan dated December 6, 2022 ("Pollution Prevention Plan"). Both plans provide BMPs and recommend drainage improvements.

Construction BMPs

Placing selenium-contaminated soils in the southern uplands poses the risk of contaminated runoff during storm events. The Pollution Prevention Plan proposes installation of a silt fence on the northern edge and check dams on the southern edge of the sediment pile. These temporary erosion prevention measures will be retained until upland vegetation establishes over the pile.

Dewatering the existing pond will release a significant volume of freshwater and sediment into Upper Newport Bay. In conformance with the Pollution Prevention Plan, the applicants will notch the existing levee at the downstream end of the pond to allow controlled outward flows. After the pond has been drained, the applicants will install a temporary berm upstream of the notched levee to limit sediment release during the removal of reeds and root systems. These measures will minimize turbidity and sediment pollution in the tidal channel.

Vegetation removal in the northern pepper tree grove also raises the risk of sediment and biomatter pollution in the tidal channel. The Pollution Prevention Plan proposes realignment of Big Canyon Creek before clearing activity. Stormwater flows will be routed along the northern perimeter and drain inserts will be placed at the northern outfall. The culvert downstream of the northern outfall will be protected by a temporary

berm until grading and vegetation clearance complete. Trees infected with PSHBBs would be ground into woodchips and piled on selected roads, where eight months of solarization would rid the wood chips of infection and allow safe re-use on trails.

Clearing and grading the northern tree grove will allow tidal dredging to proceed. In conformance with the Pollution Prevention Plan, the applicants would install temporary berms and fiber rolls within the four-acre portion of tidal channel adjacent to the canyon. The area of work would be dewatered to limit the discharge of excavated sediment into surrounding waters. Haul vehicles and dredging equipment would be steam-cleaned and inspected for leaks prior to entering the channel. Sediment would be dredged via low ground pressure equipment (i.e. designed to spread the weight of the equipment over a larger area). Sediment removed from the channel would be placed in a temporary stockpile for use in salt marsh creation.

Drainage and Hydrology

The Water Quality Plan confirms that continuous urban runoff and inadequate drainage flows on-site have resulted in selenium contamination and stagnant water. The plan identifies native cattails *(Typha spp.* as contributors to stagnation, due to the biomass that accumulates in the fronds. The plan also identifies the freshwater pond as mosquito-breeding habitat. The project would dewater the freshwater pond and realign the creek to maintain positive drainage to Upper Newport Bay during low flows.

A low-flow diversion berm will be installed to separate the salt marsh from the riparian habitat. The berm will prevent inundation during annual storm events, while any rainfall exceeding the one-year storm magnitude will inundate the salt marsh.[3] Periodic marsh inundation reduces stagnation, improves fish access to insect breeding areas (including mosquitoes), and facilitates periodic salt flushing to maintain optimum marsh conditions.

No new paving or decrease in permeable area is proposed. The new trail segment will be constructed with permeable geotextile fabric and an aggregate base of crushed rock. This combination will also be used in upgrading the existing trails. When construction concludes, the access roads will be covered with additional crushed granite; the added granite will remediate any soil loss while still avoiding the need for pavement.

The potential use of herbicide near an open waterway may raises additional risks to water quality. The applicant's Integrated Pest Management Plan proposes BMPs for the potential use of herbicide. As described in the 'Biological Resources' subsection above, no herbicide application would take place within 48 hours of a predicted rain event of at least 20% probability. **Special Condition 4** requires the applicants to adhere to the Integrated Pest Management Plan as proposed.

[3] A 20-year storm has a 1 in 20 chance, or 5% chance, of occurring any given year. By comparison, annual storms have a lesser magnitude and high likelihood of occurring at least once every year. (Ref. https://www.weather.gov/owp/hdsc_faqs)

The proposed BMPs specify a variety of measures to minimize pollution in the water quality. To further protect water quality, **Special Condition 5** requires the applicants to conform with additional BMPs. The applicants shall limit mechanized equipment to the use of vegetable oil-based hydraulic fluids or biodiesel. Additionally, oil containment booms and absorbent pads shall be kept on-site for immediate use in the event of hazardous oil spills. The geotextiles proposed for use in upgrading trails shall be 100% biodegradable.

