CALIFORNIA COASTAL COMMISSION
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Item W 35.5a

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Staff:	Liliana Roman-LB
Staff Report:	August 26, 2009
Hearing Date:	September 9, 2009
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-09-113

APPLICANT: City of Newport Beach, Attn: David Kiff, Assistant City Manager

AGENT: VA Consulting Group

PROJECT LOCATION: Big Canyon Creek Nature Park: Between Jamboree Road and Back Bay Drive along the east shore of Upper Newport Bay, Newport Beach (Orange County)

PROJECT DESCRIPTION: Habitat restoration project consisting of 107,400 cu. yds. of sediment dredged from 6.46 acres and 63,100 cu. yds fill over 5.32 acres to realign Back Bay Drive and restore 3.6 acres of historic tidal wetlands at the mouth of Big Canyon Creek; construction of four new culverts under the realigned Back Bay Drive; 40,635 cu. yds. of material dredged from 4.29 acres and 12,515 cu. yds. of fill over 0.72 acre to re-grade Big Canyon Creek into a new 140' wide and 9'-16' deep channel; existing freshwater marsh modification requiring 47,310 cu. yds. material dredge from 4.35 acres and 34,650 cu. yds. of fill over 2.29 acres; invasive plant species removal and planting of natives; relocation of 35 space public parking lot and restroom facilities; construction of an 1,100 sq. ft. amphitheater in new interpretive area, trails, new entrance from Jamboree Road to existing maintenance road and road erosion protection work.

LOCAL APPROVALS: Mitigated Negative Declaration certified 9/11/07 by the City of Newport Beach, Draft Updated Mitigated Negative Declaration (not yet certified)

OTHER AGENCY APPROVALS: Applied for the following: US ACOE Section 404 Nation Wide Permit; CA RWQCB Section 401 Water Quality Certification; and CDFG Notification of Lake or Streambed Alteration Agreement

SUBSTANTIVE FILE DOCUMENTS: City of Newport Beach Certified Land Use Plan; CDP 5-00-144 (Orange County Sanitation District); Coastal Development Permit Application P-8-27-76-8715/Appeal 75-77; CDP P-80-7346/Appeal 332-80; *Big Canyon Creek Historic Tidal Wetlands Conceptual Restoration Plan, Upper Newport Bay, Orange County, CA* prepared by Community Conservancy International dated April 2004; *Wetland Delineation Subject to California Coastal Act, Big Canyon, Newport Beach, Orange County, CA* prepared by WRA dated January 2007; *Habitat Restoration Plan and Maintenance Specifications, Big Canyon, Newport Beach, CA* by LSA Associates, Inc. dated April 2009; *Geotechnical Feasibility Report, Big Canyon Creek Restoration, Upper Newport Bay, W.O. #5310-A-OC* prepared by GeoSoils, Inc. dated December 11, 2006; *Addendum Geotechnical Feasibility Report, Big Canyon Creek Restoration, Upper Newport Bay, W.O. #5310-A1-OC* prepared by GeoSoils,

Inc. dated April 15, 2008; *Updated Geotechnical Feasibility Report, Big Canyon Creek Restoration, Upper Newport Bay, W.O. #5310-A-OC* prepared by GeoSoils, Inc. dated June 4, 2009; *Final Monitoring Plan and Quality Assurance Project Plan for Big Canyon Creek Flow and Water Quality Assessment, Revision 3* by Weston Solutions dated February 9, 2007; *Water Quality Management Plan* prepared by VA Consulting Inc. dated June 2009

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with special conditions regarding; 1) State Lands Commission Approval; 2) California Dept of Fish and Game Approval; 3) Water Board Approval; 4) Final Project Plans; 5) Construction Responsibilities and Debris Removal; 6) Phase 1 and 2 Construction Staging Areas; 7) Temporary Public Access Signage; 8) Construction Monitoring; 9) Wetland and Upland Restoration Plan and Biological Monitoring Plan; 10) Salt Marsh Bird's Beak Hydrology Study; 11) Final Revised Salt Marsh Bird's Beak Avoidance and Monitoring Plan; 12) Modification of Phase II Salt Marsh Design; 13) Updated Plant Surveys; 14) Final WQMP; 15) Long Term Operations and Maintenance Manual; 16) Future Improvements; 17) Archeological Resources

The project would restore historic saltwater marsh, remove old deposits of dredge soils, repair flood damage, address urban runoff, remove nonnative plant species, restore native habitats and restore the freshwater pond. None of these activities conflict with the City of Newport Beach LCP or Chapter Three of the Coastal Act. The proposed project is a voluntary restoration project driven by the City with public funding, it is not mitigation to offset impacts from other development, and not primarily driven by needs for flood control, although that is a beneficial outcome of the project.

The primary issues associated with this development are public access, biological resources, and water quality. Approximately 20-acres of existing habitat identified as low, low/moderate to moderate/high habitat quality out of the 70-acre site will be impacted by the restoration project elements. Overall, the project would restore or enhance numerous native habitat communities and result in a 3.6-acre increase of saltwater marsh, 1.5-acre increase of riparian habitat and a 5-acre increase in coastal sage scrub.

A CDP application was originally submitted in October 2007 but withdrawn as the project underwent a significant re-design to address resource agencies concerns regarding protection of sensitive habitats and species as well as water quality concerns over high levels of selenium in the project area. The required re-design in the restoration project also required a Revised Mitigated Negative Declaration to be re-circulated and a new round of review by the resource agencies. A revised CDP application was submitted in June 2009. Due to the impending loss of public funding due to delays created by the required project re-design, staff undertook review of the CDP application concurrently with the CEQA process and permitting process of the other resource agencies. Inherently, there is an absence of some information that would otherwise normally be obtained from the applicant prior to Commission action on the item. However, as conditioned, the project meets the requirements of Chapter 3 of the Coastal Act.

The primary lingering concern is with regard to potential project impacts on salt marsh bird's beak (SMBB)(Cordylanthus maritimus maritimus). SMBB is a federally and state-listed endangered plant species. SMBB is present at the mouth of Big Canyon Creek in salt marsh and sandy flats. With 30,000 individuals counted at the mouth of Big Canyon in 2003, Big Canyon has the most significant population in Southern California. Surveys used in project design indicated that SMBB

would be avoided during dredging/grading for the restoration project. However, subsequent field visits suggest that some limited SMBB may be present in the project footprint. Staff is recommending a condition that requires pre-construction surveys to verify the location of SMBB and identifies procedures that must be followed in the event that SMBB is detected within the project footprint. There is also some lingering concern that the Phase 2 components of the proposed restoration could change hydrology in the canyon in a manner that would change whether there is suitable habitat for SMBB where that habitat is presently located. In order to address this issue, staff is recommending conditions that require, among other elements, monitoring for impacts to hydrology and changes to the health of the existing SMBB population. If such changes occur, project modifications are required.

LIST OF EXHIBITS:

1. Location Map – Big Canyon Study Area
2. Topography Prior to Stockpiling of Dredge Fill in Big Canyon
3. Existing Conditions – Site Topography
4. Historic Tidal Wetlands and Waters Figure
5. Existing Conditions – Habitat Types
6. Conceptual Grading Plan
7. Project Impacts to Vegetation Communities Figure
8. Invasive Species Removal Plans
9. Conceptual Planting Plan
10. Example of Proposed Interpretive Signage Panel
11. Appendix 1: Cultural Resources Significance Testing Plan Procedures

STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 5-09-113 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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 TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. 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 would 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 permittee 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 this permit is reported to the Commission. 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 permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. CALIFORNIA STATE LANDS COMMISSION APPROVAL

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, applicant shall provide to the Executive Director written evidence from the California State Lands Commission that the proposed development is consistent with the terms and conditions of any applicable tidelands grant as well as a copy of any permit issued by the California State Lands Commission, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the California State Lands Commission. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

2. CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVAL

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, applicant shall provide to the Executive Director a copy of a permit issued by the California Department of Fish and Game, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the California Department of Fish and Game. Such changes shall not be incorporated into

the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

3. REGIONAL WATER BOARD APPROVAL

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, applicant shall provide to the Executive Director a copy of a permit issued by the Regional Water Board, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Regional Water Board. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

4. FINAL PROJECT PLANS

A. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, two (2) full size sets of final project plans including but not limited to: grading elevations and quantities, planting plans, structures, roads, trails, infrastructure, water quality management system, interpretive amenities, any other appurtenances which conform with the requirements of the special conditions of this permit; identify the specific water source for the proposed freshwater pond and incorporate any minor necessary project element revisions based on comments from the final review of other regulatory agencies that the Executive Director can find substantially conform with the preliminary plans. If the Executive Director concludes that the revisions required by the other regulatory agencies are not in substantial conformance with the preliminary plans titled Big Canyon Creek Restoration Project Phase I and Phase 2 prepared by VA Consulting, Inc. dated 4/09, then the applicant must apply for and obtain an amendment to this coastal development permit prior to implementing such changes.

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

5. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL

The permittee shall comply with the following construction-related requirements:

(a) No construction materials, debris, or waste shall be placed or stored where it may be subject to wave/wind erosion and dispersion;

(b) Any and all debris resulting from construction activities shall be removed from the project site within 24 hours of completion of construction;

(c) Erosion control/sedimentation Best Management Practices (BMP's) shall be used to control sedimentation impacts to sensitive habitat areas, during construction, to include the following, at minimum: placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and Newport Bay;

use of debris fences as appropriate, a pre-construction meeting to review procedural and BMP guidelines;

(d) Construction debris and sediment shall be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged to coastal waters. Debris shall be disposed at the debris disposal site identified pursuant to Special Condition 6.

(e) Machinery or construction materials not essential for project improvements shall not be allowed at any time in the intertidal zone;

(f) If turbid conditions are generated during construction; a silt curtain shall be utilized to control turbidity;

(g) Floating booms shall be used to contain debris discharged into coastal waters and any debris discharged shall be removed as soon as possible but no later than the end of each day;

(h) Divers shall recover non-buoyant debris discharged into coastal waters as soon as possible after loss.

6. CONSTRUCTION STAGING AREAS

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a plan for the review and approval of the Executive Director which indicates that the construction staging area(s) will avoid impacts to public access to the bay and avoid impacts to sensitive habitat areas.

(1) The construction staging plan shall be for Phase I and Phase II and shall demonstrate:
a. Construction equipment shall not be stored outside the staging area
b. Habitat (vegetated) areas shall not be used for staging or storage of equipment
c. The staging area for construction of the project shall not obstruct access to Upper Newport Bay Ecological Reserve

(2) The plan shall include, at a minimum, the limits of the staging area(s) and location of construction fencing and temporary job trailers, if any.

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

7. TEMPORARY PUBLIC ACCESS SIGNAGE

The applicant shall implement the proposed project in phases which allow for maximum public access along Back Bay Drive while at the same time ensuring safe public use of Back Bay Drive, minimize road closures to the maximum extent practicable and provide alternative public routes to the east shore of Upper Newport Bay.

During any construction that requires the obstruction of a road or trail used for public access, the applicant shall provide temporary signage, placed in conspicuous locations, which identify alternative public access routes along Back Bay Drive and Upper Newport Bay that bypass the temporarily closed portions of Back Bay Drive.

8. CONSTRUCTION TIMING/MONITORING

A qualified biologist shall monitor the proposed development for disturbance to sensitive species or habitat area. Daily monitoring shall occur during any construction activities (dredging, digging, grading,etc.) that may disturb sensitive bird species (i.e., California gnatcatcher, Belding savannah sparrow, light-footed clapper rail) and raptors. Based on field observations, the biologist shall advise the applicant regarding methods to minimize or avoid significant disturbance of sensitive species or habitat areas. The biological monitor shall halt all work should any construction activities result in sensitive species disturbance.

To avoid adverse impacts on the light footed clapper rail (*Rallus longirostris levipes*), California gnatcatcher (*Polioptila californica californica*), Belding savannah sparrow (*Passerculus sandwichensis beldingi*) and other sensitive bird species known to occur within and in the vicinity of the project area, construction shall not occur between February 15 through August 30 of any year. However, after consultation with the Department of Fish and Game, the applicant may resume construction during the bird nesting season upon obtaining a written statement from the Executive Director authorizing construction on specified dates. To obtain such a determination, the permittee must submit a declaration from the Department of Fish and Game stating that construction on the specific dates proposed will not cause adverse impacts to any sensitive or endangered species. The declaration must contain an assessment of the breeding and nesting activities of sensitive bird species found in the project area and a statement that the construction activity on the specific dates proposed will not interfere with the sensitive bird species breeding and nesting activities.

9. WETLAND & UPLAND RESTORATION PLAN AND BIOLOGICAL MONITORING

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit for review and approval of the Executive Director a detailed wetland & upland restoration and monitoring plan prepared in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service, as appropriate. The restoration and monitoring plan shall be consistent with the preliminary plan titled Big Canyon Creek Restoration Project Phase I and Phase 2 prepared by VA Consulting, Inc. dated 4/09, as modified to comply with the requirements of this permit, shall be prepared by a qualified biologist/ecologist, and for each habitat type, shall at a minimum include the following:

1. A baseline assessment, including photographs, of the current physical and ecological condition of the proposed restoration site including a description and map showing the area and distribution of vegetation types and a map showing the distribution and abundance of sensitive species, if any.

2. A description of the restoration goals including, as appropriate, the desired topography, hydrology, vegetation types, sensitive species (including but not limited

to California gnatcatcher, Belding savannah sparrow, light-footed clapper rail, salt marsh bird's beak, southern tarplant, and estuary seablite), and wildlife usage.

3. A description of methods to control erosion and maintain water quality of the restoration area.

4. A planting plan identifying the natural habitat type that is the model for the restoration, description of the desired relative abundance of particular species in each vegetation layer and a rationale for and description of the size and number of plants and the rate and method of application. Plant propagules should come from local native stock, where feasible. If plants, cuttings, or seed are obtained from a nursery, the nursery must certify that the propagules were obtained from Los Angeles, Orange, or San Diego county within two miles from the coast and are not cultivars. The planting plan should provide specifications for preparation of nursery stock (e.g., container size & shape to develop proper root form, hardening techniques, watering regime, etc.) Technical details of planting methods (e.g., timing, spacing, micorrhyzal inoculation, etc.) should also be included.

5. Restoration success criteria such that the restoration will be considered successful if the restored habitat displays similar physical characteristics, biodiversity and species abundance (e.g., counts or percent vegetative cover) to local reference sites.

6. A detailed description of the sampling methods. Sampling should be conducted with sufficient replication to provide 90% statistical power to detect a biologically meaningful difference between the restoration site and the reference area or absolute performance criterion with alpha equal to 0.10.

7. A description of the procedure for judging success, including statistical methods

8. Provision for submission of an annual report prepared by a qualified biologist/ecologist for at least five years. Final monitoring for success shall take place at least 5 years following the end of all remediation and maintenance activities, other than weeding. A final report, which evaluates whether the restoration has been met the success criteria, shall be submitted to the Executive Director for review and approval. The report must evaluate whether the impacted site conforms to the goals and success criteria set forth in the approved monitoring/restoration plan.

B. If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved success criteria, the applicant shall submit a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program, if necessary, shall be processed as an amendment to this coastal development permit.

C. The permittee shall monitor and remediate the habitat restoration site in accordance with the approved monitoring program. Any proposed changes to the approved monitoring program shall be reported to the Executive Director. No changes to the approved

monitoring program shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

10. SALT MARSH BIRD'S BEAK PRE- and POST-CONSTRUCTION HYDROLOGY STUDY

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and approval of the Executive Director a detailed salt marsh bird's beak (SMBB) hydrological monitoring study developed in consultation with the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service, as appropriate. The SMBB hydrology study is intended to determine the pre-project hydrological conditions in the areas occupied by SMBB and to determine whether the project alters those conditions. The study plan shall be prepared by a qualified hydrologist and an ecologist knowledgeable about the habitat requirements of SMBB, both approved by the California Department of Fish and Game, shall be consistent with the preliminary plan titled Big Canyon Creek Restoration Project Phase I and Phase 2 prepared by VA Consulting, Inc. dated 4/09, as modified to comply with the requirements of this permit, and shall at a minimum include:

1. Prior to commencement of the proposed development there shall be an examination of project engineering plans including grading plans in order to provide expert opinion regarding the project's potential for impacting existing surface and subsurface hydrology, salinity, and sedimentation. The results of the examination shall be submitted to the Executive Director for review and approval. If that examination reveals that adverse impacts to SMBB is likely then the applicant shall submit proposed changes to address the impact to the Executive Director for review and approval and a determination as to whether an amendment to the coastal development permit is required to implement the proposed changes.

2. Description and sampling design for the hydrological study within the occupied SMBB population adjacent to the project. The sampling design shall include a series of shallow monitoring wells installed by hand in a grid that includes the major occupied areas and adjacent areas as appropriate.

3. A provision to commence the hydrological study a minimum of one-year prior to initiation of Phase 2 construction.

4. A design to capture seasonal water fluctuations and patterns of water and soil salinity. Periodic measurements of salinity within the soil profile should be taken throughout one year to establish existing baseline conditions and to document any vertical or horizontal freshwater gradients. Upon completion of the pre-Phase 2 monitoring, a report shall be submitted for evaluation by the Executive Director in consultation with CDFG and USFWS prior to initiation of Phase 2 work. If sampling reveals the presence of a sub-surface fresh water lens (lenses) within SMBB occupied habitat, additional hydrological work (additional wells strategically placed)

must be conducted prior to Phase 2 construction to determine freshwater sources; to determine whether the proposed Phase 2 construction work is likely to impact those sources, and to develop Phase 2 design modifications to avoid or minimize impacts on those freshwater sources. The applicant shall submit proposed changes to the project plans that address the impact upon SMBB hydrology to the Executive Director for review and approval and a determination as to whether an amendment to the coastal development permit is required to implement the proposed changes.

5. Provision for submission of an annual report prepared by a qualified hydrologist for at least five years after the first-year, pre-Phase 2 construction study. A final monitoring report which evaluates whether the restoration has resulted in impacts to the local hydrology that are significant to SMBB shall be submitted for the review and approval of the Executive Director at the end of the monitoring period. If there is an impact to hydrology, the monitoring of SMBB required in Special Condition No. 11 shall be extended for a sufficient period of time (e.g. five years) to observe whether those hydrological changes have had an impact on the SMBB habitat. If that monitoring reveals adverse impacts to the SMBB habitat, the applicant shall, within 90 days of conclusion of the monitoring, submit a plan to address those impacts to the Executive Director for review and approval and a determination as to whether an amendment to the coastal development permit is required to implement the proposed changes.

