CALIFORNIA COASTAL COMMISSION
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Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-03-451

APPLICANT: California Department of Fish and Game (CDF&G)

AGENT: Civic Solutions, Attn: John Douglas

PROJECT LOCATION: Shellmaker Island (Upper Newport Bay), Newport Beach (Orange County)

PROJECT DESCRIPTION: Construction of the Back Bay Science Center and Water Quality Testing Laboratory. Existing structures consisting of a total of 8,594 square feet will be demolished and removed from the site. The new buildings will be one-story and 31 feet above existing grade and consist of four (4) wings with a total of 13,000 square feet. Grading for the proposed project will consist of 4,400 cubic yards of cut and 4,400 cubic yards of fill.

SUMMARY OF STAFF RECOMMENDATION:

The primary issues addressed in the staff report involve wetland protection, environmental sensitive habitat areas, water quality, public access, geology and scenic resources. The applicant proposes to create a Back Bay Science Center and Water Quality Testing Laboratory on Shellmaker Island located in Upper Newport Bay. Staff is recommending **APPROVAL** of the proposed project subject to **Twelve (12) Special Conditions** requiring: **1)** submission of a Final Wetland Enhancement and Monitoring Program; **2)** a qualified biologist be present to verify that no degradation of wetland habitat or vegetation occurs; **3)** lighting not be directed into the wetland; **4)** a Salt marsh bird's beak Pre-construction Survey; **5)** a Belding's savannah sparrow, California light-footed clapper Rail and California gnatcatcher Pre-Construction Survey; **6)** submission of a Habitat Buffering and Landscaping Plan; **7)** submission of a Final Erosion Control Plan; **8)** submission of a Final Water Quality Management Plan; **9)** submittal of Final Project Plans; **10)** a Shared/Reciprocal Parking Agreement; **11)** conformance to the Geotechnical Reports; and **12)** an Assumption of Risk agreement.

LOCAL APPROVALS: Initial Study and Mitigated Negative Declaration (SCH# 2003071134).

SUBSTANTIVE FILE DOCUMENTS: City of Newport Beach Certified Land Use Plan (LUP); Coastal Development Permit #P-79-5835-[California Department of Fish & Game]; Administrative Permit #5-94-031-[California Department of Fish & Game]; Administrative Permit #5-94-184-[California Department of Fish & Game/Office of Oil Spill Prevention & Response];

De-Minimus Waiver #5-98-386-[California Department of Fish & Game]; Exemption #5-99-115-X-[California Department of Fish & Game]; De-Minimus Waiver #5-02-019-[California Department of Fish & Game]; Letter to Commission staff from the California Department of Fish & Game dated September 23, 2003; *Finding of No Significant Impact for Proposed Funding of Grant R-1-1 of Back Bay Science Center Construction Project, Under the U.S. Fish and Wildlife Service Wildlife Conservation and Restoration Program Act to the California Department of Fish and Game Orange County, California*; Letter to the California Department of Fish & Game from Commission staff dated November 14, 2003; Letter from Civic Solutions, Inc. to Commission Staff dated December 8, 2003; Letter to the California Department of Fish & Game from Commission staff dated January 7, 2004; Letter from Civic Solutions, Inc. to Commission Staff dated January 23, 2004; Letter from Gail Pickert to Commission staff dated January 26, 2004; *Back Bay Science Center and Water Quality Testing Laboratory on Shellmaker Island Project, Initial Study and Mitigated Negative Declaration (SCH# 2003071134)*; *Geotechnical Report for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated June 25, 2002; *Supplemental Analyses for Mitigation of Lateral Spread and Evaluation of Deep Foundation System for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated October 16, 2002; *Addendum to Geotechnical Report, Back Bay Science Center, Shellmaker Island Development, Newport Beach, California (Project No. 131h-200-00)* prepared by Bagahi Engineering Inc. dated October 3, 2003; *Storm Water Pollution Prevention Plan for Back Bay Science Center* prepared by Walden & Associates dated November 21, 2003; *Water Quality Management Plan (WQMP) for Back Bay Science Center* prepared by Walden & Associates dated January 12, 2004; and Preconstruction Survey Plan for Endangered and Threatened Biological Resources Shellmaker Island Back Bay Science Center prepared by Keane Biological Consulting and Coastal Resources Management received on December 8, 2003.

LIST OF EXHIBITS:

1. Vicinity Map
2. Site Plan
3. Floor Plans
4. Elevations
5. Landscape Plans
6. Grading Plans
7. Salt Marsh Demonstration Area
8. Existing Habitat
9. Storm Drain, Sewer, Water Plan
10. Erosion Control Plan

I. STAFF RECOMMENDATION, MOTION AND RESOLUTION OF APPROVAL

MOTION: *I move that the Commission approve Coastal Development Permit No. 5-03-451 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 permittees 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 permittees to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS:

1. **Final Wetland Enhancement and Monitoring Program**

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall develop, in consultation with the CA Department of Fish and Game and the U.S. Fish and Wildlife Service as appropriate, and submit for review and written approval of the Executive Director, a final detailed program designed by a qualified wetland biologist for enhancement and monitoring of the wetland site. The enhancement and monitoring program shall at a minimum include the following:

1. Plans for site preparation and invasive plant removal;

2. Restoration plan including planting design, plant palette, source of plant material, plant installation, erosion control;

3. Final Success Criteria including target vegetation cover, target species composition, target wildlife usage and methods of monitoring;

4. Provisions assessing the initial biological and ecological status of the "as built" enhancement site within 30 days of establishment of the site in accordance with the approved enhancement program. The assessment shall include an analysis of the attributes that will be monitored pursuant to the program, with a description of the methods for making that evaluation.

5. Provisions for monitoring and remediation of the enhancement site in accordance with the approved final enhancement and monitoring program for a period of five years or until it has been determined that success criteria have been met or have failed to be met.

6. Provisions for submission of annual reports of monitoring results to the Executive Director for the duration of the required monitoring period, beginning the first year after submission of the "as-built" assessment. Each report shall include copies of all previous reports as appendices. Each report shall be cumulative report that summarizes all previous reports. Each report shall also include a "Performance Evaluation" section where information and results from the monitoring program are used to evaluate the status of the wetland enhancement project in relation to the performance standards.