As proposed and conditioned, the project will provide minimize the effect of construction activities on the marine environment. Therefore, the Commission finds that the proposed development, as conditioned, conforms to the Coastal Act Chapter 3 and certified LUP policies regarding water quality.

E. Public Access

Section 30210 of the Coastal Act states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

The City's certified LUP contains the following polices, in relevant part:

> Policy 4.1.3 Environmental Study Areas
>
> Study Area No. 7: Mouth of Big Canyon
>
> Many trails throughout this area provide good access for the public to observe the variety of habitats and plant communities. The backbone routes for these trails are utility access roads… This site provides an opportunity to establish an interpretive area that allows public access to a broad range of habitats and plant community areas...

Section 30210 of the Coastal Act requires provision of recreational opportunities for the public consistent, in relevant part, with public safety and preservation of natural resources from overuse. LUP Policy 4.1.3 describes the project site as an opportunity for the public to engage with a variety of natural resources. Big Canyon Nature Park is accessed by a web of public pedestrian trails. Within the 30-acre project site, three trail portions bisect the canyon (perpendicular to Back Bay Drive) and connect to the perimeter trails.

The applicants propose removal of an approximately 500-ft. long potion of bisecting trail located immediately north of the existing pond **(Exhibit 3)**. The trail would be replaced by new salt marsh and transitional habitat. While removal of the trail will eliminate an existing public navigation route, it is necessary to create a cohesive system of native habitats. The project has designed the salt marsh and fringing transitional habitats to

extend roughly half the length of the canyon. The pond would be displaced with marsh habitat capable of filtering excess nutrients and selenium deposits. Big Canyon Creek would be routed along the outskirts of the new transitional habitat, a safe distance from the southern site of selenium containment.

If the 500-ft. portion of trail were retained, the salt marsh and transitional habitat would be reduced by roughly one acre; the pond would not be replaced by marshes; and the realigned creek would be fringed by native riparian habitat, which already makes up a large proportion of Big Canyon Nature Park. The applicants would mitigate the eliminated trail by paving a new access road to fill an existing gap in the perimeter trails; widening and reinforcing portions of existing perimeter trails; and installing educational signage in the four corners of the project site. The trail improvements will provide both construction vehicle access to restoration areas and improved walkability for pedestrians. The new signs will improve visitors' understanding of the vegetation and wildlife surrounding them, consistent with LUP Policy 4.1.3.

The project will require temporary trail closures to ensure public safety—many of the vegetation-removal activities will generate falling trees, ricocheting weed debris, and temporarily unsteady sediment. But the applicants would stage restoration to render only portions of trails inaccessible, rather than entire stretches. Temporary closures are unavoidable and will be mitigated with the trail upgrades described above, as well as improvements to habitat quality.

The Back Bay Drive public parking lot is another significant method of public access to the canyon. The 28-space lot is available to visitors at no cost and serves as the only public parking in the immediate vicinity. Educational programs for students rely on the two bus parking spaces on-site. The applicants submitted a Construction Staging Plan siting construction materials in the lower west corner of the parking lot, leaving 19 vehicle spaces and two bus parking spaces available. The entry/exit would remain open.

While the project would temporarily eliminate nine parking spaces, the parking lot is the only paved location on-site large enough to accommodate all anticipated equipment. The applicants may need to store tractors, weed-whackers, mulch, container plants, and other materials throughout the restoration work. To ensure temporary impacts to public access are minimized to the greatest extent feasible, **Special Condition 6** requires the applicants to conform to the proposed Construction Staging Plan. At least 19 vehicle parking spaces and two bus parking spaces shall remain available in the Back Bay Drive parking lot. While temporary trail closures are allowed (and may result in rescheduling), educational programs shall not be canceled entirely by the proposed work. The City will work with the educational programs to provide advance notice of major trail closures and advise on preferable dates or upper canyon locations.

The project mitigates temporary impacts to public access and would result in an overall improvement in recreational opportunities on-site. Therefore, as proposed and conditioned, the project conforms to the Coastal Act Chapter 3 and certified LUP policies regarding public access.