11. **SALT MARSH BIRD'S BEAK (SMBB) AVOIDANCE AND MONITORING PLAN**

PRIOR TO ISSUANCE OF THE PERMIT, the applicant shall submit for review and approval of the Executive Director a revised final SMBB Avoidance and Monitoring Plan developed in consultation with the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service, as appropriate. The SMBB Avoidance and Monitoring Plan is intended to document the characteristics of the vegetation community, the distribution and abundance of SMBB and identify any impacts to the community or SMBB populations by the proposed project. The plan shall be prepared by a qualified ecologist approved by the Department of Fish and Game and shall at a minimum include:

1. Prior to commencement of construction, the applicant shall survey for the presence of SMBB within and adjacent to the project area (SMBB follow-up survey). The survey shall be conducted during peak flowering of SMBB (typically mid to late June) to ensure the full extent of the population is identified.

2. An estimate of direct take that would occur based on the results of the SMBB follow-up survey and an estimate of the potential for SMBB seed to be in habitats adjoining known occurrences. If the follow-up survey demonstrates that the project would result in significantly greater impact than is currently estimated, as determined by the Executive Director in consultation with the Department of Fish and Game, the applicant shall submit an amendment to the Coastal Development Permit that alters

the Phase 2 plan such that impact is avoided in any areas that meet the definition of Environmentally Sensitive Habitat Area (ESHA) and that any impact in areas outside ESHA is fully mitigated.

3. Specific criteria for measuring any effects of the project on SMBB must be developed and shall be based in part on reference site data.

4. The northern portion of the Salt Marsh Bird's' Beak population area south of the Big Canyon populations shall be used as a reference site.

5. Specific criteria for measuring any effects of the project on SMBB must be developed and shall be based in part on reference site data.

6. The plan must include multi-year seed collection in order to have contingency material available should SMBB populations decline in the project area. This seed may be needed to inoculate new, more suitable habitat areas should the original locations deteriorate. The seed should be held for ten years, and then, if the population here appears to be relatively stable and persistent, the seed could be transferred to long term storage conditions. Seed sampling methodology should be contained in the plan.

7. For the purposes of monitoring and documenting the restoration project's effects on SMBB, at least five years of post-project monitoring, during a time period that includes at least three years that exhibit rainfall within 20% of average conditions, are required. The plan must include provision for submission of an annual report prepared by a qualified ecologist. The final report must evaluate whether the restoration goals relative to SMBB have been met and whether the project has had any negative impacts on SMBB populations.

8. If the final report indicates that the restoration project has had negative impacts to SMBB populations or habitat or the associated vegetation community, the applicant shall submit within 90 days a compensatory mitigation plan. The restoration program revised to include the mitigation plan shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is legally required.

12. <u>MODIFICATION OF PHASE 2 SALT MARSH DESIGN</u>

PRIOR TO ISSUANCE OF THE PERMIT, the applicant shall submit for review and approval of the Executive Director in consultation with CDFG and USFWS as appropriate, a revised Phase 2 design that increases the percentage of potential SMBB habitat within the project footprint intended for restoration to salt marsh to a level acceptable to the resource agencies and that adjusts the height of the intended SMBB habitat to between 5 and 6 feet MSL. Under current conditions, the majority of the Big Canyon habitat areas supporting SMBB are located on high marsh at elevations above 5 feet MSL – most typically plants are

concentrated in areas between 5 and 6 feet MSL, occasionally higher. The current plan for the new salt marsh habitat proposed to support SMBB is designed for 5 feet MSL. The plan must be adjusted so that the height of the area proposed to support SMBB is between 5 and 6 feet in elevation.

13. UPDATED PLANT SURVEYS

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and approval of the Executive Director a detailed updated sensitive plants survey including the six special status plant species known to occur within the project area: southern tarplant, California boxthorn, south western spiny rush, estuary seablite, woolly seablite, and salt marsh bird's beak (Special Condition 11 provides for a separate survey specifically for salt marsh bird's beak). The updated sensitive plants survey shall be developed in consultation with the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service, as appropriate. The updated sensitive plants survey is intended to determine the location of sensitive plants within the project area to ensure their protection. If the follow-up survey(s) demonstrates that the project would result in significantly greater impact than is currently estimated, as determined by the Executive Director in consultation with the Department of Fish and Game, the applicant shall submit an amendment to the Coastal Development Permit that alters the plan such that impact is avoided in any areas that meet the definition of Environmentally Sensitive Habitat Area (ESHA) and that any impact in areas outside ESHA is fully mitigated.

14. WATER QUALITY MANAGEMENT PLAN (WQMP)

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the permittee shall submit for the review and approval of the Executive Director, two (2) copies of the final Water Quality Management Plan (WQMP) for the post-construction project site, prepared by a licensed water quality professional, and shall include plans, descriptions, and supporting calculations. The final WQMP shall be in substantial conformance with the previously submitted "*Water Quality Management Plan"* prepared by VA Consulting Inc. dated June 2009.

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

15. LONG TERM OPERATIONS AND MAINTENANCE PLAN

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the permittee shall submit for the review and approval of the Executive Director, two (2) copies of a Long Term Operations and Maintenance Plan for the post-construction project site, prepared by a licensed professional, and shall include plans, descriptions, and supporting calculations. The plan shall shall comply with the preliminary project plans titled Big Canyon Creek Restoration Project Phase I and Phase 2 prepared by VA Consulting, Inc. dated 4/09, as modified to comply with the requirements of this permit. The Long Term Operations and

Maintenance Plan shall include, at a minimum, the following components: proposed routine maintenance activities to all project elements (i.e., culvert, subdrain systems, sediment basin, creek channel, freshwater pond, weir, trails, interpretive areas) site inspections, vector control, frequency of sediment removal at sediment basin and at freshwater pond, retrieval and restacking of rip rap at various aprons. Some maintenance activities may require subsequent Coastal Act authorization, as identified by the Executive Director.

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

16. FUTURE IMPROVEMENTS

This permit is only for the development described in Coastal Development Permit No. 5-09-113. Additional development, including but not limited additional grading shall require an amendment to Permit No. 5-09-113 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government. In addition, pursuant to Title 14 California Code of Regulations Sections 13250(b)(6) and 13253(b)(6), the exemptions otherwise provided in Public Resources Code Section 30610(a) and (b) shall not apply to the entire parcel. Accordingly, any future improvements to the development authorized by this permit, including but not limited to repair and maintenance activities identified as requiring a permit in Public Resources Section 30610(d) and Title 14 California Code of Regulations Sections 13252(a)-(b), shall require an amendment to Permit No. 5-09-113 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.

17. ARCHAEOLOGICAL RESOURCES

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the applicant shall submit for the review and approval of the Executive Director an archeological monitoring plan prepared by a qualified professional, that shall incorporate the following measures and procedures:

1. The monitoring plan shall ensure that any prehistoric or historic archaeological or paleontological cultural resources that are present on the site and could be impacted by the approved development will be identified so that a plan for their protection can be developed. To this end, the cultural resources monitoring plan shall require that archaeological and Native American monitors be present during all grading operations unless the applicant submits evidence, subject to the review and approval of the Executive Director, that a more complete survey of cultural resources adjacent to and within a one-half mile radius of the project site finds no cultural resources. If cultural resources are found adjacent to, or within a one-half mile radius of the project site, the applicant may choose to prepare a subsurface cultural resources testing plan, subject to the review and approval of the Executive Director, in-lieu of proceeding with development with the presence of archaeological and Native American monitors on the site during grading activities. If the subsurface cultural resources testing plan results in the discovery of cultural resources, the applicant shall prepare a mitigation plan, which shall be peer

reviewed and reviewed by the appropriate Native American tribe, and shall apply for an amendment to this permit in order to carry out the mitigation plan.

There shall be at least one pre-grading conference with the project manager and grading contractor at the project site in order to discuss the potential for the discovery of archaeological or paleontological resources.

2. Archaeological monitor(s) qualified by the California Office of Historic Preservation (OHP) standards, Native American monitor(s) with documented ancestral ties to the area appointed consistent with the standards of the Native American Heritage Commission (NAHC), and the Native American most likely descendent (MLD) when State Law mandates identification of a MLD, shall monitor all project grading, if required in the approved cultural resources monitoring plan required above.

3. If required by the above cultural resources monitoring plan to have archeological and Native American monitors present during grading activities, the permittee shall provide sufficient archeological and Native American monitors to assure that all project grading that has any potential to uncover or otherwise disturb cultural deposits is monitored at all times;

4. If any archaeological or paleontological, i.e. cultural deposits, are discovered, including but not limited to skeletal remains and grave-related artifacts, artifacts of traditional cultural, religious or spiritual sites, or any other artifacts, all construction shall cease within at least 50 feet of the discovery, and the permittee shall carry out significance testing of said deposits in accordance with the attached "Cultural Resources Significance Testing Plan Procedures" (Appendix 1). The permittee shall report all significance testing results and analysis to the Executive Director for a determination of whether the findings are significant.

5. If the Executive Director determines that the findings are significant, the permittee shall seek an amendment from the Commission to determine how to respond to the findings and to protect both those and any further, cultural deposits that are encountered. Development within at least 50 feet of the discovery shall not recommence until an amendment is approved, and then only in compliance with the provisions of such amendment.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

I. Project Site - Location

The proposed project site is a 70-acre Nature Park located between Jamboree Road and Back Bay Drive, approximately one mile north of Coast Highway along the east shore of Upper Newport Bay in the City of Newport Beach (Exhibit 1). The project site is designated as Open Space (OS) in the City's Coastal Land Use Plan.

The site is a large natural canyon with a perennial stream and is located between the first public road and the sea (Newport Bay) characterized by steep canyon slopes and a narrow moderately

sloped floodplain; slopes range in elevation from 20 to 75 feet above mean sea level and the canyon creek ranges in elevation from below mean sea level to 25 feet above sea level. The site is surrounded by residential developments on the top of canyon to the north and south and is bounded by Upper Newport Bay to the west and Jamboree Road to the east. A small parking lot, information kiosk, and Upper Newport Bay are located west of Bay Back Drive within the tidal zone. An artificial dam and freshwater pond are located east of Back Bay Drive. The canyon contains dredge spoils deposited there during past dredging operations in the bay.

Big Canyon Creek is a perennial stream supporting riparian species within the canyon. The creek flows from southeast to northwest through the 60-acre Big Canyon Creek Nature Park, ultimately draining into Upper Newport Bay. The lower portion of Big Canyon is within the Upper Newport Bay State Ecological Reserve. Big Canyon is the only natural, undeveloped portion of the Big Canyon Creek watershed, and the only significant remaining natural canyon on the east side Newport Bay. The Big Canyon Creek Watershed covers approximately two square miles and drains directly into Upper Newport Bay.

Native plant communities in the upper part of Big Canyon include arroyo willow scrub, alkali meadow, freshwater marsh, and sagebrush scrub. The lower (western) portion of the canyon is dominated by a large area of freshwater marsh, along with cottonwood-willow riparian forest, alkali meadow, brackish marsh, mulefat scrub, alkali grassland, chenopod scrub, coyote brush scrub, and sagebrush scrub. The canyon slopes contain areas of coastal bluff scrub and coyote brush scrub. The tidal wetlands on the bayside of Back Bay Drive are dominated by saltmarsh, with smaller areas of alkali grassland, alkali meadow, alkali marsh, brackish marsh, mulefat scrub and sagebrush scrub along the edges of the roadway. Mudflats and shallow tidal channels are present in Upper Newport Bay. Exhibit #5 provides a diagram of existing habitat types and their location within the project area. Big Canyon provides habitat for numerous plant and animal species of concern including salt marsh bird's beak, Southern tarplant, Southwestern spiny rush, California boxthorn, Estuary seablite, Woolly seablite, Beldings savannah sparrow, California brown pelican, Light-footed clapper rail, California least tern, and Coastal California gnatcatcher. However, many of the existing plant communities are fragmented, discontinuous, and threatened by invasive weeds such as Brazilian peppertree and myoporum.

The existing and proposed development is located on City owned uplands and tidelands under CA Department of Fish and Game (CDFG) jurisdiction. The Upper Newport Bay Ecological Reserve managed by CDFG continues to the north, south, and west of the project area.

II. Project Description

The Big Canyon Creek Restoration Project proposes to re-establish a functioning complex of wetland and upland habitats to restore tidal influence to lower Big Canyon Creek. The project also proposes to allow development of natural transitions between existing and restored open water, mudflat, salt marsh, freshwater marsh, riparian woodland and upland habitats. The project will address existing environmental problems in Big Canyon, including uncontrolled erosion and sedimentation, inadequate drainage systems, dominant presence of non-native invasive plant species, barren areas resulting from past dredge spoil disposal, contaminated urban runoff into the creek and bay, removal of invasive non-native plants, restoration of native habitats and address the degraded freshwater pond constructed in the 1980's. The project also provides improved, habitat-sensitive public trail access, scenic overlooks and interpretive opportunities throughout Big Canyon.

The Southern California Wetlands Recovery Project identified Big Canyon in its Work Plan as an important resource in need of restoration. The Newport Beach City Council directed the City to move forward with an effort to restore Big Canyon Creek within Big Canyon Nature Park. The proposed project is a voluntary restoration project driven by the City with public funding, it is not mitigation to offset impacts from other development.

As previously described Big Canyon provides habitat for numerous plant and wildlife species. Several federally listed plant and avian species associated with wetland and salt marsh habitats have been observed or have a high potential to occur within the Project Area. Surveys for terrestrial biological resources in 2003 identified approximately forty-two plant communities in Big Canyon. However, many of these communities are fragmented, discontinuous, and threatened by invasive plants such as Brazilian peppertree, lollipop tree and myoporum. Overall impacts to vegetation communities will cover approximately a 22-acre area out of 70-acre site (Exhibit 7).

The proposed Big Canyon Creek Restoration Project will occur in two phases. Exhibit 6 provides a graphic of the proposed project's grading plan and elevation cross sections of proposed new tidal marsh, freshwater pond and creek channel. Exhibit 8 depicts the proposed invasive plant removals during Phase I and Phase II and Exhibit 9 provides the conceptual planting plan for the restoration project.

Phase I: Freshwater Pond

An approximately 2-acre freshwater pond is planned adjacent to Big Canyon Creek. The pond will replace an existing freshwater pond that will be filled for the realignment of Back Bay Drive to restore historic tidal marsh areas. The new freshwater pond will be lined with a PVC plastic liner and have a reclaimed water source via a supply water line connection to a 16-inch reclaimed water line in Jamboree Road to address water quality issues. The pond will be hydrologically separated from Big Canyon Creek in order to prevent selenium-laden creek flows and soil from contaminating the pond. Soil and water analysis found high levels of selenium exceeding water quality standards in the creek and freshwater marshes that endanger wildlife and aquatic life.

Approximately 47,310 cubic yards of material will be excavated and 34,650 cubic yards of fill material will be used to create the new 2-acre freshwater pond. About half of the perimeter of the freshwater pond will contain a shallow bench to support freshwater marsh plantings. An island in the center of the pond will be planted with riparian and wetland plants to provide opportunities for western pond turtle basking. The freshwater pond will require on-going maintenance including sediment/organic matter removal (dredging) and vector control as needed. Maintenance activities will also take place as needed to ensure that the circulation and aeration devices are functioning properly.

Phase I: Interpretive Area pad

A rough-graded pad will be created at the proposed interpretive area for construction staging. This oval shaped area is dominated by non-native grasses including Italian ryegrass (*Lolium multiflorum*), soft chess (*Bromus hordeaceus*), horehound (*Marrubium vulgare*) and wild mustard (*Hirschfeldia incana*). The interpretive area access road will also be rough graded to provide construction access to the freshwater pond grading area.

Phase I: Access/Maintenance Roads

Most of the existing Orange County Sanitation District dirt access roads will remain in their current configuration. Small sections of existing road are proposed for widening and a new 360 ft. long by 15 ft. wide maintenance road starting at and running parallel to Jamboree Road is proposed to

provide maintenance access to the proposed sediment basin and culvert extension at Jamboree Road. A portion of an existing sewer maintenance road running parallel along the southern canyon slope will be widened to 15-ft. along the portion of the road that will be adjacent to the proposed freshwater pond to provide for on-going maintenance to the freshwater pond. This widened maintenance road will run along the southern side of the proposed pond and connect to the interpretive area proposed loop road (this loop road is currently an existing maintenance road).

Phase I: Interpretive Trails
A 10-ft wide and approximately 1,525 ft. long decomposed granite trail is proposed for the area between the widened creek channel and new freshwater pond. This trail will also serve as a maintenance access road for the creek channel and freshwater pond. A 6-ft. wide and 1,575 ft. long decomposed granite trail within the interpretive area and along the northerly side of the widened creek channel near the riparian spillway is proposed. A third trail approximately 320 ft. long north of the proposed freshwater marsh is proposed which will connect to the existing trail from the Bluffs to an existing bridge structure.

Phase II: Regrading/Re-alignment of Big Canyon Creek
Approximately 40,635 cubic yards (4.29 acres) of material will be excavated and 12,515 cubic yards (0.72 acre) of fill used to widen Big Canyon Creek. The new widened creek will be approximately 140 feet wide with a minimum depth of nine feet and a maximum depth of 16 feet. The longitudinal channel slope will be graded to two percent and the side slopes will be at a 2:1 ratio. The channel bed and banks substrate will be native soil and native riparian woodland species will be planted along the broad flood plain and up the channel banks. The widened and realigned creek will provide greater flow and riparian habitat.

Phase II: Restoration of historic tidal marsh and Back Bay Drive realignment
The historic tidal wetlands at the mouth of Big Canyon Creek will be restored by dredging and realigning the existing Back Bay Drive inland along the historic extent of tidal marsh.
The existing Back Bay Drive berm will be left in place to protect existing populations of salt marsh bird's beak, but the asphalt and concrete associated with the road and parking lot will be removed. The existing berm and restored paving area will be planted with coastal sage scrub vegetation. Back Bay Drive will be realigned to the vicinity of the historical tidal inundation boundary, which is approximately 500 feet from the existing road at the maximum inland extent. To avoid flow concentration and provide better transition from tidal marsh to Big Canyon Creek, a series of four culverts, each approximately 5 ft high by 10 ft wide by 63 ft long, are planned under the realigned Back Bay Drive. The new road will maintain the same 20 ft width as presently exists and will follow the alignment of the existing maintenance road and trail dike. The length of road will increase from 1,000 to 1,620 linear ft for the improved reach. Approximately 2.93 acres of existing freshwater marsh will be converted from freshwater to saltwater with the realignment of Back Bay Drive and restoration of the historic tidal marsh.

Approximately 107,400 cubic yards of soil will be excavated and 63,100 cubic yards of fill will be required to realign Back Bay Drive and restore the tidal marsh. As a result, approximately 3.6 acres of additional salt marsh habitat will be created, including low marsh, high marsh, and mud flat. Salt marsh plantings will be installed in the newly created habitat.

Phase II: Freshwater marsh creation
At the downstream end of the widened creek, a shallow freshwater marsh will be created. The marsh will be planted with rush and wetland grass species. The restored freshwater marsh habitat

is expected to support invertebrates, amphibians, and birds and naturally filter out sediments and water pollutants before emptying out into Upper Newport Bay.