7. Provisions for submission of a final monitoring report to the Executive Director at the end of the final performance-monitoring period. Final performance monitoring shall take place after at least three years without remediation or maintenance other than weeding. The performance monitoring period shall either be five years or three years without maintenance or remediation, whichever is longer. The final report must be prepared in conjunction with a qualified wetlands biologist. The report must evaluate whether the enhancement site conforms to the goals, objectives,

and performance standards set forth in the approved final enhancement program. The report must address all of the monitoring data collected over the monitoring period.

B. The permittee shall enhance and monitor the wetland enhancement site in accordance with the approved enhancement and monitoring program. Any proposed changes to the approved enhancement and monitoring program shall be reported to the Executive Director. No changes to the approved enhancement and monitoring program shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Biological Monitor

An appropriately trained biologist shall monitor construction activity for disturbance to sensitive species or habitat area. At minimum, monitoring shall occur once a week during any week in which construction occurs. Daily monitoring shall occur during construction activities, which could significantly impact biological resources such as construction within 100 feet of wetlands and construction that could result in disturbances to Salt Marsh Bird's Beak, Belding's Savannah Sparrow, California Light-Footed Clapper Rail, or California Gnatcatcher. Based on field observations, the biologist shall advise the applicant regarding methods to minimize or avoid significant impacts, which could occur upon sensitive species or habitat areas. The applicant shall not undertake any activity, which would disturb sensitive species or habitat area unless specifically authorized and mitigated under this coastal development permit or unless an amendment to this coastal development permit for such disturbance has been obtained from the Coastal Commission.

3. Lighting

Exterior night lighting shall be shielded and directed so that light is directed toward the ground and away from sensitive biological habitat.

4. Salt Marsh Bird's Beak Pre-Construction Survey

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a valid salt marsh bird's beak pre-construction survey as outlined in the *Preconstruction Survey Plan for Endangered and Threatened Biological Resources Shellmaker Island Back Bay Science Center* prepared by Keane Biological Consulting and Coastal Resources Management received on December 8, 2003. The salt marsh bird's beak survey shall be completed before construction of the proposed project.

B. If impacts to salt marsh bird's beak is found within the project area, the applicant shall not proceed with the project until a Coastal Commission approved amendment to this coastal development permit is obtained or unless the Executive Director determines that no amendment is legally required.

5. Belding's Savannah Sparrow, California Light-Footed Clapper Rail and California Gnatcatcher Pre-Construction Survey

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit valid belding's savannah sparrow, california light-footed clapper rail and california gnatcatcher pre-construction surveys as outlined in the *Preconstruction Survey Plan for Endangered and Threatened Biological Resources Shellmaker Island Back Bay Science Center* prepared by Keane Biological Consulting and Coastal Resources Management received on December 8, 2003. The belding's savannah sparrow, california light-footed clapper rail and california gnatcatcher surveys shall be completed before construction of the proposed project.

B. If impacts to belding's savannah sparrow, california light-footed clapper rail and california gnatcatcher are found within the project area, the applicant shall not proceed with the project until a Coastal Commission approved amendment to this coastal development permit is obtained or unless the Executive Director determines that no amendment is legally required.

6. Habitat Buffering and Landscaping Requirements

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall prepare and submit two (2) full size copies of a Habitat Buffering and Landscaping Plan to the Executive Director for review and approval. The revised habitat buffering and landscaping plans shall utilize solely native plant species appropriate to habitat type. The habitat buffering and landscaping plan shall also contain the following elements:

1. Where feasible and excepting the main entry road, re-site proposed roads and parking areas located within 100 feet of wetlands to maximize the physical separation of this development from adjacent wetlands and coastal waters;

2. For any portion of the proposed "Teaching Lab" building that is within 100 feet of coastal waters or wetlands, a berm and appropriate barrier and transitional vegetation to provide additional buffering shall be placed between the proposed structure and coastal waters or wetlands;

3. A physical barrier shall be placed between wetlands and proposed roads and parking areas to minimize the intrusion of light and glare upon that habitat from vehicles. The barrier may consist of berms, fencing, and/or native vegetation, or other similar barrier to light deemed acceptable by the Executive Director.

B. The permittees shall undertake development in accordance with the approved plan. Any proposed changes to the approved final plan 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.

7. **Erosion Control Plan**

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall provide to the Executive Director for review and approval, two (2) full size copies of a Final Erosion Control Plan with plan notes and general standards for erosion control. All sediment, construction debris, and waste products should be retained on-site unless removed to an appropriate approved dumping location. The approved plans shall be subject to the following requirements and include the following components:

1. Erosion on the site shall be controlled to avoid adverse impacts to habitat areas. This shall include erosion due to on- and off-site drainage or release of water, construction activities, and the existence of roads and graded pads on the site. The applicant shall take all safe and reasonable measures to control siltation.

2. The following temporary erosion control measures shall be used during construction activity: a combination of temporary measures (e.g., geo-fabric blankets, spray tackifiers, silt fences, fiber rolls, sand bags and gravel bags), as appropriate, during each phase of site preparation, grading and project construction. The applicant shall also provide containment methods to prevent manmade debris and/or chemicals from slope stabilization from entering drainage from the site.

3. Following construction, erosion on the site shall be controlled to avoid adverse impacts on dedicated trails, public roadways, and park and wetland habitat areas.

4. A copy of the Storm Water Pollution Prevention Plan (SWPPP) and any amendments thereto, prepared for compliance with the State Water Resources Control Board General Construction Activity Permit, which specifies BMPs appropriate for use during each phase of site preparation, grading and project construction, and procedures for their installation, based on soil loss calculations. The submitted calculations will account for factors such as soil conditions, hydrology (drainage flows), topography, slope gradients, vegetation cover, use of chemicals or fixatives, the type of equipment or materials proposed for use near shoreline areas and groundwater elevations.

5. A site plan showing the location of all temporary erosion control measures. Such site plan may acknowledge that minor adjustments in the location of temporary erosion control measures may occur if necessary to protect downstream resources. Such measures shall be noted on project grading plans.

6. A plan to mobilize crews, equipment, and staging areas for BMP installation during each phase of site preparation, grading and project construction, with timing of deployment based on the forecast percentage

of rainfall occurrence. The plan shall also address provisions for delivery of erosion prevention/control materials, or access to onsite supplies including unit costs and specifications for adequate storage capabilities.