F. Coastal Hazards

Section 30253 of the Coastal Act states, in relevant part:

> New development shall do all of the following:
>
> (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. […]

The City's certified LUP contains the following policy, mirroring Section 30253:

> Policy 2.8.1 Hazards and Protective Devices
>
> 4. Require new development to assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Coastal Act Section 30253 and certified LUP Policy 2.8.1 require new development to minimize risks to life and property by assuring stability and avoiding any contribution to erosion or the need for shoreline or bluff protection. By establishing tidal influence in Big Canyon, the project raises the risk of flood damage and inundated contamination piles (like the selenium stockpile and PSHBB-infected solarization piles.) Realigning Big Canyon Creek will also change freshwater flow velocities and volumes, poses the threat of erosion and unintended overtopping.

The applicants submitted a Coastal Hazards Report dated February 25, 2022. The report considered the impacts of 3.2 ft. and 6.7 ft. of sea level rise in Upper Newport Bay within the next 75 years.[4] The proposed salt marsh consists of a three-acre salt marsh composed of low, mid, and high marsh zones. The marsh is surrounded by seven acres of transitional wetlands, or habitat intended for future inundation.

With 3.2 ft. of future sea level rise, tides would creep further into the canyon and replace low and mid marsh with mudflats. (See Figure 1 below.) However, the presence of transitional habitat zones would allow the salt marsh to migrate and increase in size by 35% compared to post-restoration conditions. Riparian habitat would decrease in size by 28% compared to post-restoration conditions, but this is a lesser concern considering

[4] The latter estimate is less than the 6.8-ft. increase predicted by Our Coast, Our Future's medium-high risk aversion scenario, but exceeds the 6.6-ft. increase shown on Our Coast, Our Future's Coastal Storm Modeling System (CoSMoS).

the new riparian habitat established in the upper canyon during Phases I and 2. The permanent selenium-contaminated stockpile would remain safe from direct tidal influence and the protective upland vegetation over the stockpile would persist.

With 6.7 ft. of future sea level rise, tides would flush into the canyon and replace low and mid marsh with standing saltwater. (See Figure 1 below.) This would extend mudflats beyond the southern parking lot and migrate marsh habitat further outward. The salt marsh would increase in size by 15% compared to post-restoration conditions. The selenium-contaminated stockpile would remain safe from direct tidal influence. Riparian habitat would decrease in size by 67% compared to post-restoration conditions. Thus, the applicants' engineering consultants confirm that the project has been designed for safety and habitat resilience with future sea level rise.