Phase II: Enhance Public Use and Provide Interpretive Opportunities
The project is intended to enhance public use and educational opportunities as well as provide coordinated trail access and interpretive signage. Included in the plan are trails, roadways, parking, and interpretive areas. The components of the plan were identified to meet public and interpretive education needs to the greatest extent possible while not impacting restoration goals or practical considerations (e.g., access to existing sewer line for necessary maintenance). The rough-graded pad created in Phase I for construction staging will become the proposed interpretive area and open areas within the interpretive pad will be restored to native grassland.

The existing parking lot (24,000 square feet and 35 parking stalls) and restroom facilities (2 to 4 portable toilets) will be moved out of the sensitive tidal wetlands area and relocated to the opposite side of the road in an existing disturbed area between coastal sage scrub habitat and the degraded freshwater marsh. The proposed new parking lot will be within the interpretive site pad and have capacity similar to that of the existing parking lot (36 stalls) and provide two school bus-size parking spaces and a bus drop-off/loading zone. Additionally, the interpretive area will contain a 1,100 sq. ft. amphitheater for educational and wildlife viewing purposes, six overlook areas along the trail and roads as rest stops where visitors can observe key natural features of the restored canyon and bird-watch.

The restroom facility included in the Project contains four unisex portable chemical toilets. The toilets are proposed near the existing sewer manhole but there is no immediate plan for gravity sewer connection.

Phase I and Phase II: Removal of Invasive Plant Species
During both phases of the project, new planting and removal of invasive exotic species is proposed throughout tidal marsh, freshwater marsh, riparian and upland habitats throughout the site (Exhibit #8). Dense infestations of Brazilian peppertree and myoporum and other invasive exotic species will be removed in riparian, coastal sage scrub and alkali meadow habitats. Spot removal of exotic species will be applied to portions of woodland, riparian scrub, and coastal sage scrub with less dense infestations. Native vegetation will be planted in areas of exotic species removal.

Construction is proposed to occur during fall and winter seasons only for a 2-3 year time period. Materials excavated during tidal marsh restoration and other activities will be reused at the central interpretive area to the maximum extent possible. Debris and excavated materials are proposed for disposal at the The Frank R. Bowerman Landfill located at 11002 Bee Canyon Access Road in Irvine. Approximately 75,000 cubic yards of excavated materials would be generated; of which, approximately 50% would be reused for on-site fill or application to other public construction.

II. Previous Coastal Development Permits

1. Coastal Development Permit P-8-27-76-8715 and Appeal No. 75-77

On March 21, 1977, the South Coast Regional Commission granted Coastal Development Permit P-8-27-76-8715 to the Orange County Sanitation District No. 5 for the construction of an 18 to 24 inch cast iron gravity sewer to replace an existing pump station at Jamboree Road. The sewer line was to run from the Pacific Coast Highway trunk at Dunes Park up Back Bay Drive, through the north side of Big Canyon to Jamboree Road in Newport Beach, California. The permit was subject

to several conditions including compliance with Department of Fish and Game conditions, the replacement of all willow trees removed, and the plugging of an abandoned sewer line within one year of completion of the project.

Coastal Development Permit P-8-27-76-8715 was appealed to the State Coastal Commission on Appeal No. 75-77. On appeal, the approval was denied on September 21, 1977. The permit was denied based on inconsistency with Section 30240 of the Coastal Act. The Commission cited adverse impacts upon the clapper rail due to proposed construction during the breeding season and the availability of alternatives which would avoid such impacts.

2. Coastal Development Permit P-80-7346 and Appeal No. 332-80

On November 10, 1980, the South Coast Regional Commission granted to the Orange County Sanitation District No. 5 Coastal Development Permit P-80-7346 for the abandonment of an existing sewage pump station and force main. The 3 MGD 14-18 inch force main was proposed to be replaced by a 9 MGD 18-24 inch gravity main running from the Pacific Coast Highway trunk at Dunes Park, up Back Bay Drive, and through the south side of Big Canyon to Jamboree Road in Newport Beach, California. The permit was subject to 20 special conditions including construction related requirements, inspection by Fish and Game, habitat restoration, and construction timing.

Coastal Development Permit P-80-7346 was appealed to the State Coastal Commission on Appeal No. 332-80. The project was approved on appeal on February 18, 1981, subject to additional conditions regarding restoration, habitat preservation through an offer of dedication, and conformance with the special conditions imposed by the Regional Commission. Due to the high resource values along the sewer alignment, a condition of approval required a 7-acre freshwater marsh restoration within Big Canyon to mitigate construction negative impacts to the light-footed clapper rail, the species most affected by the project's construction. The CDP required an irrevocable offer to dedicate the area as an open space and conservation easement (accepted by the City of Newport Beach) for permanent protection of the habitat values of the Big Canyon area.

3. CDP 5-00-144 (Orange County Sanitation District)

In August 2000, the Coastal Commission approved Coastal Development Permit 5-00-144 for the rehabilitation and replacement of approximately 9,500 linear feet of sewer line, plus installation of a manhole, and reconstruction of existing storm drain inlets along Back Bay Drive along the centerline of the existing paved roadway between the bayside and inland habitats. The replacement of existing storm drain inlets and the pipe connecting the drain inlet to the discharge points was also within the paved roadway. The project was sited and designed to prevent impacts upon adjacent sensitive habitats by avoiding encroachment into sensitive habitat area and avoiding removal of native vegetation adjacent to Back Bay Drive.

B. Marine and Land Resources

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 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 of the Coastal Act states in part:

(a) 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:

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(6) Restoration purposes.

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

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.

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:

(1) necessary water supply projects,

(2) flood control projects where no other method for protecting existing structures in the floodplain 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.

Although Chapter 3 of the Coastal Act is the standard of review, the following Newport Beach Coastal Land Use Plan policies provide guidance in regards to development in environmentally sensitive areas (ESA):

Policy 4.1.3-1: Utilize the following mitigation measures to reduce the potential for adverse impact to ESA natural habitats from sources including, but not limited to, those identified in Table 4.1.1:

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.

C. Prohibit the planting of non-native plant species and require the removal of non-natives in conjunction with landscaping or re-vegetation projects in natural habitat areas.

D. Strictly control encroachments into natural habitats to prevent impacts that would significantly degrade the habitat.

H. Participate in implementation of Total Maximum Daily Loads (TMDLs).

I. Participate in programs to control sedimentation into and within Upper Newport Bay.

J. Use docent programs to actively manage and enforce CDFG regulations in marine protected areas regarding the taking of intertidal and subtidal plants and animals and to minimize incidental trampling.

M. Implement TMDLs into Newport Bay and local watersheds to minimize water quality problems along the coastline.

N. Prohibit invasive species and require removal in new development.

O. Implement and enforce TMDLs in watershed and Upper Newport Bay to improve water quality in Newport Harbor.

Sensitive Habitats and Resources

1. Species of Significance

The Project Area contains approximately 11.81 acres of wetlands and 1.66 acres of open waters as defined by the Coastal Commission. Fifteen (15) unique habitat types under CA Department of Fish and Game (CDFG) jurisdiction occur in Big Canyon including approximately 15.13 acres of coastal sage scrub habitat, which is an environmentally sensitive habitat area (ESHA) according to the City of Newport Beach LUP.

Big Canyon provides habitat for protected plant and wildlife species. Several federally listed plant and avian species associated with wetland and salt marsh habitats have been observed or have a high potential to occur within the Project Area. Six special status plant species occur within the Project Area: southern tarplant, California boxthorn, south western spiny rush, estuary seablite, woolly seablite, and salt marsh bird's beak. Salt marsh bird's beak (*Cordylanthus maritimus maritimus)* is a federally (FE) and state endangered (SE) species. SMBB is present at the mouth of Big Canyon Creek in salt marsh and sandy flats. With 30,000 individuals counted at the mouth of Big Canyon in 2003, Big Canyon has the most significant population in Southern California.

Habitats present within the Project Area are identified in Exhibit 5. Forty-two distinctive plant communities have been identified in the project area. Many of these communities are fragmented, discontinuous, and threatened by invasive plants such as Brazilian peppertree and lollipop tree. Native plant communities in the upper part of Big Canyon include arroyo willow scrub, alkali meadow, freshwater marsh, and sagebrush scrub. The lower (western) portion of the canyon is dominated by a large area of freshwater marsh, along with cottonwood-willow riparian forest, alkali meadow, brackish marsh, mulefat scrub, alkali grassland, chenopod scrub, coyote brush scrub, and sagebrush scrub. The canyon slopes contain areas of coastal bluff scrub and coyote brush scrub.

The tidal wetlands on the bayside of Back Bay Drive are dominated by saltmarsh, with smaller areas of alkali grassland, alkali meadow, alkali marsh, brackish marsh, mulefat scrub and sagebrush scrub along the edges of the roadway. A freshwater marsh, riparian areas, and stream channel occur on the project site.

The existing freshwater marsh located in the canyon (inland of Back Bay Drive) was created in the early 1980's as part of mitigation for impacts for the Back Bay Sewer project (CDP P-80-7346 and Appeal No. 332-80). Originally, 7-acres of freshwater marsh, dominated by freshwater emergent vegetation, was intended to mitigate for construction impacts to canyon habitat used by the light-footed clapper rail, the species thought to be most affected by the proposed sewer construction. The intent of the special condition requiring habitat mitigation was to restore existing freshwater marsh and provide an open space and conservation easement for permanent protection of the habitat values of the Big Canyon area. However, research since the early 1980's documents salt marsh habitat dominated by cordgrass (*Spartina* sp.) as the preferred foraging and nesting habitat of the light-footed clapper rail. The proposed restoration project intends to restore historic tidal marsh (now known to be preferred light-footed clapper rail habitat) thereby not changing the original intent of the special condition for habitat mitigation and long term protection of habitat values of the Big Canyon area. The proposed project will result in the conversion (loss) of 3 out of 5 acres of existing freshwater marsh to create a net increase of 3.5 acres of salt marsh for an overall project increase of 9.25 acres of saltwater marsh.

Furthermore, approximately 5.6 acres out of 13.5 acres of native riparian habitat throughout the site will be permanently impacted by the overall restoration project, including arroyo willow scrub, cottonwood willow and non-native riparian forest (Brazilian pepper forest) in the northwest and central portion of the Project Area. However, restoration efforts will create 7.11 acres of new riparian habitat for a total net increase of approximately 1.5 acres. The black willow riparian forest in the northeastern portion of Big Canyon will be protected and not be impacted by grading activity and will benefit from invasive species removal and replanting activities.

2. Project Impacts to ESHA – Coastal Sage Scrub

Big Canyon has approximately 15.13 acres of several types of coastal sage scrub habitat which is an environmentally sensitive habitat area (ESHA) according to the City of Newport Beach LUP. As proposed, the project includes restoration activities and construction of a new educational interpretive area and parking lot within Big Canyon adjacent to Coastal Sage Scrub habitat, which is considered an Environmentally Sensitive Habitat Area (ESHA) due to the presence of the California gnatcatcher (a federally Threatened species and California Species of Special Concern). Coastal Act Section 30107.5 defines ESHA 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". The Coastal Act Section 30240 restricts development activities within ESHA to "*only uses dependent on those resources shall be allowed within those areas."*

Of the 15.13 acres of coastal sage scrub found in the Project Area, approximately 2.3 acres will impacted by various aspects of the project design. However, restoration efforts (i.e., proposed invasive species removal and re-vegetation) will result in 7.3 acres of new coastal sage scrub habitat for a total net increase of approximately 5 acres.

The vast majority of the coastal sage scrub is found on the slopes on the north and south sides of Big Canyon, however, new trails and an interpretive area for environmental education on an existing graded/disturbed pad are proposed adjacent to sage scrub habitat. The interpretive area will avoid adverse impacts to the adjacent coastal sage scrub from pedestrian traffic through the use of well defined footpaths/trails and signage. Recreation, interpretation and educational areas are designed to prevent impacts to environmentally sensitive habitats through their proposed siting on currently disturbed or paved soils.

'Resource dependent' development, such as restoration or nature study, is allowed in ESHA. The proposed project does not pose a significant disruption to habitat values (it will increase them) and the proposed nature study uses are dependent on the resource and compatible with continuance of the ESHA. The re-alignment of Back Bay Drive and trails/maintenance roads included in the project follow along existing maintenance roads and trails thereby minimizing impacts to ESHA outside the active construction/restoration areas. The road realignments are necessary in order to accomplish effective upland and wetland habitat restoration. The proposed project will not ersult in significant disruption of coastal sage scrub habitat. Uses proposed adjacent the coastal sage scrub habitat, such as the interpretive site and trails are resource dependent uses.

3. Species of Significance - Avian

Biological surveys conducted in 2003 observed Coastal California Gnatcatcher in saltbrush scrub habitat at the mouth of Big Canyon (within the Project Area). The Light-footed Clapper Rail has

been observed in cordgrass dominated habitats and Beldings Savannah Sparrow has been observed in pickleweed habitat within the Project Area. The California Brown Pelican was observed foraging in channels west of the salt marsh in Upper Newport Bay. The California least tern was observed foraging in tidal water areas near the Project Area. However, neither the California Brown Pelican nor the California least tern were observed within the Project Area. The California least tern prefers sandy beaches and salt flats for nesting. No potential nesting habitat exists in the Project Area. California Brown Pelicans do not breed on the mainland California coast.

Furthermore, focused surveys for the least Bell's vireo found no vireos or potential habitat in Big Canyon in its current condition to support the species.

Temporarily increased turbidity associated with construction and excavation activities could potentially reduce foraging opportunities for the California Brown Pelicans and other avian species commonly observed locally; however, the available open water habitat within both Upper and Lower Newport Bay would provide alternative foraging opportunities. To prevent negative effects on the foraging and nesting opportunities for all avian species, **Special Condition #8** requires construction activities to take place outside of the bird nesting season. Project construction will be limited to the non-breeding period for sensitive wildlife, generally between September 1st to February 15th. Should work be required outside this period, a qualified biologist will conduct pre-construction surveys within two weeks prior to the commencement of construction to verify the presence or absence of birds, including raptors, passerines, and their nests. If the survey indicates the potential presence of nesting raptors or protected passerines, construction workers will adhere to CDFG avoidance guidelines (typically requiring a minimum 500-foot buffer zone surrounding active raptor nests and a 250-buffer zone surrounding nests of other birds). As conditioned, the project would avoid negative impacts on nesting or overall foraging activities.

Based on the above, the proposed project would not affect federally-listed endangered or threatened avian species, or their critical habitat.

4. Species of Significance – Plants

Six (6) special status plants were found in Big Canyon including salt marsh bird's beak, southern tarplant, Californa boxthorn, Southwestern spiny rush, estuary seablite and woolly seablite.

Salt Marsh Bird's Beak (SMBB) – Possible Indirect Impacts

Salt marsh bird's beak (*Cordylanthus maritimus maritimus)* is a federally and state endangered species. Approximately 30,000 SMBB individual plants were counted in 2003 present at the mouth of Big Canyon Creek in salt marsh and sandy flats, making Big Canyon a significant and important population of SMBB in Southern California.

A Big Canyon Creek Historic Tidal Wetlands Conceptual Restoration Plan was prepared in 2004, however comments to the 2007 Mitigated Negative Declaration for this plan from the resource agencies raised concerns regarding the protection of sensitive habitats/species (specifically SMBB) and regarding water quality issues associated with high levels of selenium and subsequently the project was re-designed to address these concerns. Design modifications were specifically developed to address potential indirect impacts to salt marsh bird's beak. The berm that currently supports Back Bay Drive and that separates the tidal marsh from the existing freshwater marsh will be retained except for an approximately 50-foot wide opening in the same location as the existing

concrete dip crossing to allow tidal flow into the proposed new tidal marsh area. Only the asphalt from the existing road will be removed, but the berm will remain to protect the existing large salt marsh bird's beak population in Upper Newport Bay.

Salt Marsh Bird's Beak is a halophytic annual species that ranges from San Luis Obispo to San Diego Counties and into Baja California. It is restricted to upper salt marsh habitats and typically occurs within sandy substrates between 5 to 6 feet MSL in Upper Newport Bay. SMBB belongs to the Figwort Family and is related to the snapdragon. It is a hemiparasite that uses pickleweed and saltgrass to extend its growing season[1]. Other suitable host plants have also been identified (11: Recovery Plan). SMBB occupies transitional high salt marsh habitats within Upper Newport Bay.

Disturbance in the vegetative cover appears to encourage expansion of SMBB[2, 3, 4] and SMBB does not thrive in areas of salt marsh that have high plant height[5] and plant cover despite the fact that it is a hemiparasitic species that taps resources from other plants. While much of the lifecycle of SMBB is not well understood, the prevailing thought through the 80's and 90's has been that freshwater is only required for germination and that SMBB germinates in response to freshwater via precipitation with a decrease in germination during drought or low rainfall years [6, 7, 8]. After germination SMBB appears less dependent on freshwater although freshwater may be important in ameliorating soil salinity levels[9, 10]. Populations in the Pt. Mugu and Ormond Beach area in Ventura county receive non-tidal sources of summer water which appears to aid in sustaining populations at west Ormond Beach (artesian well); Ventura County Game Farm (freshwater or municipal water pumped into ponds); and the west arm Pt. Mugu (receives overflows of freshwater from the game farm (CDFG files). SMBB declined in one area at Pt. Mugu following reintroduction of historic tidal flows (Martin Ruane, pers. comm. to Mary Meyer, CDFG, Aug 20, 2009).

It should be noted that the USFWS SMBB Recovery Plan[11] contains specific direction addressing the need to develop comprehensive management plans for major systems supporting SMBB, including Upper Newport Bay. It notes the importance of maintaining fresh water and tidal influences in marshes supporting the taxon and directs that hydrologic investigations be undertaken to evaluate the effects of tidal and fresh water influences on SMBB colonies. Task 1131 of the SMBB Recovery Plan specifically directs that it is especially important at Upper Newport Bay to take into account the habitat needs of the endangered plant as well as endangered birds (as conversion from high marsh to low marsh to benefit birds has occurred in the past); and

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[1] Parsons, LS and JB Zedler. 1997. Factors affecting reestablishment of an endangered annual plant at a California salt marsh. Ecological Applications. 7(1):253-267,

[2] Vanderwier, JM and JC Newman. 1984. Observations of haustoria and host preference in *Cordylanthus maritimus ssp. maritimus* (Scrophulariaceae) at Mugu Lagoon. Madrono. 31(3):185-190.

[3] Fink, B. and JB Zedler. 1991. Salt marsh bird's beak seed broadcasting and habitat enhancement in San Diego County. Supplemental. Report for the California Department of Transportation. Interagency Agreement #11B3512.26.

[4] Ibid. Parsons & Zedler 1997.

[5] Kelly, JP and G. Fletcher. 1994. Habitat correlates and distribution of *Cordylanthus maritimus* (Scrophulariaceae) on Tomales Bay, California. Madrono. 41(4):316-327.

[6] Vanderwier, JM. 1983. Germination and seedling development. *Cordylanthus maritimus* ssp. *maritimus*. Unpub. Paper.

[7] Fink, B. and JB Zedler. 1990. Maximizing growth of *Cordylanthus maritimus ssp. maritimus*, an endangered salt marsh plant. Final Report for the California Department of Transportation. Interagency Agreement #11B3512.26.