7. Limitations on grading activities during the rainy season, from October 15 to April 15 of each year, wherein grading may only occur in increments as determined by the City Engineer. Should grading take place during the rainy season (October 15 - April 15), sediment basins (including debris basins, desilting basins, or silt traps) shall be required on the project site prior to or concurrent with the initial grading operations, and maintained throughout the development process to control erosion, and to trap and remove manmade debris, coarse sediment and fine particulates from runoff waters leaving the site during construction activity, prior to such runoff being conveyed off site. All areas disturbed, but not completed, during the construction season, including graded pads, shall be stabilized in advance of the rainy season.

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 required.

8. <u>Water Quality Management Plan (WQMP)</u>

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and approval of the Executive Director, two (2) copies of a Final Water Quality Management Plan (WQMP) for the post-construction project site, that is in substantial conformance with the preliminary plan titled *Water Quality Management Plan (WQMP) for Back Bay Science Center* prepared by Walden & Associates dated January 12, 2004, prepared by a licensed water quality professional, and shall include plans, descriptions, and supporting calculations. The WQMP shall incorporate structural and non-structural Best Management Practices (BMPs) designed to reduce, to the maximum extent practicable, the volume, velocity and pollutant load of stormwater and dry weather flows leaving the developed site. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

1. <u>Water Quality Goals</u>

   (a) Post-development peak runoff rates and average volumes shall not exceed pre-development conditions.
   (b) Appropriate structural and non-structural BMPs shall be designed to treat, infiltrate, or filter the runoff from all surfaces and activities on the development site;
   (c) Post-construction structural BMPs (or suites of BMPs) shall be designed to treat, infiltrate or filter the amount of stormwater runoff produced by all storms up to and including the 85th

percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs;

(d) Runoff from all roofs and parking areas shall be collected and directed through a system of structural BMPs including vegetated areas and/or gravel filter strips or other vegetated or media filter devices. Vegetated landscaped areas shall only consist of native plants or non-native drought tolerant plants, which are non-invasive. The filter elements shall be designed to 1) trap sediment, particulates and other solids and 2) remove or mitigate contaminants through infiltration and/or biological uptake. The drainage system shall also be designed to convey and discharge runoff in excess of this standard from the building site in a non-erosive manner.

2. Parking Lot

(a) The WQMP shall provide for the treatment of runoff from parking lots using appropriate structural and non-structural BMPs. At a minimum this must include a bioswale and/or filter designed specifically to minimize vehicular contaminants (oil, grease, automotive fluids, heavy metals, hydrocarbons), sediments, and floatables and particulate debris.

(b) The applicant shall regularly sweep the parking lot at a minimum on a weekly basis, in order to prevent dispersal of pollutants that might collect on those surfaces.

(c) The detergents and cleaning components used on site shall comply with the following criteria: they shall be phosphate-free, biodegradable, and non-toxic to marine wildlife; amounts used shall be minimized to the maximum extent practicable; no fluids containing ammonia, sodium hypochlorite, chlorinated solvents, petroleum distillates, or lye shall be used;

(d) The applicant shall not spray down or wash down the parking lot unless the water used is directed through the sanitary sewer system or a filtered drain.

(e) All BMPs shall be operated, monitored, and maintained for the life of the project and at a minimum, all structural BMPs shall be inspected, cleaned-out, and where necessary, repaired at the following minimum frequencies: (1) prior to October 15th each year; (2) during each month between October 15th and April 15th of each year and, (3) at least twice during the dry season.

(f) Debris and other water pollutants removed from structural BMP(s) during clean-out shall be contained and disposed of in a proper manner;

(g) It is the applicant's responsibility to maintain the drainage system and the associated structures and BMPs according to manufacturer's specification.

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 required.

9. Final Project Plans

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit, for the review and approval of the Executive Director, revised final plans, approved by the City of Newport Beach, which conform with the requirements of the special conditions of this permit and indicate the final layout of all development including grading, utilities, water quality management system, trails, signs, interpretive amenities, habitat restoration, landscaping, berms, fences and buildings and appurtenances. 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 required.

10. Shared/Reciprocal Parking Agreement

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall provide written evidence of a reciprocal/shared parking agreement with any other users of the proposed sixty-seven (67)-space parking lot which ensures that a minimum fifty-two (52) parking spaces are available to serve the proposed Back Bay Science Center during all hours that the Back Bay Science Center operates.

11. Conformance of Design and Construction Plans to Geotechnical Reports

A. All final design and construction plans, including foundation, grading and drainage plans, shall be consistent with all recommendations contained in the following geotechnical reports: *Geotechnical Report for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated June 25, 2002; *Supplemental Analyses for Mitigation of Lateral Spread and Evaluation of Deep Foundation System for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated October 16, 2002; and *Addendum to Geotechnical Report, Back Bay Science Center, Shellmaker Island Development, Newport Beach, California (Project No. 131h-200-00)* prepared by Bagahi Engineering Inc. dated October 3, 2003.

B. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriately licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

C. 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 required.

12. Assumption of Risk, Waiver of Liability and Indemnification Agreement

A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from liquefaction; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

B. Prior to any conveyance of the property that is the subject of this coastal development permit, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of subsection (A) of this condition. The restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

C. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a written agreement in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. PROJECT LOCATION, DESCRIPTION AND PREVIOUS COMMISSION ACTION

1. Project Location

The Upper Newport Bay Ecological Reserve (UNBER) was created in 1975 to conserve and enhance 752 acres of saltwater marsh ecosystem in the upper reaches of Newport Bay, commonly referred to as the Back Bay (Exhibit #1). The reserve allows limited recreational and educational access as specified in the California Fish and Game code. The majority of the Upper Bay is an estuarine salt marsh system with considerable freshwater input from its 145 square mile watershed. The Upper Bay extends in a north-

to northeasterly direction from the Pacific Coast Highway Bridge for a distance of about 3.5 miles and is bounded by the bluffs on the Newport Mesa on the west and the San Joaquin Terrace on the east. The Upper Bay veers east at the remnant salt pond dike and extends to the Jamboree Road Bridge where the San Diego Creek flows into Upper Newport Bay. At its southern end, Upper Newport Bay connects with Newport Harbor (Lower Newport Bay) at the Pacific Coast Highway Bridge. Lower Newport Bay extends 1.5 miles in an east-west orientation. Its ocean entrance jetty is located at the eastern (downcoast) end of the bay.

The waters and mudflats of UNBER are home to over 935 species of plants and animals. The watershed of the bay, over 154 square miles of land that surrounds the bay, supports over 750,000 people. Much of the trash, oil, pesticides, and soil that wash into the surrounding storm drains and streams pass through the bay before it moves on to our costal beaches.