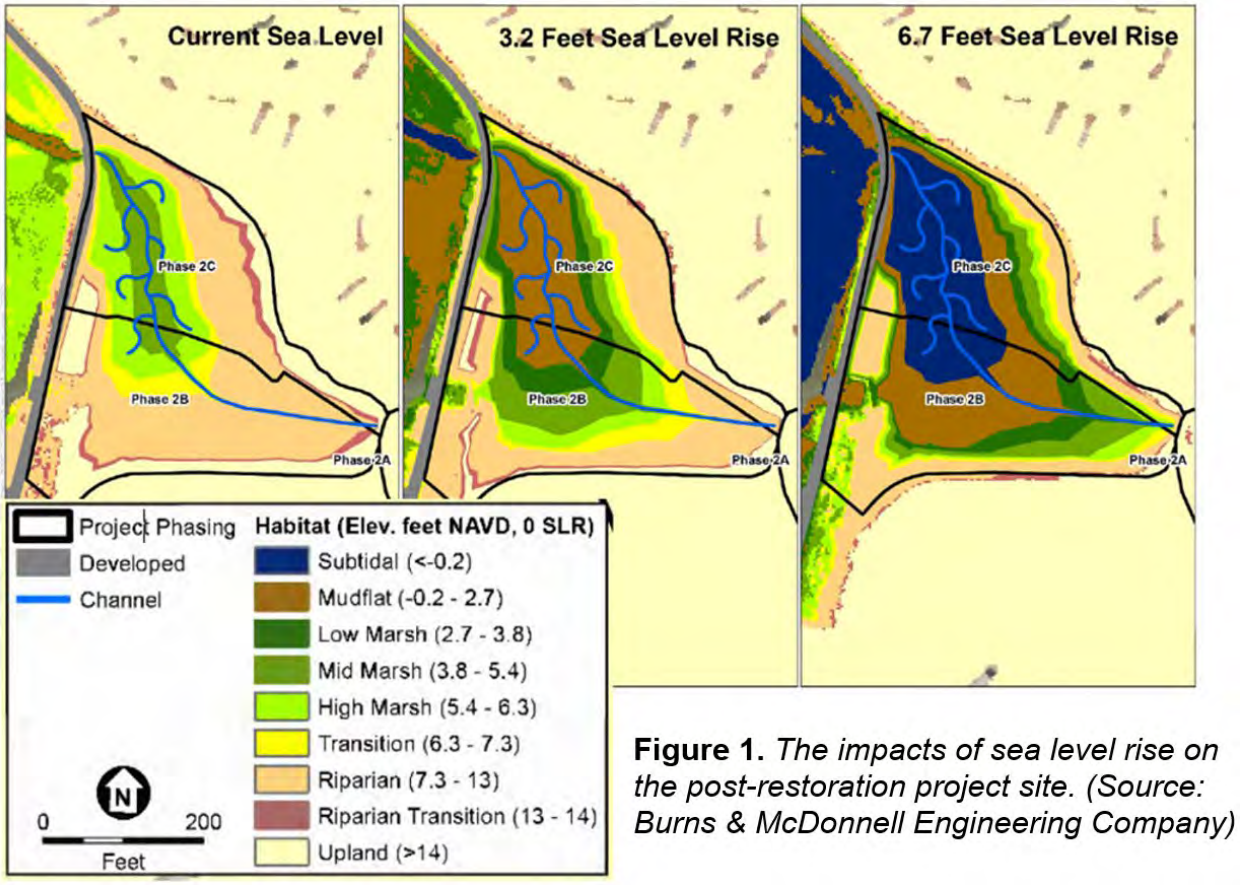

Figure 1. *The impacts of sea level rise on the post-restoration project site. (Source: Burns & McDonnell Engineering Company)*

In addition to sea level rise, the hazards report addresses risks associated with realigning the creek. The report indicates that notching the existing levee located downstream of the pond will allow more consistent drainage flows. In addition to preventing stagnation, this will reduce erosion damage by reducing the intensity and duration of storm flows. The applicants' Water Quality Plan recommends stabilization of the realigned stream banks with vegetated soil lifts. Each lift will be one-foot thick, encapsulated with biodegradable coir fibers, and built with alluvial soils gathered on-site. The coir is anticipated to biodegrade within the first three years, after riparian

habitat has established over the lifts. The creek banks will be graded into consistent, maximum 3:1 slopes.

The applicants will actively monitor the project site for signs of erosion until the site revegetates, including the stream banks. The sediment control measures described in the Water Quality subsection above—silt fences, coir rolls and/or other measures—will be used as erosion control measures if bank erosion threatens restored vegetation. No impacts to canyon bluffs are anticipated based on buffers between the proposed work and the canyon bluff edges.

Special Condition 5 requires the applicants to adhere to the proposed and additional erosion control measures to reduce the risk of scour on-site. To ensure the applicants acknowledge the risks inherent to the project location, **Special Condition 7** requires the applicants to assume all risks of the development, indemnify the Commission in the event of any damage resulting from the approved project, and acknowledge that future removal may be determined necessary if at any point the development poses a risk to public safety.

Therefore, as proposed and conditioned, the project is consistent with Chapter 3 Coastal Act policies regarding coastal hazard policies, as well as the certified LUP.

G. Cultural Resources

Section 30244 states in relevant part:

> Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

The City's certified LUP contains the following relevant language and polices:

> Policy 4.5.1 Paleontological and Archaeological Resources
>
> 1. Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources. If avoidance of the resource is not feasible, require an in situ or site-capping preservation plan or a recovery plan for mitigating the effect of the development.
>
> 2. Require a qualified paleontologist/archeologist to monitor all grading and/or excavation where there is a potential to affect cultural or paleontological resources. If grading operations or excavations uncover paleontological/archaeological resources, require the paleontologist/archeologist monitor to suspend all development activity to avoid destruction of resources until a determination can be made as to the significance of the paleontological/ archaeological resources. If resources are determined to be significant, require submittal of a mitigation plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. Mitigation plans shall include a good faith effort to avoid impacts

to cultural resources through methods such as, but not limited to, project redesign, in situ preservation/capping, and placing cultural resource areas in open space.