[8] Ibid. Fink & Zedler 1991.

[9] Parsons, LS. 1994. Reestablishment of salt marsh bird's beak at Sweetwater Marsh: Factors affecting reproductive success. MS Thesis, San Diego State University, San Diego, Calif. 125 pp.

[10] Ibid. Fink & Zedler 1990.

[11] USFWS. 1985. Salt Marsh Birds Beak (*Cordylanthus maritimus ssp. maritimus*) Recovery Plan. Dated 12/6/1985. 92pp.

Task 1135 of the SMBB Recovery Plan addresses the potential for adverse effects on soil salinity if hydrology is not maintained.

The original 2007 MND did not adequately address the potential impacts upon, and mitigation for, SMBB. Ms. Parsons (April 8, 2008) states:

> *In the mitigated neg dec, the authors state that, "the project is designed to avoid impacts to this species." Later, it is stated that, "no take of this species is anticipated with the project." However, nowhere in the document do I see any further information that supports either of these statements. There is no discussion on what project implementation-related impacts could potentially be and how these impacts will be avoided. The only impacts discussed are construction-related impacts and how they will be avoided.*
>
> *In addition, there is not much discussion on the impacts of restoration on hydrology, particularly tidal hydrology. Some of this information could prove very important to interpreting what the impacts on the existing population of the federally and state-listed endangered salt marsh bird's beak (Cordylanthus maritimus ssp. maritimus)……*
>
> *Restoration will obviously affect dynamics of both tidal and freshwater hydrologic processes.*

To address restoration project impacts upon SMBB, the City of Newport Beach hired WRA to design a SMBB Avoidance and Monitoring Plan. WRA submitted a draft plan in June 2009. The 2009 Revised MND requires compliance with the final SMBB Avoidance and Monitoring Plan. In its present form, this draft plan inadequately addresses SMBB hydrology concerns, SMBB monitoring, and SMBB mitigation. **Special Condition #10** requires a stand alone hydrological study in order to adequately address the potential hydrological processes important to SMBB survival and persistence at Big Canyon. Indirect impacts could potentially occur to the SMBB population stemming from changes in subsurface hydrology related to project grading and alterations in existing conditions. The proposed restoration plan would alter the location where fresh water may be interacting with the tidal waters at the surface and sub-surface and within the soil profile. By altering the existing road berm by providing a 50-foot wide opening to allow tidal flow into the new tidal marsh area, by introducing tidal flow to areas just east of occupied SMBB habitat relocating the freshwater marsh further east into the canyon, by lining the freshwater pond with an impermeable bottom, and by redirecting summer flows out of the creek's southern channel into the creek's northern channel, subsurface hydrologic alterations may occur that could adversely affect habitat suitable for SMBB. A freshwater lens may exist in a near-surface perched water table beneath occupied habitat and it could be receiving contributions from lateral movement of freshwater coming into the tidal system. A pre-construction hydrologic assessment must be undertaken to determine whether or not a freshwater lens is present in and beneath the rooting zones of occupied SMBB habitat. The baseline hydrological conditions must be determined and ongoing hydrological conditions must be monitored during project work and for five years following completion of the restoration project.

A seed collection and monitoring program has been developed, and additional mitigation and avoidance measures are described in the Draft Salt Marsh Bird's Beak Avoidance and Monitoring Plan (WRA, Inc., June 2009). However, as the Avoidance and Monitoring Plan is not yet finalized, **Special Condition #11** further requires that the applicant develop the final salt marsh bird's beak avoidance and monitoring plan in cooperation with the CDFG and the USFWS. **Special Condition #12** addresses the concern that the proposed new restored salt marsh does not provide suitable

habitat for SMBB. Furthermore, **Special Condition #4** requires the applicant incorporate in the final plans review comments from other regulatory agencies, including CDFG.

Salt Marsh Bird's Beak (SMBB) – Possible Impacts

On April 8, 2008, Loraine Parsons, in a letter addressed to Rosie Wilson of WRA (a biological consulting firm) writes;

At the request of WRA, I have reviewed the document, "The Big Canyon Creek Historic Tidal Wetlands Conceptual Restoration Plan" (Community Conservancy International 2004). I have also reviewed the Mitigated Negative Declaration (WRC Consulting and WRA undated), which I found on the City of Newport Beach's website. …Based on summarizing and interpreting information in the two documents on this species, the population of SMBB is the one of the largest, if not the largest, in southern California (WRC Consulting and WRA undated). Most of the colonies appear to occur on "islands" of coastal salt marsh in the fully tidal portion of the Newport Back Bay.

Based on the 2003 survey, SMBB was located outside of areas proposed to be impacted by the restoration project. However, in May 2008, CDFG staff observed a couple of SMBB plants growing outside the 2003 mapped polygons in a localized area of high salt marsh transitioning to disturbed upland on the north edge of the existing Back Bay Drive in an area proposed for grading (elevation approximately 7 MSL) to recreate a tidal channel. Therefore, **Special Condition #11** requires follow-up surveys no less than one year prior to proposed re-alignment of Back Bay Drive during Phase II of the project. As proposed, the project does not involve new development in existing SMBB habitat. However, the follow-up SMBB survey along the Back Bay Drive road berm required by Special Condition #11 may find a couple of of plants along the berm in the area proposed for the approximately 50-foot wide opening to allow tidal flow into the proposed new tidal marsh area. The tidal opening is necessary in order to accomplish the restoration of the historic salt marsh. Should SMBB be found in this area of the berm, a take permit for a couple of plants would be required from CDFG. If the follow-up survey demonstrates that the project would result in significantly greater take than is currently estimated, Special Condition #11 also requires the applicant submit an amendment to the Coastal Development Permit that alters the Phase 2 plan such that take is avoided in any areas that meet the definition of Environmentally Sensitive Habitat Area (ESHA) and that any take in areas outside ESHA is fully mitigated.

As conditioned, the project will not result in significant disruption of SMBB habitat. As conditioned, the project therefore complies with Coastal Act section 30240.

Southern Tarplant

Southern tarplant *Centromadia (Hemizonia) parryi* ssp. *Australis* was observed in Big Canyon at twelve localities consisting of a total of approximately 2,169 plants during the 2003 plant surveys. Southern tarplant is typically found in annual grassland habitat. However, the exact location of the plant is not clear in the information provided (Exhibit 5). Approximately 9.08 acres of grassland habitats are found in Big Canyon. These habitats vary from ruderal grassland/ornamental vegetation to alkali grassland. Approximately 3.37 acres of grassland will be permanently impacted by the 3.3-acre interpretive pad/parking area (discussed later under the Public Access and Recreation section of the report). Areas of the interpretive site not occupied by development will be re-planted throughout with native grassland plant species.

Overall, the applicant is proposing restoration of approximately 1.62 acres of native grassland habitat in the western portion of the canyon along Jamboree Road and in the replanted native grassland in the interpretive pad. **Special Condition #13** requires recent floral surveys for sensitive plants including southern tarplant during the appropriate time of year. If the follow-up survey(s) demonstrates that the project would result in significantly greater impact than is currently estimated, as determined by the Executive Director in consultation with the Department of Fish and Game, the applicant shall submit an amendment to the Coastal Development Permit that alters the plan such that impact is avoided in any areas that meet the definition of Environmentally Sensitive Habitat Area (ESHA) and that any impact in areas outside ESHA is fully mitigated. Furthermore, Special Condition #9 requires the applicant submit a wetland and upland restoration plan which includes post-restoration monitoring and remediation to ensure that restoration is successful.

5. Species of Significance – Aquatic Species

Mudflats and shallow tidal channels near Big Canyon support an estuarine invertebrate fauna like those occurring throughout the rest of Upper Newport Bay. Common invertebrates that live in Upper Newport Bay sediments include: polychaete worms, Oligochaete worms, amphipods, snails, and clams. The most abundant fishes in the nearby channels and shallow water habitats are topsmelt and yellow fin gobies. No state or federally listed species of invertebrates or fish are currently known to exist in Upper Newport Bay.

The results of biological studies suggest that extending tidal influence into Big Canyon will re-introduce a range of shallow water and mudflat-occurring estuarine benthic invertebrates and fishes and will result in higher population densities of benthic invertebrates compared to conditions that currently exist in the degraded freshwater pond. Currently the pond is species poor and dominated by relatively low numbers of freshwater insects. Invertebrate species likely to colonize the area will be similar in species composition to that which occurs along the existing mudflats and tidal channels in the vicinity of Big Canyon. These species are likely to include opportunistic species such as polychaetes , oligochaetes, and amphipods. Larger tidal marsh and mudflat marsh invertebrates include California horn snails, yellow shore crabs and fiddler crabs.

Given the importance of shallow water and mudflat benthic infaunal organisms in the detrital food web ecosystems of coastal wetlands, and the importance of benthic invertebrates in the diet of foraging shorebirds and marsh birds, the re-introduction of tidal flow and the subsequent re-colonization of Big Canyon wetlands by tidal invertebrates and fishes would result in an increase in coastal wetland habitat value/increase the biological diversity of the western one-third of Big Canyon by re-introducing tidal-dependent species and communities to an area that has been degraded by fill, invasive plant species and poor water quality.

The applicant has provided an Erosion Control Plan which provides Best Management Practices (BMPs), such as deploying sand bags and silt curtains at appropriate locations during construction, will be implemented to protect fish species in Newport Bay.

6. Flood Control

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:*

(1) necessary water supply projects,

(2) flood control projects where no other method for protecting existing structures in the floodplain 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.

Big Canyon Creek is currently in a mostly natural, un-channelized condition within the Project Area. The lower reaches of the creek have been modified by previous placement of dredge spoils (which will be removed as part of the project). With headwaters at the San Joaquin Reservoir, the creek drains approximately two square miles of urban developed land. The reservoir, irrigation water, and surface runoff provide a perennial supply of water to Big Canyon Creek and adjacent wetland areas. Big Canyon Creek drains into Upper Newport Bay through two culverts under Back Bay Road and into a salt marsh system on the western side of the road. Tidal activity occurs only within the salt marsh areas and currently has little or no influence on the freshwater systems to the east of Back Bay Road. A secondary drainage channel follows the toe of the northern canyon bluffs and exits under a bridged portion of Back Bay Drive. This channel is active primarily during winter storms and high flows; riparian woodland has established in this 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 would be inundated. This natural flooding process provides the necessary soil moisture for plant growth. However, the channel banks and inverts are subject to erosion and sedimentation during flood events which may cause damages to roadways, an existing boardwalk bridge, and other infrastructure. Erosion and sedimentation also negatively impact habitat quality in the canyon and ultimately of Upper Newport Bay.

An element of the Big Canyon Nature Park restoration project is to widen Big Canyon Creek to accommodate 100-year flows, to improve the creek flow, minimize areas of scour and sedimentation. The project includes a new culvert extension of the existing culvert at Jamboree Road that discharges flows from the watershed into the open creek out from a 12’ wide corrugated metal pipe directly into the canyon. To prevent scour and erosion at this point, a 12’x12’ concrete box structure is proposed to transition flows from the pipe into a new proposed sediment basin to trap sediment materials at the most upstream point in the canyon before it is discharged into the creek.

The widening of Big Canyon Creek requires approximately 40,635 cubic yards of material excavated and 12,515 cubic yards of fill. Much of the excavated material will consist of previously stockpiled dredge fill in Big Canyon during the late 1960’s and early 1970’s (Exhibit 2).

The new widened creek will be approximately 140 feet wide with a minimum depth of nine feet and a maximum depth of 16 feet. The longitudinal channel slope will be graded to two percent and the side slopes will be at a 2:1 ratio. The channel bed and banks substrate will be native soil and native riparian woodland species are proposed to be planted along the broad flood plain and up the channel banks.

This project element would improve surface water hydrology by reducing the force of high flows and erosion potential as vegetation along the banks will help stabilize the creek banks and help

prevent downstream sedimentation. Hydraulic analysis of the proposed widened creek show that velocities in the creek will be below erosive levels due to the 2% longitudinal slope and heavily vegetated side slopes. The riparian channel (North Channel) would receive less flows, therefore, reduce the erosion potential during high flows (approximate at or larger than 1,000 cfs).
The proposed freshwater pond and interpretive areas will not be within the 100-year floodplain of Big Canyon Creek. The water surface elevations in most of the excavated area below the proposed Back Bay Drive would be reduced to tidal levels and the realigned portion of Back Bay Drive would not be subject to river or tidal flooding. The embankments of the freshwater pond would be constructed with sufficient stability against erosion by a 100-year flood. The proposed embankment between the freshwater pond and widened creek will be constructed of compacted fill and is configured per geotechnical recommendations. The proposed freshwater pond will be lined and therefore there will be no pond water seepage through the embankment.

No risk associated with property loss or life threatening conditions would result from the project since no development is below the pond embankment. The Project intends to improve the creek stability and prevent major erosion hazards during future flood events that would undermine the proposed habitat restoration project. Due to the environmental sensitivity of the site, no major engineering work is proposed to entirely armor the creek and canyon. Section 30236 of the Coastal Act limits substantial alterations to, among other things, creeks to developments where the primary function is the improvement of fish and wildlife habitat, which is a primary goal of the project as explained in the previous section.

7. Fill of Coastal Waters

Section 30233 of the Coastal Act states in part:

> *(a) 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:*
>
> *(6) Restoration purposes.*
>
> *(7) Nature study, aquaculture, or similar resource dependent activities.*
>
> *(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitatsand water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.*

As a result of the proposed Back Bay Road realignment, widening of Big Canyon Creek, grading for freshwater pond and marsh areas for their conversion to salt marsh and grading for new freshwater pond habitat, an overall decrease of 1.63 acres of freshwater marsh would occur as a result of the project. The chart on the following page shows impacts to open water, wetland, riparian and other habitat within the project area.

COMMUNITY TYPE	EXISTING HABITAT	IMPACTED ACRES	CREATION ACRES	NET INCREASE/ DECREASE
Brackish Marsh	0.527	0.312	0	
Chaparral	0.320	0.032	0	
Coastal Sage Scrub	15.133	2.309	7.277	4.968
Developed	5.404	2.625	0	
Freshwater Marsh	4.122	2.926	1.296	-1.629
Grassland	9.077	3.377	1.618	-1.759
Mudflat	4.108	0.196	0	
Ornamental Plantings	4.685	0	0	
Ornamental/Riparian	2.869	2.616	0	
Pond or Creek	1.572	1.572	0	
Riparian	13.471	5.536	7.113	1.477
Sandy Flats	0.728	0.006	0	
Salt Marsh	5.765	0.015	3.584	3.569
Woodland	0.351	0		
Alkali Meadow	2.461	0.852		
Mulefat Scrub	0	0	1.014	1.014
Tidal Marsh Transition	0	0	0.596	0.596
Open Water	0	0	2.194	0.622
TOTALS	**70.595**	**22.526**	**24.693**	

Riparian

Removal of riparian habitat would occur as a result of the relocation of Back Bay Road, the creation of the open water pond above the new road, and construction of a diversion berm and new sediment basin at the east end of the canyon (close to Jamboree Road).

Overall these different elements of the restoration project will permanently fill 3.83 acres of riparian habitat, however the project will result in the creation/restoration of 7.13 acres of riparian willow scrub and woodland through restoration and enhanced through removal of invasive exotic plant species. A net increase of 1.47 acres of native riparian habitat will occur as a result of the Project. Native riparian species will be planted and seeded in areas that are opened up with the removal of exotic species. A mix of each canopy layer will be planted. Specific placement of species will depend on soil and hydrologic conditions. These restoration actions in the Project Area will be "self-mitigating" and no additional mitigation measures are proposed.

Freshwater and Saltwater Wetlands

Saltwater Marsh

Tidal inundation in the project area is limited to the bayside of Back Bay Drive. Construction of Back Bay Drive cut off tidal flow but historic aerial photographs and maps of Big Canyon show that the historic range of the tidal wetlands once extended approximately 500 feet inland from Back Bay Drive and reached across the entire canyon mouth (Exhibit #4). Big Canyon currently drains through three 15-inch pipes under Back Bay Drive.

Back Bay Drive is proposed to be realigned to the vicinity of the historical tidal inundation boundary at the mouth of Big Canyon Creek, which is approximately 500 feet from the existing road at the maximum inland extent. The existing Back Bay Drive berm will be left in place to protect existing populations of salt marsh bird's beak, but the asphalt and concrete associated with the road and existing parking lot will be removed from the sensitive tidal wetlands area to the opposite side of the road to an existing inland disturbed area. The existing berm and restored parking/paving area will be re-vegetated with coastal sage scrub vegetation. To avoid flow concentration and provide better transition from tidal marsh to Big Canyon Creek, a series of four culverts, each approximately 5 feet high and 10 feet wide and 63 feet long, is planned under the realigned Back Bay Drive. The new road will maintain the same width for pavement of 20 feet following the alignment of the existing maintenance road and trail dike. The length of road will increase from 1,000 to 1,620 linear feet.

Approximately 107,400 cubic yards of soil will be excavated and 63,100 cubic yards of fill will be required to realign Back Bay Drive and restore the tidal marsh. The area to be restored to tidal marsh currently consists of roadway and an existing freshwater pond and marsh area. Approximately 3 acres of existing freshwater marsh will be removed for the realignment of Back Bay Drive and the restoration of the tidal marsh. As a result, approximately 3.6 acres of additional salt marsh habitat will be created, including low marsh, high marsh, and mud flat. Salt marsh plantings will be installed in the newly created habitat.

The restored tidal marsh will improve the transition between freshwater and saltwater habitat, enhance habitat for benthic invertebrates, and increase habitat diversity and complexity. Restoration of the tidal marsh will substantially increase benthic biological productivity as a consequence of the introduction of tidal creeks, mudflats, salt marsh habitat, and transitional brackish water connecting the tidal habitats. Invertebrate species likely to colonize the area will be similar in species composition to that which occurs along the existing mudflats and tidal channels in the vicinity of Big Canyon. These species are likely to include opportunistic species such as polychaetes , oligochaetes, and amphipods. Larger tidal marsh and mudflat marsh invertebrates will include California horn snails, yellow shore crabs and fiddler crabs.

Saltwater marsh/wetland and open water creation and restoration will increase acreage of biologically productive habitats. Wetlands will be restored and enhanced through improving drainage and planting native wetland and riparian species, therefore, the project results in overall additional wetland habitat/habitat conversion from less biological productive freshwater marsh to higher biological productive saltwater marsh. The goal of the proposed development is habitat restoration. Fill of coastal waters for habitat restoration is a permitted use under Coastal Act Section 30233.

As the proposed development is for habitat restoration, therefore, no additional mitigation measures are necessary. The proposed tidal marsh restoration would serve to enhance and restore marine resources. The biological productivity and the quality of coastal waters, tidal marsh, Big Canyon Creek, and wetlands would be enhanced and restored. Restoration of the riparian habitats will improve habitat and water quality for wildlife species and restore migratory corridors within the Project Area. As propose

Freshwater Marsh

The applicant proposes to construct a new 2-acre freshwater pond in an upland area further up Big Canyon. Although adjacent to Big Canyon Creek, it will not be hydrologically connected to the

creek in order to minimize the introduction of selenium and other pollutants that could adversely affect water quality for freshwater marsh species in the pond.