Shellmaker Island is located at the southern one-third of the UNBER immediately north of the Dunes Marina Boat Launch facilities at the southern boundary of the UNBER and has been under the stewardship of the California Department of Fish & Game (CDF&G) since it was acquired from the County of Orange and the Irvine Company in 1974 (Exhibits #1-2). The proposed Back Bay Science Center (BBSC) will be located on Lower Shellmaker Island. A tidal channel separates Lower and Upper Shellmaker Island (Exhibit #1). Shellmaker Island was formed from dredge spoils and was used for a number of commercial purposes, including the production of calcium supplements for chicken farms and as a staging area for lower dredge operations. Consequently, about 24 acres of salt marsh and mudflat habitat along the main channel (3, 000 feet long, averaging 350 feet wide) were eliminated and transformed into higher elevation open sandy areas. Parts of these supra-tidal areas have been colonized by dune and upland vegetation. Other areas remain barren, or serve as facility areas for CDF&G, the County of Orange and the University of California, Irvine Rowing Facilities.

2. Project Description

The proposed project will remove existing structures located on Shellmaker Island with a total of 8,594 square feet including three (3) trailers, four (4) buildings, and two (2) storage containers. These facilities are used by the California Department of Fish & Game, the County of Orange Water Quality Lab, and a Coastal Commission field office. The Back Bay Science Center (BBSC) will be comprised of three (3) new buildings comprised of four (4) wings (Administration, Storage, Orange County Water Quality Lab and Teaching Lab) totaling approximately 13,000 square feet (Exhibits #3-7 & 9-10). The site will contain the existing UCI Rowing Center, the Orange County Water Quality Laboratory, the California Department of Fish & Game's Bay Science Center, and administrative offices for the educational and biological staff of partnering organizations. The new buildings will be set back a minimum of 70 feet from the wetlands and buffered with sand dunes. The existing teaching lab trailer will be temporarily relocated in order to allow space for the new facility. The new buildings will be designed as "state of the art" sustainable, energy efficient systems. The low profile buildings will have a roof height of 15 to 16 feet with a small entry portion 28 feet in height. Grading for the proposed project will consist of 4,400 cubic yards of cut and 4,400 cubic yards of fill. More specifically, there will be approximately 2,360 cubic yards of overexcavation;

approximately 670 cubic yards of shrinkage; approximately 3,320 cubic yards of fill; and approximately 410 cubic yards of subsidence. More specifically, the proposed project will consist of:

1) The existing outdoor educational areas will be expanded to include hands-on interpretative elements, testing areas, tanks, aquarium and tidepool exhibits.

2) The existing trail system will be enhanced and signed with a 15 to 20 foot wide sand dune buffer between the trail and the wetlands. There will be several spur trails leading to small observation/teaching areas.

3) Construction of a wetlands demonstration project of approximately 10,000 square feet.

4) Formalizing the existing sixty-seven (67) space parking area for sixty-six (66) cars and one (1) bus.

5) Construction of a storm water detention/infiltration pond.

6) Removing existing vegetation and refurbishing the existing native planting area, greenhouse area and amphitheater.

7) New underground utilities, fire protection and security system.

The BBSC educational programs will cater to junior and senior high school and college students, but the facility will be open to the public at regularly scheduled times during the week and on the weekends. Outdoor learning stations and an exhibit courtyard with aquaria and interactive exhibits, will provide visitors with the opportunity to learn about the Newport Bay watershed and observe the diversity of marine life hidden beneath the surface of the Back Bay. Two (2) student laboratories within one (1) of the proposed new buildings will contain aquaria, water quality testing equipment, and computer terminals to allow students to conduct watershed experiments and monitor the environmental health of the watershed. The center also will develop a comprehensive web site and outreach program to offer residents information on how to minimize their impact on the watershed.

No work is proposed on the existing boat dock and bulkhead.

No work on the existing UCI Rowing Facility is proposed with the submitted application. This facility will remain on site and continue to be used by UCI Rowing.

3. Prior Commission Action at Subject Site

On October 22, 1979, the Commission approved Coastal Development Permit Application P-79-5835-[California Department of Fish & Game]. The proposed project was for the construction of public use facilities (trails, restroom overlooks, parking lots, wetland restoration and desalinization of tidal prisms) to preserve, protect, and improvement of the natural resources of the Upper Newport Bay ecological reserve. More specifically, the plans submitted were only for a portion of the total program and

consisted of construction of a public comfort station, facilities garage, thirty-two (32) space parking area, approximately 600 feet of vehicle access road between the parking lot and Back Bay Drive, approximately 1000 feet of 3 inch force sewer main and 750 feet of 10 feet of 25 feet wide asphalt pedestrian path. The major issues of the project were impacts to the wetland and marine environment. One (1) Special Condition was imposed: 1) prior to issuance of the permit, the applicant shall agree that approval of the development is limited to that in the vicinity of and on Shellmaker Island as shown on the plans submitted the application number P-79-5835. Further development would require a Coastal Development Permit.

On April 14, 1994, the Commission approved Administrative Permit #5-94-031-[California Department of Fish & Game]. The proposed project was for the construction of an outdoor amphitheater consisting of six rows of wooden benches with steel posts, which provides seating for approximately 100 persons, a concrete block rear projection booth, and underground electricity. Grading of approximately 20-30 cubic yards was proposed to provide a slight incline for the amphitheater seating. Crushed gravel walkways were also proposed.

On December 15, 1994, the Commission approved Administrative Permit #5-94-184-[California Department of Fish & Game/Office of Oil Spill Prevention and Response]. The proposed project was for the construction of 16 foot x 28 foot, 13 foot high skiff storage shed and two gravel parking spaces. The structure was designed as a drive through shed housing one inflatable skiff and oil spill preparedness and response equipment. The proposed use, storage of oil spill response equipment, would help to ensure that the State was able to fully and adequately respond to oil spills in marine waters, including those that threaten the sensitive habitat of the Upper Newport Bay Ecological Reserve.

On October 13, 1998, the Commission approved De-Minimus Waiver #5-98-386-[California Department of Fish & Game] for the placement of a 1,440 square foot, 10'-6" high one-story modular building to be used as a marine Wetland Education Lab to host up to 45 students per session. Also proposed were patios with benches adjacent to the building and a handicapped accessible trail to the existing restrooms. The proposed patios and trail would be built of decomposed granite (no concrete will be used). No grading was proposed.