Section 30244 of the Coastal Act requires reasonable mitigation measures for development that would adversely impact archaeological or paleontological resources. Policy 4.5.1 of the certified LUP specifies additional requirements, including a monitoring and resource preservation plan. The applicants notified representatives of three Native American tribes: the Gabrieleño Band of Mission Indians – Kizh Nation; Juaneño Band of Mission Indians, Acjachemen Nation; and the San Gabriel Band of Mission Indians. The applicants consulted with Chairman Andrew Salas of the Gabrieleño Band of Mission Indians – Kizh Nation, including an in-person site visit, on May 17, 2018.

The applicants submitted a Cultural Resources Survey dated January 2022 that assessed the potential for tribal, cultural, archeological, and paleontological resources to exist at the project site. The survey includes review of five historic tribal/cultural resource surveys and 16 historic archeological and paleontological resource surveys, in addition to a pedestrian survey conducted by a qualified specialist on November 2, 2021. The Cultural Resources Survey does not identify archaeological or paleontological resources in the proposed area of work.

Commission staff requested a Sacred Lands File Search for the site from the Native American Heritage Commission (NAHC), which came back positive. On May 16, 2023, staff notified all tribal representatives provided as contacts by the NAHC. Staff consulted with representatives of the Gabrieleño Band of Mission Indians-Kizh Nation who described the potential to encounter tribal archaeological resources during the proposed grading work. Commission staff did not receive responses from other contacted tribes.

To reduce potential impacts to tribal cultural and archaeological resources, the applicants have proposed mitigation measures, including retention of a tribal monitor to observe all ground-disturbing activities and treatment methods for any potential resource discovery. To ensure that these measures and additional mitigation occurs to minimize potential adverse impacts, **Special Condition 8** requires all tribal representatives on the NAHC contact list to be invited and allowed to monitor all project activities that could impact archaeological and tribal cultural resources along with a qualified archaeologist. If any potential tribal and/or archeological resources are discovered, **Special Condition 8** requires construction to pause until the appropriate parties are notified and a Supplemental Archaeological Plan (SAP) is developed in consultation with Tribes listed on the NAHC contact list. The applicant must also notify the Executive Director of the discovery and submit the SAP for their review and approval at which time the Executive Director would determine whether a CDP amendment is required **per Special Condition 8**.

H. Visual Resources

Section 30251 of the Coastal Act states:

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The City's certified LUP contains the following policy, mirroring Section 30251:

> Policy 4.4.1 Coastal Views
>
> 1. Protect and, where feasible, enhance the scenic and visual qualities of the coastal zone, including public views to and along the ocean, bay, and harbor and to coastal bluffs and other scenic coastal areas.

Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas be protected and, where feasible, restored and enhanced. The project site is a popular hiking spot for visitors and one of the last remaining undeveloped canyons along Upper Newport Bay. There are multiple viewsheds of the bay, including from trails and Back Bay Drive.

The proposed project would temporarily remove 16 acres of existing vegetation for establishment of new and enhanced native habitat. This will require construction staging in the parking lot, where visitors first enter Big Canyon Nature Park. The restoration will also result in extended periods of bare land where dense forest or uplands used to exist. While the project will have temporary adverse impacts on visual resources, it is the minimum scope of work necessary to remediate less visible degradation in the canyon (such as parasitic infection and invasive species contamination.) The project will result in a net improvement to visual resources on-site.

Therefore, as proposed, the Commission finds the project consistent with Section 30251 of the Coastal Act and the visual resource preservation policies of the certified LUP.

I. California Environmental Quality Act (CEQA)

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

The County of Orange is the lead agency for purposes of CEQA compliance. On January 26, 2022, the City of Newport Beach determined that the project is statutorily exempt from CEQA review per Public Resources Code Section 21080.56. Section 21080.56 exempts restoration and conservation projects, but requires concurrence from the director of CDFW. On May 4, 2022, CDFW issued a formal concurrence with the City's CEQA exemption.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full: as conditioned, there are no feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate potential impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

1. Policies of the City of Newport Beach Certified Land Use Plan cited in report.