Approximately 3-acres of freshwater marsh will be permanently impacted by proposed project activities to realign Back Bay Drive and restore/create 3-new acres of historic tidal saltwater marsh. Although a net loss of approximately 1.6 acres of freshwater marsh would occur as a result of the overall proposed project, freshwater marsh is not an historic habitat type for local Big Canyon aquatic ecosystems. Overall, this is an acceptable loss under Coastal Act Section 30233 as the habitat conversion from freshwater to saltwater marsh is considered to be from a less biologically productive habitat to a habitat of higher biological productivity. The creation of new saltwater marsh habitat can only be accomplished by the complete removal of Back Bay Drive (not a feasible alternative as this is the only road that provides access to the east side of Upper Newport Bay) or by the realignment of the road further inland to the vicinity of the historical tidal inundation boundary at the mouth of Big Canyon Creek, which is approximately 500 feet from the existing road at the maximum inland extent.

The existing approximately 4 acre freshwater marsh was originally a 7-acre freshwater marsh constructed in the 1980s, However, sediment eroding form the bluffs and the uncompacted dredge spoils in the canyon have accumulated in the pond diminishing its capacity. Though relatively large still, the pond is approximately 2-feet deep with cattails dominating the warm shallow water thereby providing limited water quality benefits. Due to siltation and non-uniform water flow distribution the freshwater marsh is not effective for providing pollutant reduction. Furthermore, based on 2008 soil toxicity analysis, there is selenium contamination in the freshwater marsh soils that would be required to be removed to meet water quality standards. Water quality and sediment testing indicated water quality exceedances for selenium (over the 5 µg/L chronic criterion for protection of aquatic life). Results from a July 2008 monitoring program conducted by CH2MHill showed that all freshwater Big Canyon Creek sites exceeded the California and national water quality criterion value for selenium (5 µg/L as total recoverable selenium). It is uncertain what the sources of the selenium are, though one possible source are the canyon slopes that contain rock formations known to have naturally high levels of selenium. The selenium may become mobilized by surface runoff during storm events, irrigation, and groundwater. The runoff process leaches natural soluble selenium compounds into the water. Selenium can then become concentrated in surface waters wetlands, and ponds that receive the runoff; it then bioaccumulates in algae, plants, invertebrates, insects, fish and bird's. Excessive amounts can be toxic.

To address the issue of selenium contamination, the new freshwater pond is proposed to be hydrologically separated from Big Canyon Creek in order to prevent selenium-laden creek flows and soil from contaminating it. The freshwater pond is also proposed to be lined with a PVC plastic liner and have a reclaimed water source via a supply water line connection to a 16-inch reclaimed water line in Jamboree Road. However, the applicant is also considering initially using groundwater if feasible to fill the newly re-established 7.51 acre-foot freshwater pond. From that time forward, groundwater would be extracted to keep the pond water surface at a 25-foot elevation. Rate of groundwater extraction would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a permanent lowering of the local groundwater table levels.

The Project may require long-term reclaimed water source if groundwater supplies shows selenium concentrations above ecological risk levels or do not provide adequate hydrology for the freshwater pond. Recharge of the freshwater pond levels will be dependent on variable evaporation rates of this open water system. The pond does not have a constant-flow outlet; there is however a

drainline at the western end of the proposed pond that will be used for periodic maintenance activities.

Approximately 47,310 cubic yards of material will be excavated and 34,650 cubic yards of fill will be used to create the new 2-acre freshwater pond. About half of the perimeter of the freshwater pond will contain a shallow bench to support freshwater marsh plantings. An island in the center of the pond will be planted with riparian and wetland plants to provide opportunities for western pond turtle basking. The freshwater pond will require on-going maintenance including sediment/organic matter removal (dredging) and vector control as needed. Maintenance activities will also take place as needed to ensure that the circulation and aeration devices are functioning properly. **Special Condition #15** requires the applicant provide a Long Term Operations and Maintenance Plan describing all proposed maintenance activities.

Amphibians that may use the marsh and associated freshwater aquatic habitat include Pacific treefrog and western pond turtle. Bird species relying on the freshwater marsh habitat may include pied-billed grebe, great blue heron, great egret, snowy egret, mallard, cinnamon teal, American coot, Virginia rail, greater yellowlegs, black-necked stilt, marsh wren, common yellowthroat, song sparrow, and red-winged blackbird.

As proposed, the new freshwater pond will be constructed in Phase I to allow for the freshwater marsh habitat development before the existing freshwater marsh is converted to tidal marsh. As conditioned, the freshwater pond and tidal salt marsh restoration is consistent with Sections 30230 and 30233(b)-(c) of the Coastal Act.

8. Water Quality

Tidal inundation in the project area is limited to the bayside of Back Bay Drive. Construction of Back Bay Drive cut off tidal flow but historic aerial photographs and maps of Big Canyon show that the historic range of the tidal wetlands once extended approximately 500 feet inland from Back Bay Drive and reached across the entire canyon mouth (Exhibit 4). Big Canyon currently drains through three 15-inch pipes under Back Bay Drive. The water in Big Canyon Creek is unfiltered urban runoff draining a two-square mile developed watershed. The creek carries fertilizers and pesticides from lawns, landscaping and golf courses and pollutants from cars, streets and paved areas upstream of the Project Area.

Selenium and Other Contaminants

Water sampling results from 2004 indicate very high levels of fecal bacteria during storms at the Big Canyon Creek outlet to Upper Newport Bay. The results of the soil contaminant analysis also show that metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were all detected at levels below effects range-low (ERL) for marine sediment and within background levels for soil established by NOAA. Organochlorine pesticides and PCBs and organotins were not detected.

As previously discussed, water quality and sediment testing also show water quality exceedances for selenium (over the 5 µg/L chronic criterion for protection of aquatic life). Preliminary studies of sediment in the overall Big Canyon drainage revealed elevated selenium in sediment (over the 4 mg/kg dry weight ecological risk guideline). Soil core sampling conducted in the existing freshwater marsh showed very high concentrations of selenium associated with surface sediments in, ranging from 84 to 122 µg Se/g. This pattern suggests that the freshwater marsh functions as a sediment

trap for selenium sources from the upper canyon and for settling pond biota that have taken up waterborne selenium.

As a result of concerns regarding selenium contamination, the applicant re-designed the project to improve water quality and reduce the amount of selenium entering the project area. The redesigned restoration plan proposes the new freshwater pond to be hydrologically separated from Big Canyon Creek in order to prevent selenium-laden creek flows and soil from contaminating the pond, lining the pond with a PVC plastic liner and have a reclaimed water source supply the pond. Furthermore, the project includes a sedimentation pond in the upper (eastern) end of Big Canyon and the planting of tidal marsh vegetation on the western side of the new re-aligned Back Bay Road.

Upper Newport Bay is listed as an impaired water body under section 303(d) of the Clean Water Act. According to this classification, the following contaminants occur in both Upper and Lower Newport Bay: pesticides and metals, nutrients, pathogens, and sediments/siltation. Total Minimum Daily Loads (TMDL) for Newport Bay have been established for sediments, nutrients, and fecal coliform. The Project intends to help meet these TMDLs by addressing the polluted runoff in the creek before contaminated water reach Upper Newport Bay. The proposed Project includes an integrated system of water quality improvement components, erosion and sedimentation control and use of natural habitats.

The proposed project would maintain the same drainage paths and patterns as currently exist. The surface flow rates entering the creek are also not expected to change with the implementation of the project. The additional impervious surfaces proposed are insignificant to cause any noticeable increase in surface runoff.

Sedimentation

Hydrology studies indicate the existing creek shows moderate sedimentation potential in the upstream portion of the Canyon. Therefore, a sedimentation basin is proposed at the outlet of the Jamboree Road culvert to trap sediments as the flows move through. The upper sediment pond will serve as a debris/sediment management area which will significantly reduce the sedimentation levels within the lower creek and proposed new freshwater marsh thereby protecting their habitat value. The upper sedimentation pond will be routinely maintained (dredged) by the City to remove settled solids, which will also help attenuate levels of selenium in the Canyon, thereby achieving greater water quality. Furthermore, no development exists downstream which would be impacted by the sediment levels within the pond. Since the upper watershed (outside project area) is heavily urbanized, it is expected that sediment removal may need to be performed only after major rainstorms**. Special Condition #15** requires the applicant submit a Long Term Operations and Maintenance Plan describing all proposed maintenance activities.

The proposed project would result in positive water quality improvement. The project includes major riparian woodland creation/restoration. The restoration elements provide an integral system of water quality filtration: riparian wetlands, freshwater ponds (with the upper pond also providing sediment detention), freshwater marsh, and additional end of the pipe BMPs.

Special Condition #14 requires the applicant submit a final Water Quality Management Plan (WQMP) for the post-construction phase of the project and a Storm Water Pollution Prevention

Plan (SWPP) for the project's construction phase to ensure that the proposed project BMPs are adequate for a project of this size.

Furthermore, as construction activities may generate debris or sediment that could enter Newport Bay, the applicant has provided an Erosion Control Plan to avoid temporary erosion caused by construction activities.

C. Public Access and Recreation

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.*

Section 30212 of the Coastal Act states, in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects*

Interpretive Site/Parking Area

The project is intended to enhance public use and educational opportunities as well as provide coordinated trail access and interpretive signage. A 3.3-acre interpretive pad/parking area is proposed to consist of 35-parking spaces, trails, six overlook areas, benches, refuse bins, interpretive signs, a 1,100 sq. ft. covered terraced amphitheater, restroom facilities and will be re-planted throughout with native grassland plant species.

The existing parking lot (35 parking stalls) is proposed to be relocated from the sensitive tidal wetlands area to the opposite side of the road in an existing disturbed area between coastal sage scrub and the existing degraded freshwater marsh. The existing parking lot area (24,000 sq. ft.) will be restored to coastal sage scrub habitat. The new parking lot area/interpretive site is a relatively flat pad of previously deposited dredge spoils and is covered with non-native grasses. The proposed parking will have capacity similar to that of the existing parking (35 stalls) and provide two large bus pullouts, loading and unloading areas. The interpretive site access loop road off Back Bay Drive is proposed to typical asphalt concrete and 15' wide to accommodate school buses and specialized maintenance equipment.

The components of the plan were identified to meet public and interpretive education needs to the greatest extent possible while not impacting restoration goals or practical considerations (e.g., access to existing sewer line for necessary maintenance).

The trails within the interpretive pad will connect to existing and new proposed trails in the canyon and maintenance roads/trails for visitors to observe key natural features of the restored canyon and bird-watch. Exhibit #10 provides examples of the type of interpretive/educational signs proposed. The proposed maintenance road/trail on the south side of the proposed freshwater marsh is proposed to be 15' wide decomposed granite to allow for specialized sediment removal

type of equipment for maintenance of the pond. The trail along the rest of the perimeter of the freshwater pond is proposed to be 10' wide.

D. Cultural/Archaeological Resources

Section 30244 of the Coastal Act states:

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

The project area is in an area of known cultural resources according to the Archaeological Sites of Upper Newport Bay (Archaeological Research Inc., 1976) literature survey. A resource site is known to exist on the landward side of the road at the base of the bluff near Big Canyon. The applicant proposes to fence the site to avoid trespassing or construction in this area and to have an archaeological observer present during excavation to inspect the materials. **Special Condition #17** requires submittal of an archeological monitoring plan to ensure that any prehistoric, historic, archaeological or paleontological cultural resources that may be present on the site and could be impacted by the proposed development receive proper protections.

E. California Environmental Quality Act

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

The City of Newport Beach Planning Department is the lead agency for California Environmental Quality Act (CEQA) purposes. On September 17, 2007 the City Council approved a Mitigated Negative Declaration. Mitigation measures were required for approval of this CEQA document.

The full project consists of habitat restoration within the Big Canyon Nature Park by the realignment of Back Bay Drive to follow the historical tidal boundary at the mouth of Big Canyon and thereby restoring 3.6 acres of historic tidal wetlands; regrading/widening of Big Canyon Creek for greater flood control and replanting of riparian habitat along the creek banks and creation of freshwater marsh at the lower end of the creek; removal of invasive species and restoration of native vegetation; interpretive area with signage and recreational trails; creation of a sediment basin at the upper end of Big Canyon and open water habitat; provide repair maintenance service access roads; and relocation of existing parking lot and restroom facilities out of sensitive habitat.

However, as the project subsequently underwent major re-design changes to address water quality issues and the protection of existing sensitive habitats, the City prepared a Revised Mitigated Negative Declaration. On August 11, 2009, the City (lead agency for the purposes of CEQA review) approved a Revised Mitigated Negative Declaration Design modifications specifically address potential indirect impacts to the federal and state endangered salt marsh bird's beak plant by maintaining the the berm that currently supports Back Bay Drive intact to protect existing salt

marsh bird's beak habitat, water quality improvements to reduce the amount of selenium entering the project area, including a sedimentation pond in the upper (eastern) end of Big Canyon, and a freshwater pond intended to mitigate for impacts to the existing freshwater marsh. To mitigate for interim loss of freshwater habitat, the project will be completed in two stages to allow for the new freshwater marsh habitat to be in place before the existing freshwater marsh is converted to tidal saltwater marsh. The City found that the project as mitigated would not have any significant environmental effects within the meaning of CEQA. The special conditions that the Coastal Commission imposes ensure that the project will avoid significant environmental effects and that the proposed project will conform with the requirements of the Coastal Act.

The proposed project is located in a natural open space area. Infrastructure necessary to serve the site exists in the area. As conditioned, the proposed project has been found consistent with the public access, water quality, and biological policies of the Coastal Act. Special conditions to ensure compliance with Coastal Act requirements relate to 1) State Lands Commission Approval; 2) California Dept of Fish and Game Approval; 3) Water Board Approval; 4) Final Project Plans; 5) Construction Responsibilities and Debris Removal; 6) Phase 1 and 2 Construction Staging Areas; 7) Temporary Public Access Signage; 8) Construction Monitoring; 9) Wetland and Upland Restoration Plan and Biological Monitoring Plan; 10) Salt Marsh Bird's Beak Hydrology Study; 11) Final Revised Salt Marsh Bird's Beak Avoidance and Monitoring Plan; 12) Modification of Phase II Salt Marsh Plans; 13) Updated Plant Surveys; 14) Final WQMP; 15) Long Term Operations and Maintenance Manual; 16) Future Improvements; 17) Archeological Resources.

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

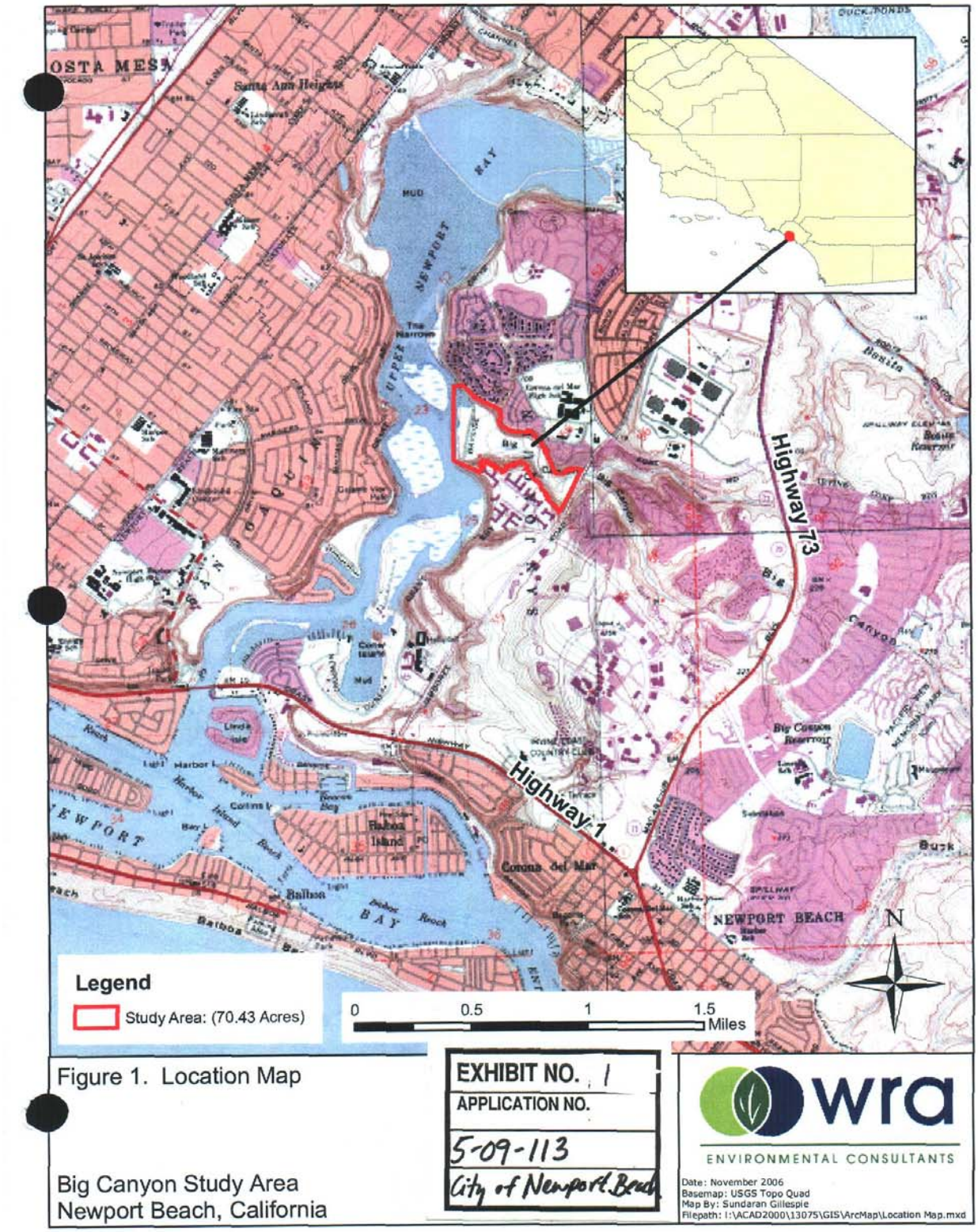
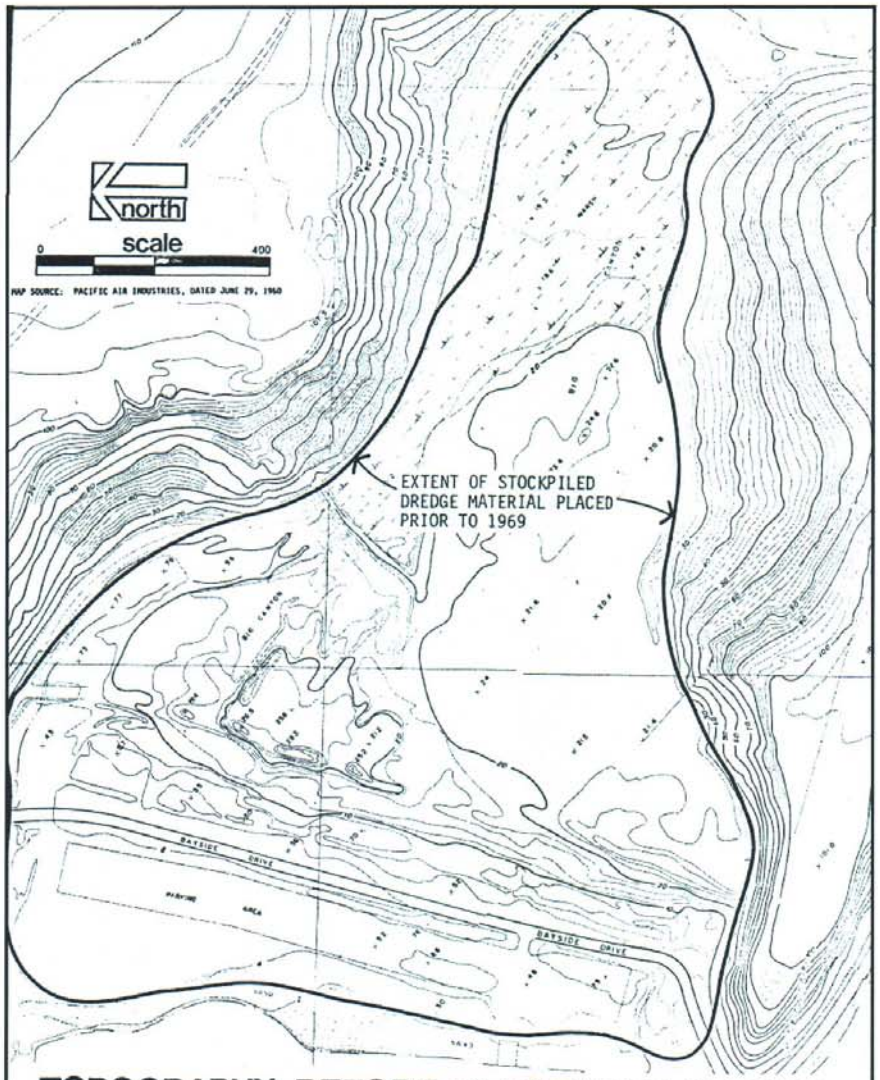