On November 9, 1999, the Commission approved Exemption #5-99-115-X-[California Department of Fish & Game]. The proposed project was for the construction of a wooden shade trellis 8 feet tall, 20 feet across and 7 feet wide. The trellis would provide shade over an interpretive exhibit. The project also included removal of a dirt mound and using the dirt to cover pipes jutting out of the ground. In conjunction with the dirt removal a large bougainvillea bush, an ice plant, a nicotine plant, and mustard plant would be removed.

On July 12, 2002, the Commission approved De-Minimus Waiver #5-02-019-[California Department of Fish & Game] for the temporary placement of a 2,160 square foot, 12 foot high one-story modular building to be used as a Water Quality Lab until permanent facilities are constructed. The building would be placed on permeable pavement (gravel or decomposed granite). No impervious surfaces would be constructed with the proposed project. Drainage from the roof drains would travel to a small trench around

the perimeter of the roofline to allow rainwater to seep into the ground. The lab would be staffed with personnel from the Orange County Health Care Agency (OCHCA). No grading was proposed.

B. MARINE 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.*

One of the main reasons for preserving, expanding, and enhancing Southern California's remaining wetlands is because of their important ecological function. First and foremost, wetlands provide critical habitat, nesting sites, and foraging areas for threatened or endangered species. Wetlands also serve as migratory resting spots on the Pacific Flyway a north-south flight corridor extending from Canada to Mexico used by migratory bird species. In addition, wetlands serve as natural filtering mechanisms to help remove pollutants from storm runoff before the runoff enters into streams and rivers leading to the ocean. Further, wetlands serve as natural flood retention areas.

Another critical reason for preserving, expanding, and enhancing Southern California's remaining wetlands is because of their scarcity. As much as 75% of coastal wetlands in southern California have been lost, and, statewide up to 91% of coastal wetlands have been lost. The proposed project site is near a wetland area. More specifically, the wetland area is characterized by salt marsh and is located adjacent to a proposed salt marsh demonstration area.

Salt Marsh Demonstration Project

As part of the educational interpretive program, a wetland demonstration project will be designed and implemented for Shellmaker Island (Exhibits #2, #5, #7 & #10). This demonstration project will serve as a teaching and research tool to: 1) introduce students to wetland biology and ecological principals, 2) provide an opportunity for students and researchers to conduct research on the short term and long term restoration potential of Newport Bay wetlands, and 3) increase the public's awareness of the value of Southern California wetlands.

Currently, on the proposed site of the salt marsh demonstration area are dredged spoil material at non-tidal elevations and is colonized by invasive and ornamental plants, shrubs and trees. The footprint of the proposed marsh demonstration area is approximately 10,000 square feet.

Construction of the demonstration marsh will include the following: 1) removal of non-native shrubs, trees, bushes, and disturbed habitat, and 2) regarding supra-tidal elevations to tidal elevations between 0.0 and +7 feet MLLW. Trucks, dozers, graders, and hand-methods will be used for this effort. Approximately ¼ of the site will be left alone to be colonized naturally by

marsh plants. The other portion will be replanted with native marsh plants by students and used as an outdoor science laboratory under supervision of the CDF&G.

The proposed demonstration marsh will not be located on an existing wetland (salt marsh). However, it will be located adjacent to the existing wetland characterized by salt marsh. A net gain of wetlands will occur with the marsh demonstration project.

Conclusion

Section 30230 of the Coastal Act states that marine resources shall be maintained, enhanced, and where feasible, restored. One aspect of the proposed project is to create a wetland demonstration area that will serve as an education tool for the public. Southern California's remaining wetlands are scarce, but with the addition of this demonstration marsh, the quantity will be increased. In this case, the applicant proposes to restore a wetland. No existing wetland areas are proposed to be adversely impacted by the construction of this demonstration marsh. However, during construction there is a possibility that inadvertent adverse impacts to the existing wetland may occur if construction crews are not adequately informed of the presence and location of sensitive habitat. To remedy this concern, a biological monitor should be present on site to assist construction crews in identifying sensitive habitats and methods for avoiding impacts to those habitats.

Also, habitat restoration is an evolving science. Each restoration project has unique challenges that must be overcome for the restoration to be a successful one. Thus, it is important to have a detailed plan in place identifying the restoration procedures, the criteria by which the restoration will be deemed successful, and a response plan if problems are encountered during the restoration. Accordingly, a complete habitat restoration and monitoring program is an essential component of a good restoration project. In this case, the applicant has prepared a conceptual graphic depiction of the restoration plan, however, a complete plan containing the detailed restoration procedures, success criteria and contingency plan have not been submitted.

In order to ensure there are adequate planning and contingency measures for a successful demonstration marsh restoration, the Commission imposes **Special Condition No. 1**, which requires submittal of a Final Wetland Enhancement and Monitoring Program. In addition, in order to minimize potential impacts during construction, **Special Condition No. 2** has been imposed, which requires that an appropriately trained biologist shall monitor construction activity and to implement methods to avoid disturbance to sensitive species or habitat area. As conditioned, the Commission finds the project consistent with Section 30230 of the Coastal Act.

C. ENVIRONMENTALLY SENSITIVE HABITAT AREA (ESHA)

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.

Section 30240 requires that environmentally sensitive habitat areas be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Section 30240 also requires that 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.

1. Biological Resources On Shellmaker Island

In order to determine the potential impacts of the project on biological resources, Rick Ware of Coastal Resources Management and Kathleen Keane of Keane Biological Consultants were retained to conduct a biological assessment of the site. Site analyses were conducted at Shellmaker Island during several field visits between April 2002 and April 2003. The following is information determined from their survey.

Biological Characteristics

Upland Habitat and Vegetation Community

Sandy upland areas located on Lower Shellmaker Island, composed of previously filled dredge materials are located above approximately +10 feet (MLLW) (Exhibit #8). These areas also include raised, berm like areas scattered throughout the southern marsh and open habitat within the Marine Science Center/CDF&G Facility and UCI Rowing Center. These soils are covered by a sparse to moderate cover of ruderal grasses and forbs, a few shrubs, and transitional strand vegetation. *Mulefat*, *coyote brush*, and *saltbush* are also on Shellmaker Island, although these occur at higher elevations (+13 to +17 feet MLLW). *Myoporum* and *Eucalyptus* trees are found near the UCI Rowing Center and one *Ficus* tree is located at the western edge, near the Marine Science Center.

Salt Marsh Habitat and Vegetation

Salt marsh habitat extends around the perimeter of Lower Shellmaker Island between the UCI Rowing Facility Access Channel and the Main Channel of Upper Newport Bay with the largest stand of salt marsh concentrated at the southern tip of Lower Shellmaker (Exhibit #8). Salt marsh vegetation grows at elevations between approximately +3 feet and about +7.5 feet MLLW. Salt marsh plants typically occur in three broad, overlapping zones based on their response to environmental factors including elevation, soil salinity, and competition. These zones are the low, mid and high salt marsh.

Salt marsh bird's beak *(Cordylanthus maritimus sub species msritimus*), a federal and state listed endangered species, is found in several localities on Lower Shellmaker Island and Upper Shellmaker Island (Exhibit #8). Distinct stands of salt marsh bird's beak are found along the periphery of the Lower Shellmaker Island salt marsh and transitional habitats and on high spots within the marsh itself, mixed with salt grass, saltwort, sea blite, and sea fig. This species is also found in many other areas on Upper

Shellmaker Island and the eastern marsh of Shellmaker Island. Patches of it also occur at the northern end of the pathway next to the CDF&G tidal channel at the junction of Lower and Upper Shellmaker Island.

The salt marsh and transitional vegetation along the main channel of Upper Newport Bay near the Marine Science Center boat dock and within the UCI Rowing Center Access Channel grows within a narrow band, the result of a steep elevational gradient.

Mudflats

The mudflat habitat is the transition zone between the open water channels and the salt marsh at elevations between -2 feet and +3.5 feet MLLW (Exhibit #8). Diatoms and green algae often cover the surface of the mudflats and are considered to be important because these plants account for a large part of the production in Southern California coastal wetlands. Additionally, the plants are a food source for herbivorous invertebrates, fishes, and birds. The mudflats are colonized by infaunal and epifaunal community of invertebates such as the *horn snail*, are found on the main channel and tidal channel south of the project site.

Biota of the Project Area

Invertebrates

The mudflats and shallow subtidal sediments support a food base of infaunal and epifaunal invertebrates that are preyed upon by both shorebirds and bottom foraging fishes. The shallow benthic and mudfalt habitats in the vicinity of Shellmaker Island support at least 94 species of benthic invertebrates, dominated in abundance by *capitellid* and *spionid ploychaete worms. Oligochaete worms,* and *amphipod crustaceans.*

Fishes

There are at least 75 species of fish that are known to occur in the Upper Bay between Pacific Coast Highway and Jamboree bridges. At high tide, the submerged mudflats become important fish foraging habitat.

Reptiles

Two (2) species of reptile were found on Upper Shellmaker Island: 1) *Uta stanburiana* and 2) *Sceloporus occidentalis.* These two commonly occur in the region.

Avian Resources

Bird surveys were conducted in the vicinity of the project area on August 19, 1991 and more recently between April 2002 and April 2003. A variety of birds were observed along the channels and banks, over the open water, and roosting on mudflats and in the low and middle salt marsh. Two (2) endangered species of birds, the California light-footed clapper rail (*Rallus longirostris levipes*) and Belding's savannah sparrow (*Oasserculus sandwichensis beldingi*) are residents on Shellmaker Island. On Lower

Shellmaker Island, one pair of breeding Belding's savannah sparrows was observed during 2002. Individual savannah sparrows were heard, but not seen in the April 2003 surveys.

Substantially higher abundances and a greater diversity of shorebirds are expected during the late fall through spring. The types of birds and number of birds are also expected to vary depending on the time of day and tidal conditions.

Mammals

A total of 17 species of mammals have been recorded in the Reserve, of which seven (7) occurred on Shellmaker Island.

Sensitive Species

Plants

Generally, the state and federally endangered plant salt marsh bird's beak is found in the high salt marsh meadows and transitional habitat on Shellmaker Island. Large patches of this species are found on Lower Shellmaker Island, in the marsh at the southern end of the island. It is the only listed plant species confirmed to occur in the UNBER.

Invertebrates

While no sensitive insects are currently known from Shellmaker Island, potentially suitable habitat is present on dredge material "dune" habitat and mudflats surrounding the marsh.

Fishes

No listed species of fishes occur in Newport Bay

Birds

Several species of birds are considered to be sensitive because of the loss of habitat and/or a reduction in their populations.

Belding's savannah sparrow

The state endangered Belding's savannah sparrow (*Oasserculus sandwichensis beldingi*) is a year round resident and breeder in Upper Newport Bay. Its preferred nesting habitat is pickleweed-dominated mid to high salt marsh. In 1996, the population was 252 pairs. This species is found throughout Upper Newport Bay.

California light-footed clapper rail

The state and federal endangered California light-footed clapper rail (*Rallus longirostris levipes*) is found throughout Upper Newport Bay, utilizing cord grass marsh for nesting at several sites. Observed nesting areas include Shellmaker Island (northwest section), Middle Island, Upper Island, and in the saltmarsh above the main dike. The resident population of California light-footed clapper rails represents about 65% of the California population of the species. In 1999, 104 pairs were observed in Upper Newport bay.

California least tern

The state and federally listed California least tern (*Sterna antillarum brownii*) is a seasonal resident in Upper Newport Bay from April to early September. They nest on the "hot dog" shaped island in the uppermost basin. In 1999, forty (40) pairs of least terns nested on this island. In 2000, sixty (60) least tern pairs nested in Upper Newport Bay and fledged twelve (12) young.

California gnatcatcher

The federally threatened coastal California gnatcatcher nests in coastal sage scrub along the margins of Upper Newport Bay, but none have been seen on or near Shellmaker Island. There are at least ten (10) pairs breeding in upland habitat surrounding Upper Newport Bay.

Conclusion

The proposed facility improvements on Shellmaker Island would be located on on-tidal, disturbed dredge spoils at elevations between approximately +9 to +17 feet MLLW and include temporary State and County facilities, the UCI Rowing Facility and discarded materials from buildings removed from the site. There are no sensitive species of plants within these areas and the flora consists of invasive and ruderal (i.e. weedy) plants communities and ornamental shrubs and trees.

Salt marsh and mudflats at elevations between –2 and +7 feet MLLW surround the proposed construction site on the east (behind) the UCI Rowing Facility), the south (on the Dunes Marina Access Channel), and the west (Main Channel of Upper Newport Bay). It is also found extensively north of the proposed BBSC construction site on Lower and Upper Shellmaker Island at higher wetland and transitional elevations. Cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia spp.*) are the dominant species occurring within the marsh. These habitats encompass approximately 5.6 acres of wetland habitat.