Figure 1. Location Map



TOPOGRAPHY BEFORE PLACEMENT OF 1969 BIG CANYON DREDGE FILL STOCKPILE

EXHIBIT NO. 2
APPLICATION NO.
1 of 2
5-09-113
City of Newport Beach

CITY OF NEWPORT BEACH
BIG CANYON RESTORATION PROJECT

FIGURE 3.2-2
Topography in Lower Big Canyon Prior to Placement of the 1969 Dredge Fill

WRC CONSULTING SERVICES, INC.
1800 E. GARY AVE, SUITE 213
SANTA ANA, CA 92705

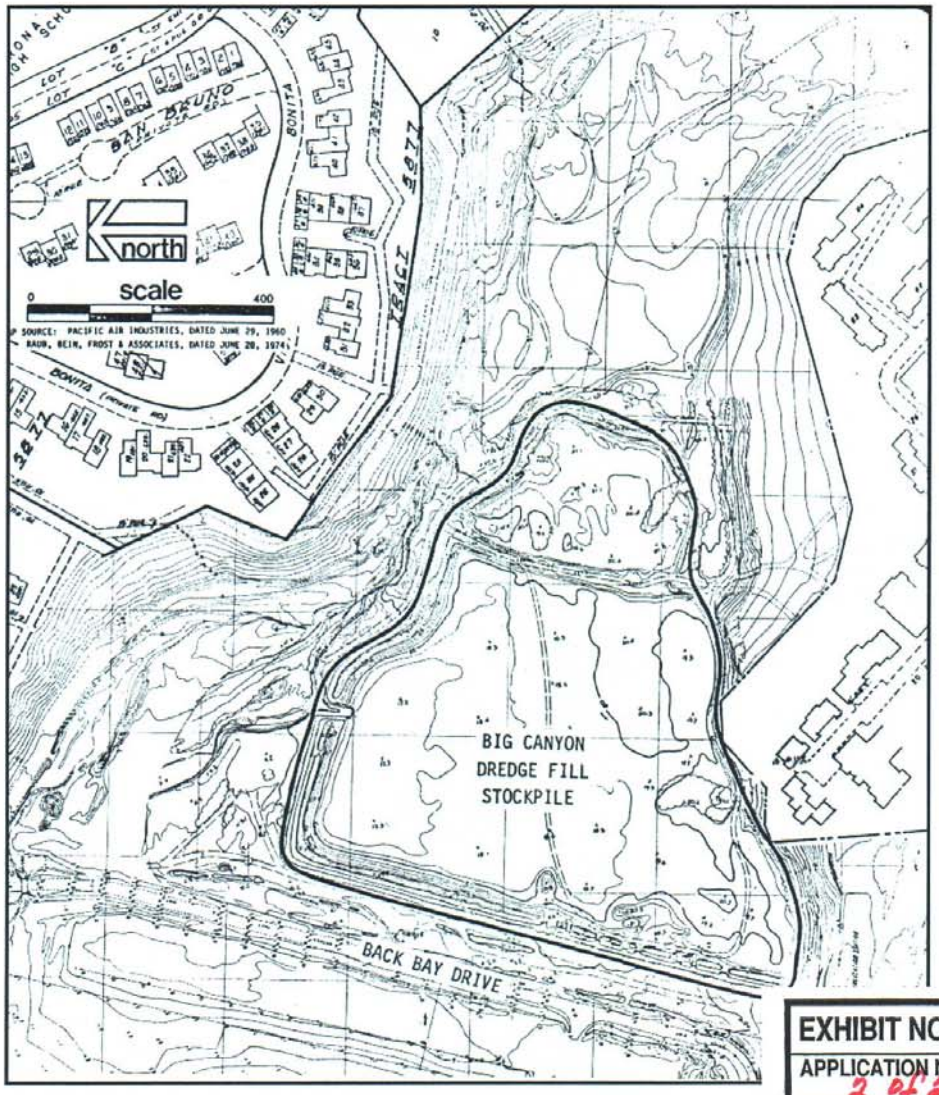


EXHIBIT NO. 2
APPLICATION NO.
2 of 2
5-09-113
City of Newport Beach

CITY OF NEWPORT BEACH

BIG CANYON RESTORATION PROJECT

FIGURE 3.2-3
Topography in Lower Big Canyon in 1974

WRC CONSULTING SERVICES, INC.
1800 E. GARY AVE, SUITE 213
SANTA ANA, CA 92705


Jamboree Rd
Back Bay Drive
N
0
250
500
1,000
Feet
FIGURE 2.1-1
Big Canyon Topography
Existing Topography
1-ft Contour Line
5-ft Contour Line
Existing Creek
CITY OF NEWPORT BEACH
BIG CANYON RESTORATION PROJECT
WRC CONSULTING SERVICES, INC.
WRC SANTA ANA, CA 92705
EXHIBIT NO. 3
APPLICATION NO.
5-09-113
City of Newport Beach

Big Canyon Creek Restoration Project

HISTORIC TIDAL WETLANDS & WATERS OF BIG CANYON

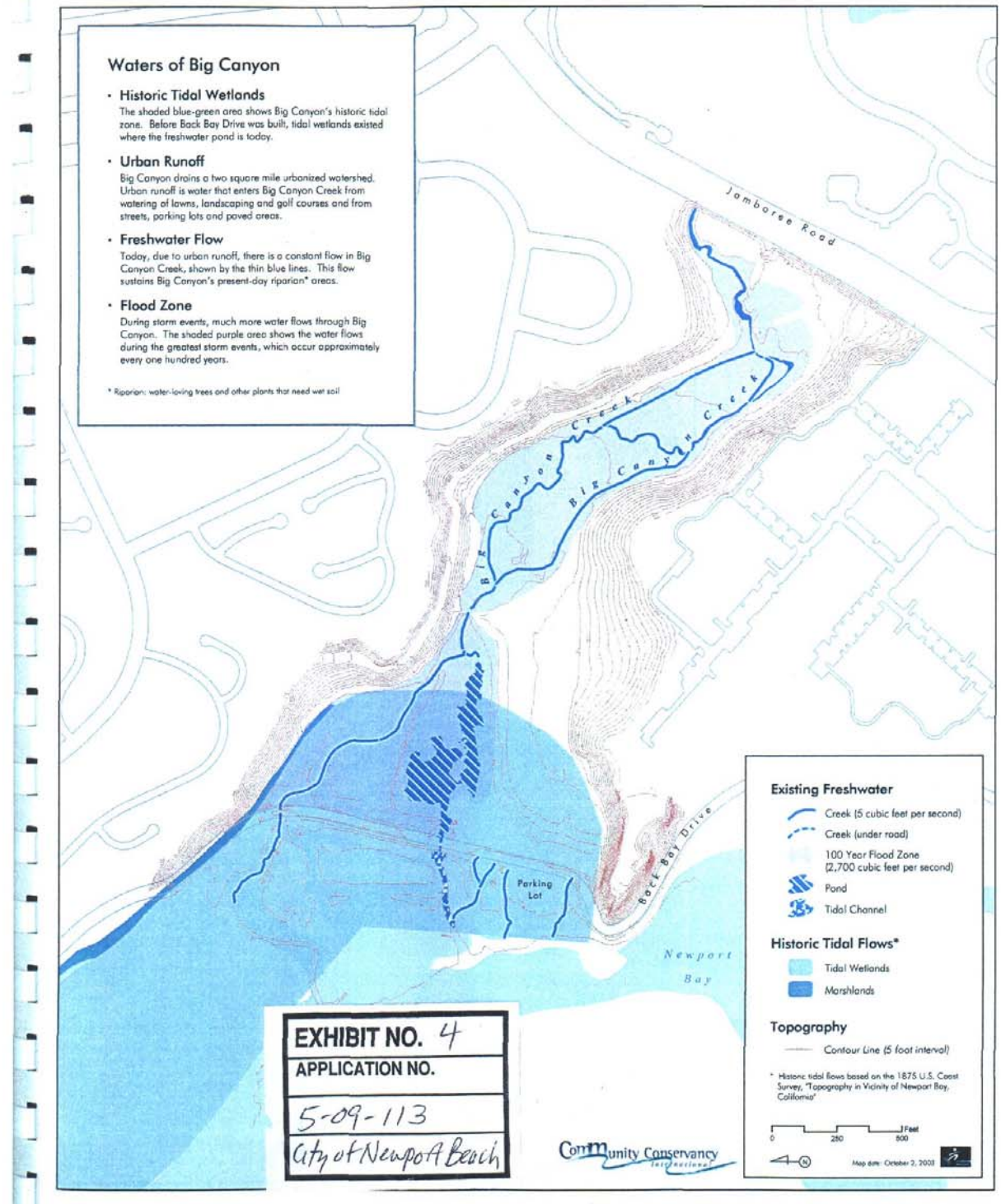


EXHIBIT NO. 4
APPLICATION NO.
5-09-113
City of Newport Beach

Big Canyon Creek Restoration Project

HABITATS AND SENSITIVE SPECIES OF BIG CANYON

Habitats of Big Canyon

A team of biologists conducted surveys in 2003 to record the many different plants and endangered and sensitive species living in Big Canyon. Big Canyon's 70 acres encompass the tidal area influenced by Big Canyon Creek and include mudflats, salt marsh and other wetlands habitats.

- **Diversity**
  Despite decades of disturbance and the negative impacts of urbanization, Big Canyon still supports a diversity of habitats and species. Big Canyon has 42 plant communities, which are shown here grouped into 14 habitat types.
- **Fragmented Habitats**
  Many of these habitats are of poor quality because they are fragmented and unconnected. This harms the long-term health of native plants and wildlife, which cannot flourish in these small and disconnected areas.
- **Impacts of Non-Native Species**
  Invasive non-native plants are found throughout Big Canyon. These plants take over natural habitats and prevent native plants from growing. This destroys important food and nesting areas of native birds and animals.