Two (2) "endangered species" are known to occur within these peripheral wetland habitats: 1) the state and federally listed Salt marsh bird's beak (*Cordylanthus maritimus sub species msritimus*) and 2) Belding's savannah sparrow (*Oasserculus sandwichensis beldingi*). During focused surveys conducted in 2002 only one (1) pair of potentially breeding Belding's savannah sparrows was observed in the Lower Shellmaker Island

salt marsh bordering the Dunes Marina Access Channel. No savannah sparrows were observed during 2003.

No California light-footed clapper rails (*Rallus longirostris levipes*) were observed within the project area. They are present however, in the salt marsh northeast of the project area on Shellmaker Island and along the shoreline of Back Bay Drive. The California gnatcatcher is not found on Shellmaker Island, however, California gnatcatcher nests have been found in coastal sage scrub along the margins of Upper Newport Bay.

The above-discussed sensitive resources (species) are found near the project area for the proposed BBSC. The City's Land Use Plan has identified the general area of the project site (i.e. UNBER) as a unique and valuable State resource and further states that it is a home for many habitats and species. These sensitive resources are described by the applicant as having the characteristics of ESHA, however, sufficient information has not been submitted as part of this application to designate these surrounding areas that are outside of the proposed construction envelope as ESHA. However, due to the sensitivity of these resources, construction procedures and project elements should be in place to protect these resources. Furthermore, the proposed development is located within a 'park and recreation area' within the meaning of Section 30240, thus, the development must be designed to avoid the degradation and continuance of the area for park and recreation purposes.

While the above species are known to be present in close proximity to the site, the species are not known to be present within the boundaries of the areas proposed to be developed. Two (2) ways to avoid adverse impacts to the adjacent sensitive areas are to conduct pre-construction surveys for sensitive species such that their precise location is known and also to have a biological monitor present during construction that will re-direct work if such work would cause an adverse impact to adjacent sensitive species. Pre-construction surveys should be completed in order to determine if any of these species would be adversely impacted with construction of the proposed project. The applicant has submitted a pre-construction survey plan for these endangered and threatened biological resources. In order to prevent any impacts to these species, the following **Special Conditions** have been imposed: **Special Condition No. 6** requires a pre-construction Salt marsh bird's beak survey; **Special Condition No. 7** requires a pre-construction Belding's savannah sparrow survey, California light-footed clapper rail and California gnatcatcher survey. These pre-construction surveys should adhere to the proposed survey methods as outlined in the *Preconstruction Survey Plan for Endangered and Threatened Biological Resources Shellmaker Island Back Bay Science Center* prepared by Keane Biological Consulting and Coastal Resources Management received on December 8, 2003 by Commission staff. The applicant has stated that if Salt marsh bird's beak is found, that they would avoid impacting it. If Belding's savannah sparrow survey, California light-footed clapper rail or California gnatcatcher is found, the applicant has stated that they would re-direct work or halt construction to avoid disturbing the nesting and breeding activities of these birds.

During construction there is a possibility that inadvertent adverse impacts to the existing habitat may occur if construction crews are not adequately informed of the presence and location of sensitive habitat. To remedy this concern, a biological monitor should be present on site to assist construction crews in identifying sensitive habitats and methods

for avoiding impacts to those habitats. Therefore, in order to minimize potential impacts during construction, **Special Condition No. 2** has been imposed, which requires that an appropriately trained biologist shall monitor construction activity and to implement methods to avoid disturbance to sensitive species or habitat area.

2. Trails and Buffers

Trails

The existing trail system on Lower Shellmaker Island will be formalized with marked, designated trails that will link educational activities to the wetlands and restoration activities (Exhibit #2). The existing trail is generally located to the east of the proposed Back Bay Science Center, while the new trail is generally located to the south and west of the proposed Back Bay Science Center, near the UCI Rowing Facility, proposed demonstration marsh and filtration pond. There will be several spur trails leading to small observation/teaching areas that will be placed around the perimeter of the wetlands at which students will participate in focused activities. The designated trail areas will not encroach on salt marsh habitat or sensitive species, but will be strategically located for student activities. The existing wetland boundary is at the elevation +6 foot contour. The new proposed trail generally follows the existing informal circulation pathways and varies in the setback from the wetlands from 18 feet to 46 feet as shown on the Site Plan. The trails will be buffered from the wetlands with a combination of "ranch rails" and sand dune berms. The trails will be composed of decomposed granite or recycled plastic boardwalk (trex) decking (all ADA accessible). Both CDF&G and the Coastal Commission are developing curricula that will be used on site. The trails will lead down to mudflats. The renovation of existing trails and the construction of the teaching pond will require large construction equipment that could potentially cause short term or long-term construction impacts on wetlands and terrestrial vegetation in the vicinity of where trails and pond will be constructed. Impacts to habitats in the vicinity of existing trails will be minimized by using hand methods or other suitable means of clearing and trail building in lieu of large construction equipment. Furthermore, the Commission has conditioned the project to require the use of a biological monitor during construction of the project to guide construction work to avoid adverse impacts to the habitat. The observational areas will not be placed within wetland habitats. This will avoid potential short term and long term construction impacts to wetland resources.

Buffers

Buffers will be used to assist in minimizing potential long term, direct and indirect disturbances to wetland vegetation and wildlife (Exhibit #2). Historically, there has not been any distinct buffer between the buildings and the wetlands. Given the environmental and educational goals of the program, the width of setbacks and buffers to wetlands will vary depending upon type of use. Widest buffers (70 feet) will be set around the perimeters that separate buildings and service/delivery areas from wetland area. Narrower buffers will be placed around less sensitive areas and will be used as educational trails. Typically, a minimum of 100-foot buffers is required from wetlands. However, in this case, it is necessary to use a reduced buffer in order to strategically locate educational activities near the wetland. The purpose of the proposed project is to

provide outdoor education programs with themes on protection of coastal wetlands. And this is complemented by the use of buffers that are less than 100 feet. Sand dune buffers consisting of elevated, sandy soils will be constructed and revegetated with dune plants. These berms will be used to buffer highly sensitive salt marsh bird's beak stands from public intrusion along the southern perimeter of the buildings. The berms however, would not impede the views of students or other visitors using the educational trails. The proposed elevation of the undulating dune berm would vary between 3 and 5 feet high and the footprint of the berm would be approximately 15 feet wide.