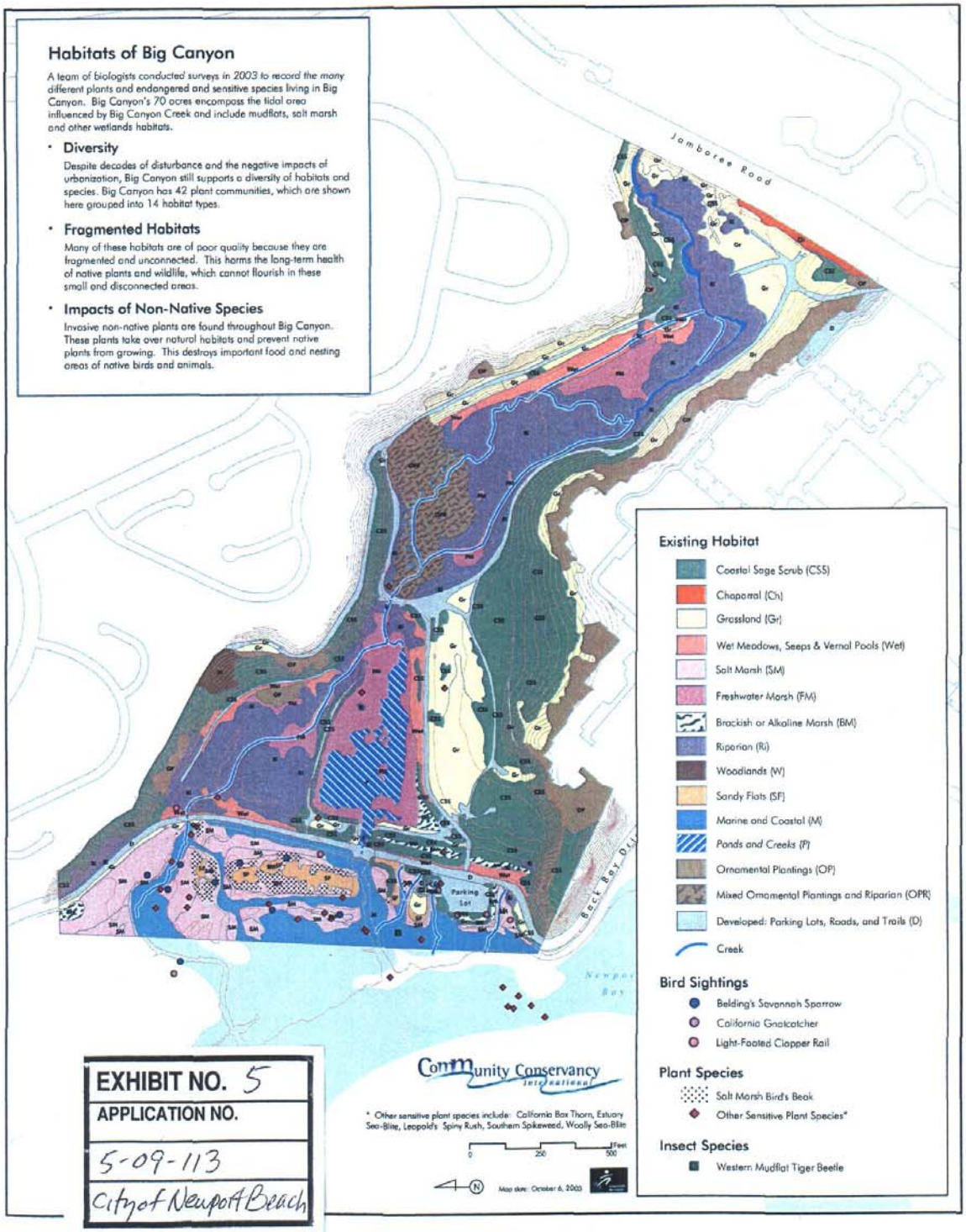
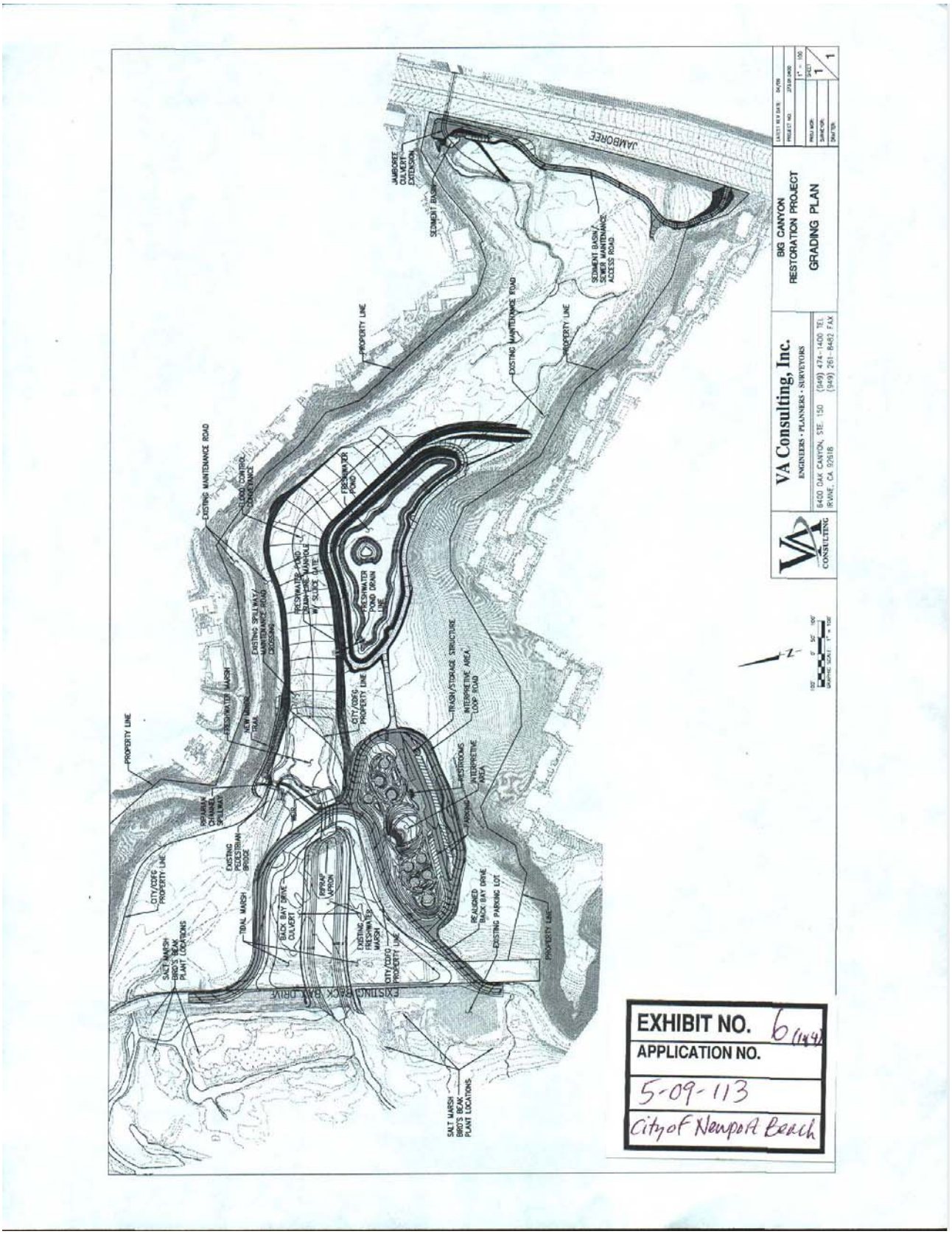
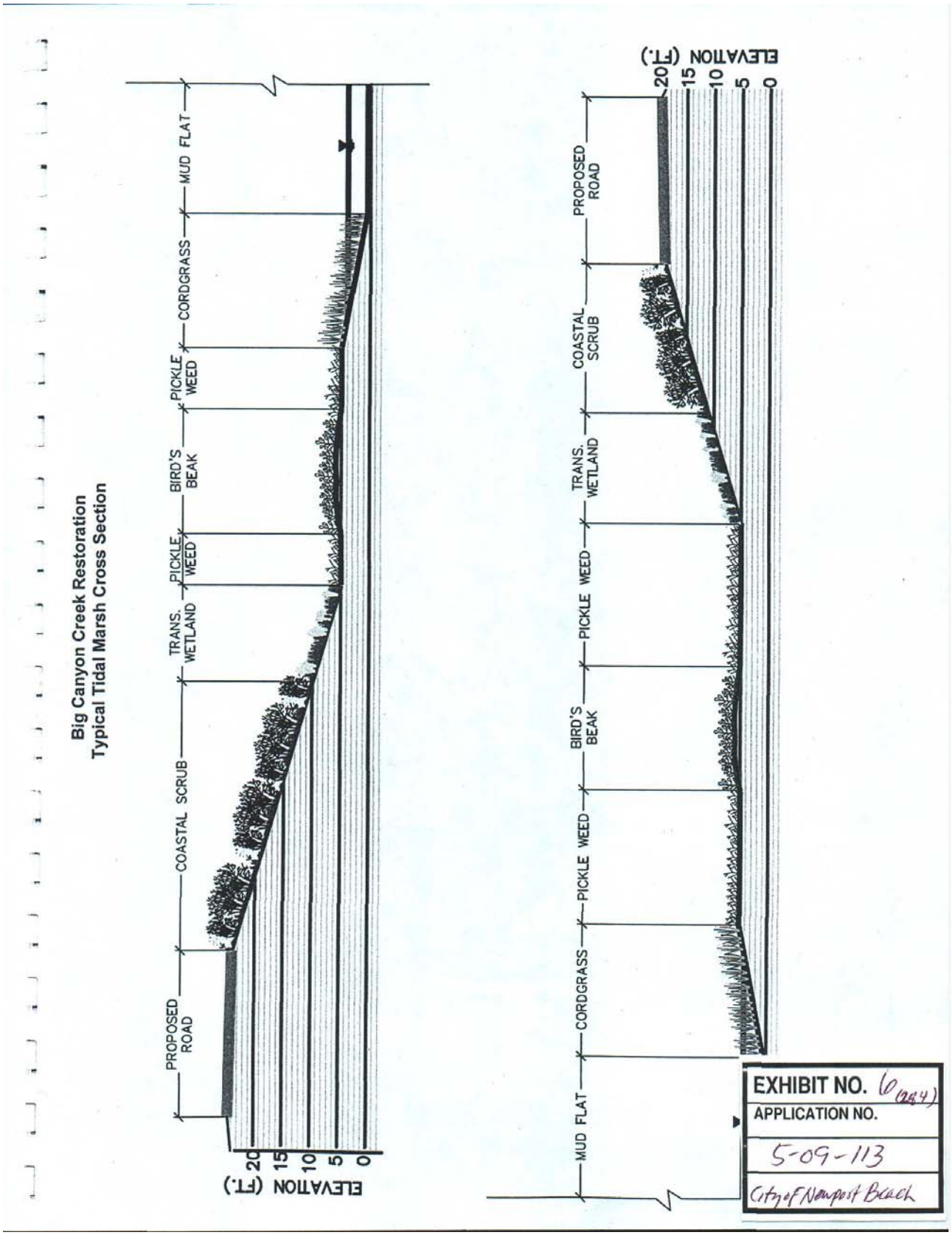
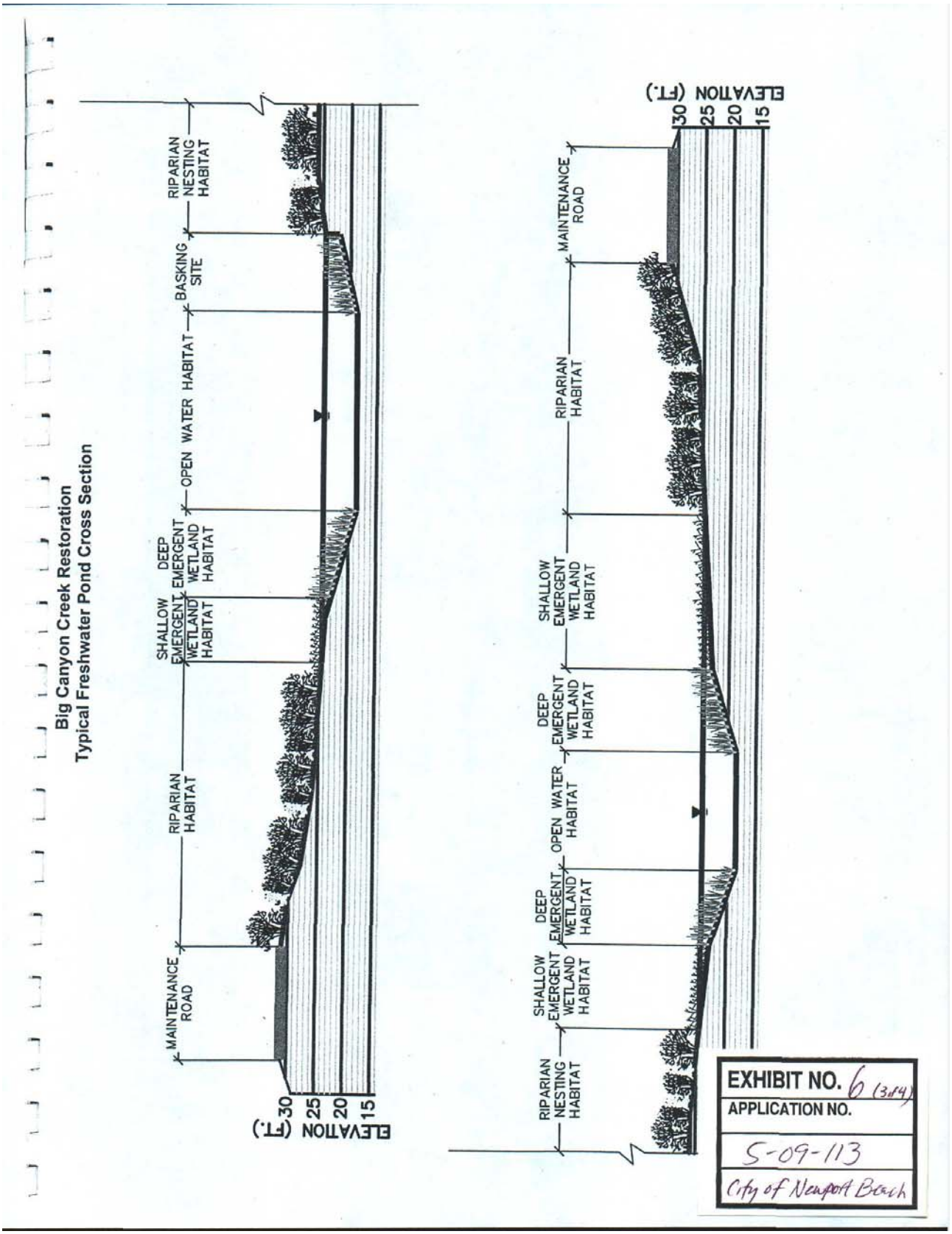
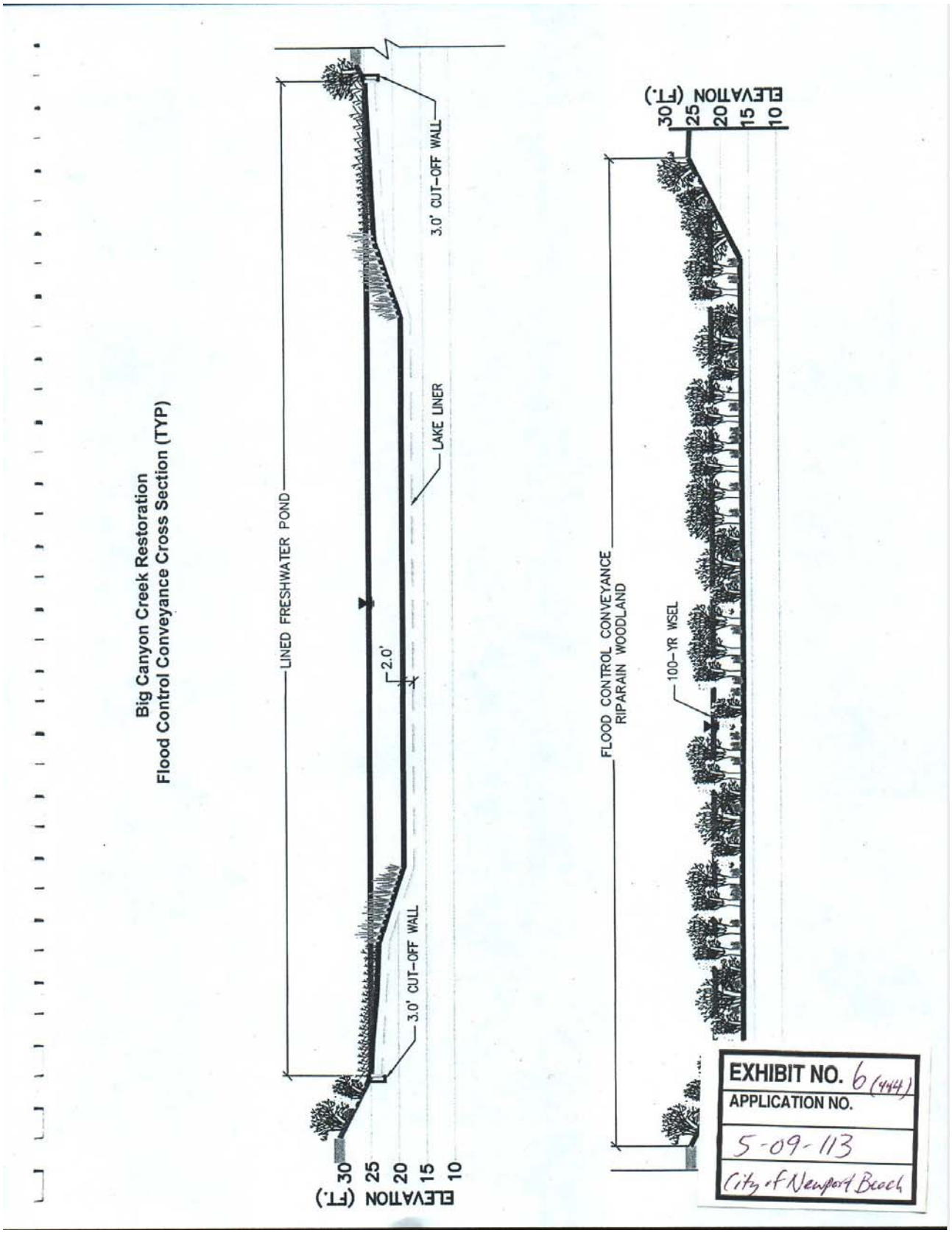


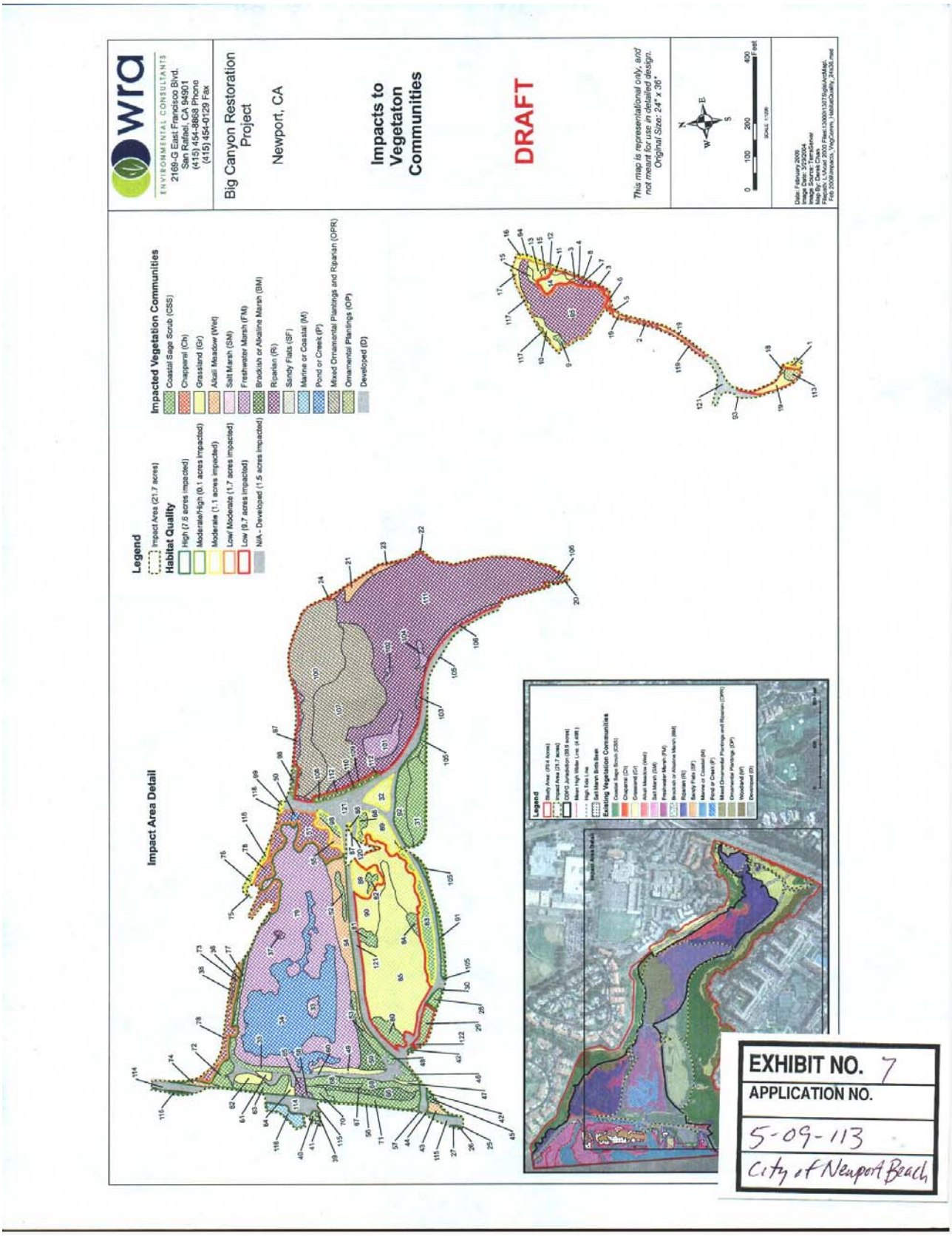
EXHIBIT NO. 5
APPLICATION NO.
5-09-113
City of Newport Beach

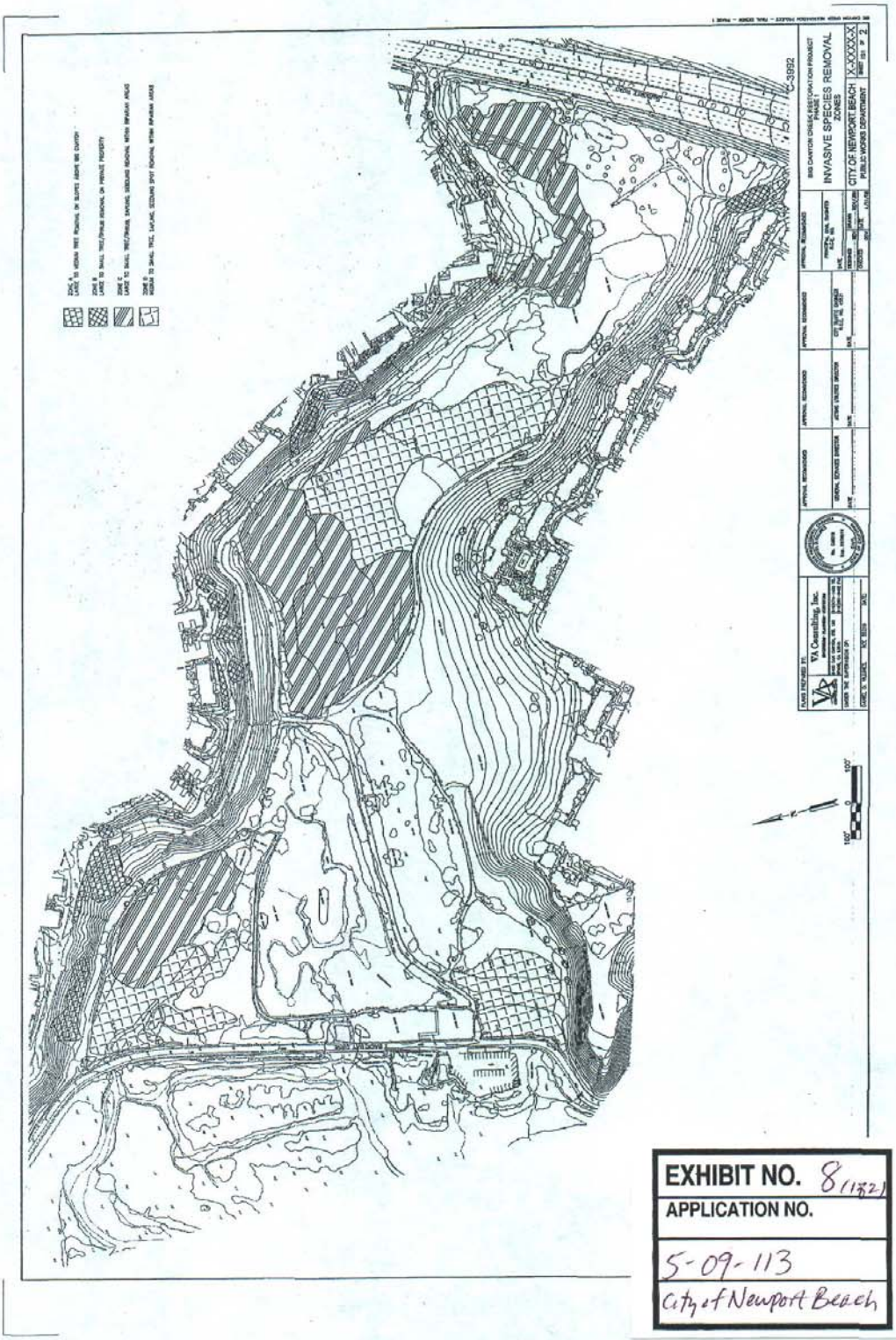

JAMBOREE
JAMBOREE CULVERT EXTENSION
SEDIMENT BASIN
SEDIMENT BASIN / SEWER MAINTENANCE ACCESS ROAD
PROPERTY LINE
EXISTING MAINTENANCE ROAD
PROPERTY LINE
EXISTING MAINTENANCE ROAD
FLOOD CONTROL CONVEYANCE
FRESHWATER POND
FRESHWATER POND DRAIN LINE W/ SLUICE GATE
EXISTING SPILLWAY / MAINTENANCE ROAD CROSSING
NEW TRAIL
FRESHWATER MARSH
RIPARIAN CHANNEL SPILLWAY
EXISTING PEDESTRIAN BRIDGE
PROPERTY LINE
CITY/OCFG PROPERTY LINE
TRASH/STORAGE STRUCTURE
INTERPRETIVE LOOP ROAD
RESTROOMS
INTERPRETIVE AREA
PARKING
CITY/OCFG PROPERTY LINE
RELOCATED BACK BAY DRIVE
EXISTING PARKING LOT
PROPERTY LINE
CITY/OCFG PROPERTY LINE
RIPRAP APRON
BACK BAY DRIVE CULVERT
TIDAL MARSH
EXISTING FRESHWATER MARSH
EXISTING BACK BAY DRIVE
SALT MARSH BIRD'S BEAK PLANT LOCATIONS
SALT MARSH BIRD'S BEAK PLANT LOCATIONS
VA Consulting, Inc.
ENGINEERS · PLANNERS · SURVEYORS
6400 OAK CANYON, STE. 150
IRVINE, CA 92618
(949) 474-1400 TEL
(949) 261-8482 FAX
BIG CANYON
RESTORATION PROJECT
GRADING PLAN
EXHIBIT NO. 6
APPLICATION NO.
5-09-113
City of Newport Beach


Big Canyon Creek Restoration
Typical Tidal Marsh Cross Section
ELEVATION (FT.)
20
15
10
5
0
PROPOSED ROAD
COASTAL SCRUB
TRANS. WETLAND
PICKLE WEED
BIRD'S BEAK
PICKLE WEED
CORDGRASS
MUD FLAT
EXHIBIT NO. 6 (2 of 4)
APPLICATION NO.
5-09-113
City of Newport Beach


Big Canyon Creek Restoration
Typical Freshwater Pond Cross Section
ELEVATION (FT.)
30
25
20
15
MAINTENANCE ROAD
RIPARIAN HABITAT
SHALLOW EMERGENT WETLAND HABITAT
DEEP EMERGENT WETLAND HABITAT
OPEN WATER HABITAT
BASKING SITE
RIPARIAN NESTING HABITAT
RIPARIAN NESTING HABITAT
SHALLOW EMERGENT WETLAND HABITAT
DEEP EMERGENT WETLAND HABITAT
OPEN WATER HABITAT
DEEP EMERGENT WETLAND HABITAT
SHALLOW EMERGENT WETLAND HABITAT
RIPARIAN HABITAT
MAINTENANCE ROAD
ELEVATION (FT.)
30
25
20
15
EXHIBIT NO. 6 (3 of 4)
APPLICATION NO.
5-09-113
City of Newport Beach


Big Canyon Creek Restoration
Flood Control Conveyance Cross Section (TYP)
LINED FRESHWATER POND
3.0' CUT-OFF WALL
LAKE LINER
2.0'
3.0' CUT-OFF WALL
ELEVATION (FT.)
30
25
20
15
10
FLOOD CONTROL CONVEYANCE
RIPARAIN WOODLAND
100-YR WSEL
ELEVATION (FT.)
30
25
20
15
10
EXHIBIT NO. 6 (4 of 4)
APPLICATION NO.
5-09-113
City of Newport Beach


wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax
Big Canyon Restoration Project
Newport, CA
Impacts to Vegetaton Communities
DRAFT
This map is representational only, and not meant for use in detailed design.
Original Size: 24" x 36"
N
E
S
W
0
100
200
400
feet
SCALE 1:1200
Legend
Impact Area (21.7 acres)
Habitat Quality
High (7.6 acres impacted)
Moderate/High (0.1 acres impacted)
Moderate (1.1 acres impacted)
Low/ Moderate (1.7 acres impacted)
Low (9.7 acres impacted)
N/A - Developed (1.5 acres impacted)
Impacted Vegetation Communities
Coastal Sage Scrub (CSS)
Chaparral (Ch)
Grassland (Gr)
Alkali Meadow (Wet)
Salt Marsh (SM)
Freshwater Marsh (FM)
Brackish or Alkaline Marsh (BM)
Riparian (Ri)
Sandy Flats (SF)
Marine or Coastal (M)
Pond or Creek (P)
Mixed Ornamental Plantings and Riparian (OPR)
Ornamental Plantings (OP)
Developed (D)
Impact Area Detail
EXHIBIT NO. 7
APPLICATION NO.
5-09-113
City of Newport Beach


INVASIVE SPECIES REMOVAL ZONES
CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT
EXHIBIT NO. 8 (1 of 2)
APPLICATION NO.
5-09-113
City of Newport Beach

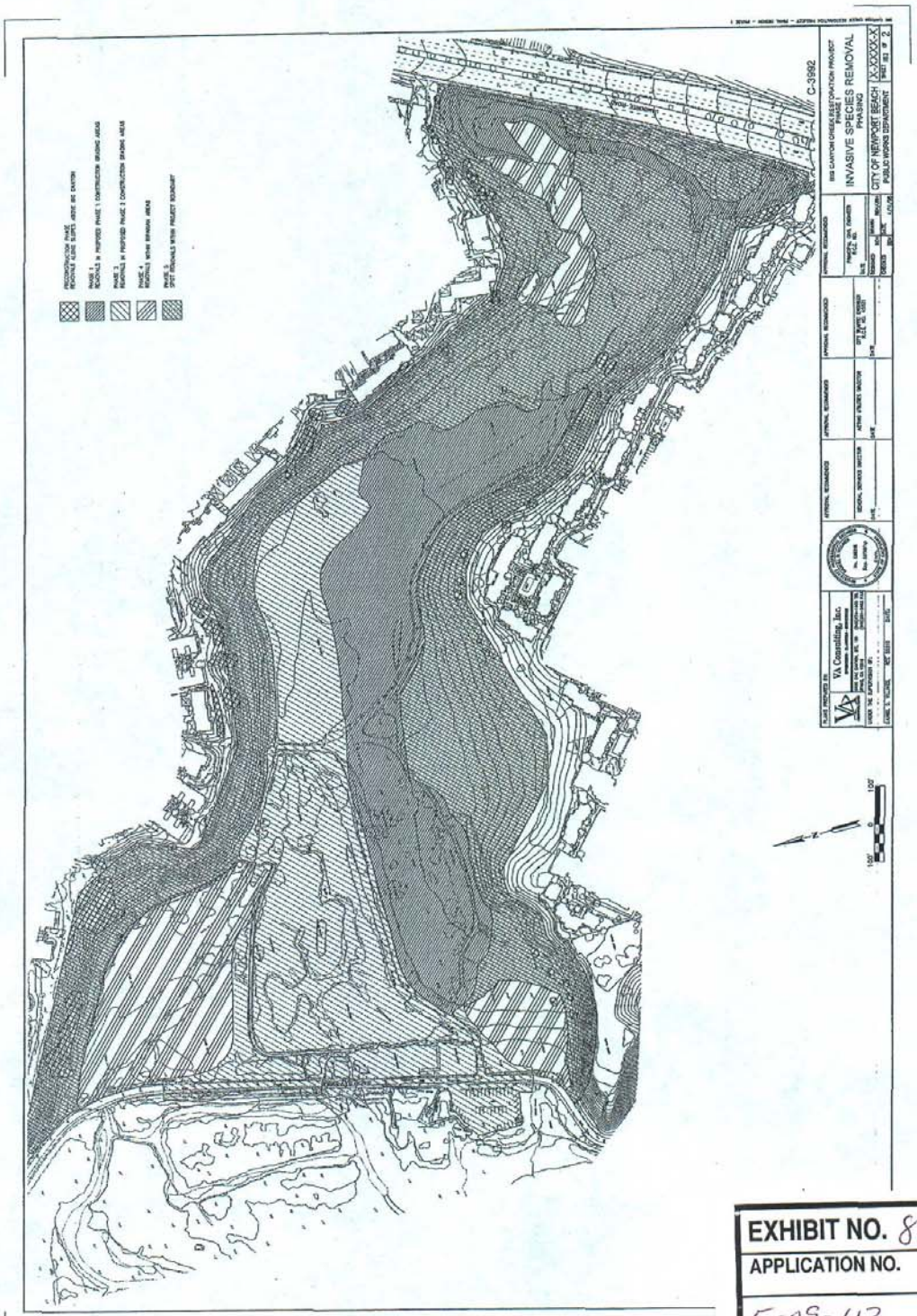
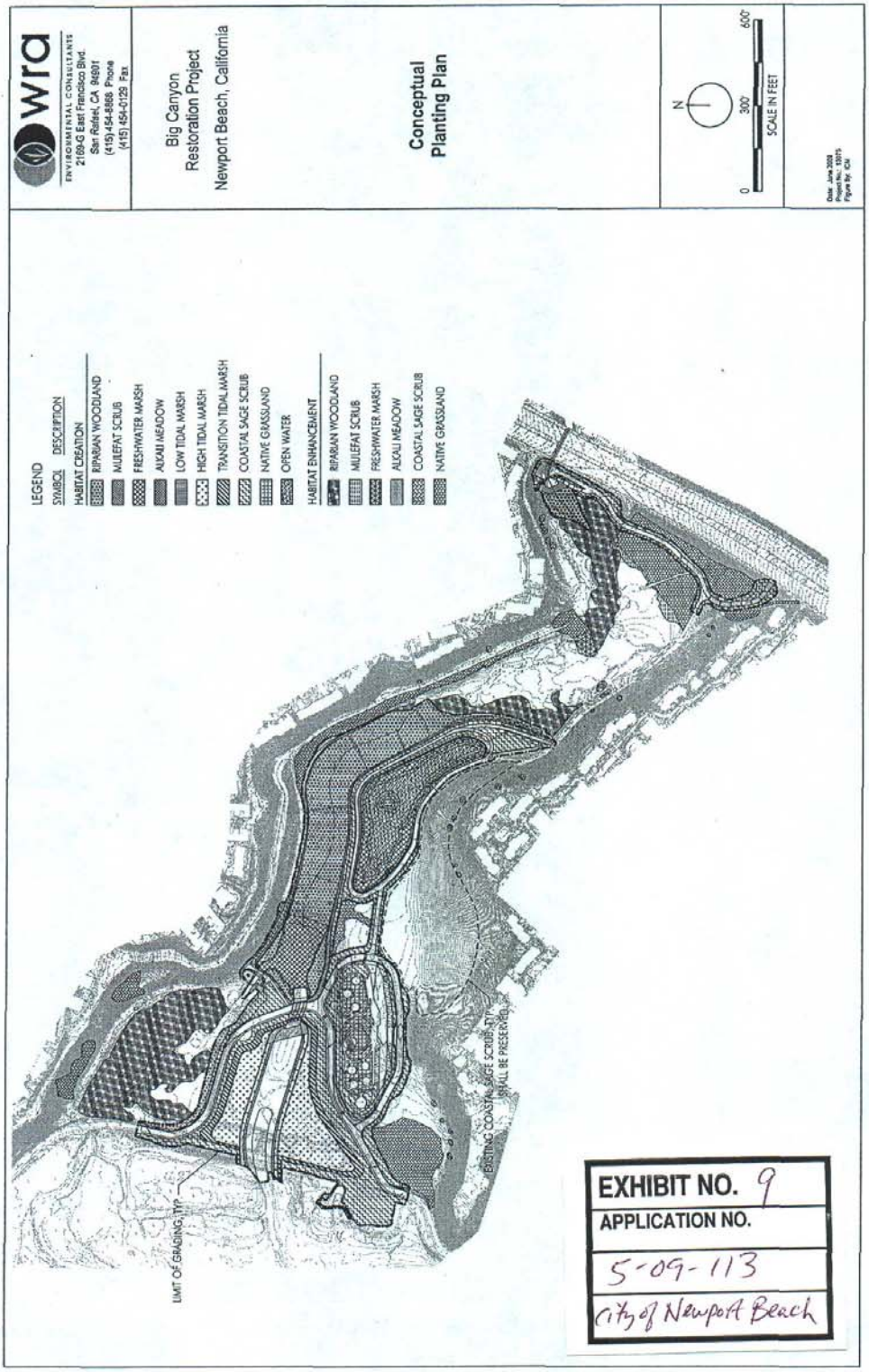


EXHIBIT NO. 8 (2 of 2)
APPLICATION NO.
5-09-113
City of Newport Beach

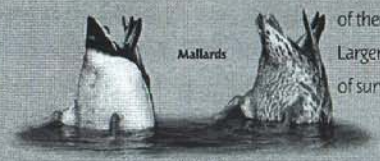

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax
Big Canyon
Restoration Project
Newport Beach, California
Conceptual
Planting Plan
N
0
300'
600'
SCALE IN FEET
LEGEND
SYMBOL DESCRIPTION
HABITAT CREATION
RIPARIAN WOODLAND
MULEFAT SCRUB
FRESHWATER MARSH
ALKALI MEADOW
LOW TIDAL MARSH
HIGH TIDAL MARSH
TRANSITION TIDAL MARSH
COASTAL SAGE SCRUB
NATIVE GRASSLAND
OPEN WATER
HABITAT ENHANCEMENT
RIPARIAN WOODLAND
MULEFAT SCRUB
FRESHWATER MARSH
ALKALI MEADOW
COASTAL SAGE SCRUB
NATIVE GRASSLAND
LIMIT OF GRADING, TYP.
EXISTING COASTAL SAGE SCRUB, TYP.
SHALL BE PRESERVED
EXHIBIT NO. 9
APPLICATION NO.
5-09-113
City of Newport Beach

Of Ponds and Puddle Ducks

This freshwater pond is part of Big Canyon's landscape mosaic.

Big Canyon Creek flows through the canyon and feeds this freshwater pond. Stands of cattails and bulrush offer hiding places and perch sites for songbirds. Overhanging willow and mulefat offer welcome shade for both visitors and fish.

Raccoon, coyote, and other mammals come to the pond for a meal or a drink. At the surface, mallards, teals, and other dabbling or puddle ducks "dabble" for their food and filter small particles from the water. Below the surface, aquatic insects live a waterlogged life at least for part of their life cycle. Some, like dragonflies, mayflies, and caddisflies, leave the water for air to fly and mate as adults. Others, like backswimmers and giant water bugs, spend their entire life underwater. And all of them, as well as worms and other tiny animals, serve as a vital link in the pond's food chain. Small fish eat them. Larger fish eat the small fish and in turn, are eaten by osprey and other birds. It's a serious game of survival in this watery world.



Can you tell the difference between a dabbling duck and a diving duck? A dabbling duck feeds by lowering the upper half of its body into the water and tipping its tail feathers up. A diving duck feeds by diving far beneath the surface. It will come up somewhere else.

EXHIBIT NO. 10
APPLICATION NO.
5-09-113
City of Newport Beach

APPENDIX 1

CULTURAL RESOURCES SIGNIFICANCE TESTING PLAN PROCEDURES

A. An applicant seeking to recommence construction following discovery of the cultural deposits shall submit a Significance Testing Plan for the review and approval of the Executive Director. The Significance Testing Plan shall identify the testing measures that will be undertaken to determine whether the cultural deposits are significant. The Significance Testing Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), and the Most Likely Descendent (MLD) when State Law mandates identification of a MLD. The Executive Director shall make a determination regarding the adequacy of the Significance Testing Plan within 10 working days of receipt. If the Executive Director does not make such a determination within the prescribed time, the plan shall be deemed approved and implementation may proceed.

1. If the Executive Director approves the Significance Testing Plan and determines that the Significance Testing Plan's recommended testing measures are de minimis in nature and scope, the significance testing may commence after the Executive Director informs the permittee of that determination.

2. If the Executive Director approves the Significance Testing Plan but determines that the changes therein are not de minimis, significance testing may not recommence until after an amendment to this permit is approved by the Commission.

3. Once the measures identified in the significance testing plan are undertaken, the permittee shall submit the results of the testing to the Executive Director for review and approval. The results shall be accompanied by the project archeologist's recommendation as to whether the findings are significant. The project archeologist's recommendation shall be made in consultation with the Native American monitors and the MLD when State Law mandates identification of a MLD. The Executive Director shall make the determination as to whether the deposits are significant based on the information available to the Executive Director. If the deposits are found to be significant, the permittee shall prepare and submit to the Executive Director a supplementary Archeological Plan in accordance with subsection D of this condition and all other relevant subsections. If the deposits are found to be not significant, then the permittee may recommence grading in accordance with any measures outlined in the significance testing program.

B. An applicant seeking to recommence construction following a determination by the Executive Director that the cultural deposits discovered are significant shall submit a supplementary Archaeological Plan for the review and approval of the Executive Director. The supplementary Archeological Plan shall be prepared by the project archaeologist(s), in consultation with the Native American

monitor(s), the Most Likely Descendent (MLD) when State Law mandates identification of a MLD, as well as others identified in subsection E of this condition. The supplementary Archeological Plan shall identify proposed investigation and mitigation measures. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. A good faith effort shall be made to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, capping, and placing cultural resource areas in open space. In order to protect cultural resources, any further development may only be undertaken consistent with the provisions of the Supplementary Archaeological Plan.

1. If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after the Executive Director informs the permittee of that determination.

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

C. Prior to submittal to the Executive Director, all plans required to be submitted pursuant to this special condition, except the Significance Testing Plan, shall have received review and written comment by a peer review committee convened in accordance with current professional practice that shall include qualified archeologists and representatives of Native American groups with documented ancestral ties to the area. Names and qualifications of selected peer reviewers shall be submitted for review and approval by the Executive Director. The plans submitted to the Executive Director shall incorporate the recommendations of the peer review committee. Furthermore, upon completion of the peer review process, all plans shall be submitted to the California Office of Historic Preservation (OHP) and the NAHC for their review and an opportunity to comment. The plans submitted to the Executive Director shall incorporate the recommendations of the OHP and NAHC. If the OHP and/or NAHC do not respond within 30 days of their receipt of the plan, the requirement under this permit for that entities' review and comment shall expire, unless the Executive Director extends said deadline for good cause. All plans shall be submitted for the review and approval of the Executive Director.