In addition, the project has been designed to enhance the effect of these buffers to assist in minimizing potential long term, direct and indirect disturbances to wetland vegetation and wildlife. For example, the existing buildings that were located nearer the wetland vegetation are being removed and relocated to a more distanced location from these habitat areas. With the location of the new proposed buildings and installation of these new berms, the proposed project would aid in protecting the adjacent habitat areas.

The construction of buffer areas will not result in a reduction or loss of wetland or upland habitat on Shellmaker Island. Potential secondary impacts to wetland resources during the construction will be mitigated through the implementation of BMPs. In the long term, the creation of buffer habitat at the project site will be a beneficial impact to project area's wetland and wildlife resources.

Conclusion

While the location of the proposed new buildings and installation berms would buffer and protect adjacent habitat areas, there are additional ways to minimize adverse impacts to these sensitive habitat areas.

Typically, a minimum of 100-foot buffers is required from wetlands. However, in this case, the new buildings, for example the Teaching Lab located on the west of the project site, will be set back a minimum of 70 feet from the wetlands (Exhibit #11). In addition, the parking lot and circulation roads will be located within 100 feet of the wetlands (Exhibit #11). While the proposed parking area will be located within 100 feet of the wetland, this parking area has been historically serving as a parking area in this location. The parking area will only be formalized by asphalt and striping with the proposed project. Nevertheless, certain changes are necessary in order to prevent adverse impacts to the adjacent habitat. For example, during construction there is a possibility that adverse impacts to the existing wetland may occur. To remedy this concern, a biological monitor should be present on site to assist construction crews in identifying sensitive habitats and avoiding them. Another way to avoid adverse impacts on habitat is by controlling light on the project site. In addition, where feasible, the parking areas and circulation roads should be moved further away from the salt marsh than they are proposed. Also, landscape buffering elements should be placed between the parking areas and the wetlands to minimize impacts upon the wetlands.

During construction there is a possibility that adverse impacts to the existing wetland may occur. To remedy this concern, a biological monitor should be present on site to assist construction crews in identifying sensitive habitats and avoiding them. Therefore,

in order to minimize potential impacts during construction, **Special Condition No. 2** has been imposed, which requires that an appropriately trained biologist shall monitor construction activity for disturbance to sensitive species or habitat area.

An additional way to minimize adverse impacts to these sensitive habitat areas is by controlling light on the project site. Since the site is currently developed, the proposed project would not create a new source of light, although exterior lighting of the new facilities could cause glare and adversely affect nighttime views from nearby properties or disturb wildlife if not properly controlled. There should be additional buffering elements to address lights located on buildings; light cast from vehicles parking in the parking area and lighting for the parking areas. This can be addressed by controlling the direction of light, minimizing the amount of lighting and putting opaque barriers (planting, fencing, berms) around parking stalls to prevent lighting impacts. The specific areas where these opaque barriers should be placed are: 1) along the northern side of the entrance road adjacent to the parking area, 2) along the eastern end of the parking lot adjacent to the wetland, and 3) along the southern end of the parking lot adjacent to the UCI Rowing Facility (Exhibit #11). Installation of these barriers as well as controlling the direction of light on site from light sources stationary on site will aid in avoiding impacts to the habitat. Therefore, in order to minimize the potential for light spillage and glare, **Special Condition No. 5**, has been imposed, which requires that exterior on site lighting be shielded and confined within site boundaries.

Two (2) other ways to minimize adverse impacts to these sensitive habitat areas is by moving the parking areas and circulation roads, which are less than 100 feet away from the wetlands, further away from the salt marsh than they are currently proposed and by installing landscaping and other buffering elements on the project site and thus creating buffering areas that would aid in avoiding any adverse impacts to the adjacent wetland habitat. By increasing the distance from the habitat area from the parking area and roads, it will buffer the project area from the wetland area that could adversely impacted by the minimal distance that is currently proposed to separate them. Typically, a minimum of 100-foot buffers is required from wetlands. However, in this case, these roads and parking area are located within the 100 feet. Landscaping and other buffering elements (i.e. fencing) can be used to improve buffering by creating barriers to light cast upon adjacent habitat and by creating habitat transition zones between the new development and adjacent sensitive resources. Some specific locations, where such types of buffering should be placed are: 1) the area west of the "Teaching Lab" building since there is only a distance of a minimum of 70 feet from the wetlands and 2) along the northern, southern and eastern edges of the parking lot and circulation roads. The applicant has submitted a Landscaping Plan (Exhibit #11). However, to ensure that the proposed landscaping does not have any significant adverse effects on the project site, a Final Habitat Buffering and Landscaping Plan should be submitted, which ensures that improved buffering has been installed to create barriers to light cast upon adjacent habitat and by creating habitat transition zones between the new development and adjacent sensitive resources. Therefore Commission imposes **Special Condition No. 8**. **Special Condition No. 8** requires that the applicant submits a Final Habitat Buffering and Landscaping Plan demonstrating that the proposed parking area and roads located within the 100 feet of the wetlands, as feasible, are re-located to maximize the physical separation from the adjacent wetland area and that physical barriers

(landscaping, fencing, etc.) are installed on site to minimize the intrusion of light and glare upon the habitat.

Therefore, as conditioned, the Commission finds the project consistent with the resource protection policies of Section 30240 of the Coastal Act.

D. WATER QUALITY

Section 30230 of the Coastal Act states, in pertinent part:

Marine resources shall be maintained, enhanced, and where feasible, restored.

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 30232 of the Coastal Act states, in pertinent part:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials.

The proposed project is located within the coastal waters of Upper Newport Bay. Upper Newport Bay is a critical coastal water body on the federal Clean Water Act 303(d) list of "impaired" water bodies. The designation as "impaired" means that water quality within the water body does not meet State and Federal water quality standards designed to meet the 1972 Federal Clean Water Act goal of "fishable, swimmable" waters. In Upper Newport Bay, the listing cites elevated concentrations of metals, nutrients, pathogens, pesticides and sedimentation/siltation from a variety of sources including urban runoff, agriculture, channel erosion and other unknown non-point sources as the reason for listing Upper Newport Bay as an "impaired" water body. The listing is made by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB), and the State Water Resources Control Board (SWRCB), and confirmed by the U.S. Environmental Protection Agency. Further, the RWQCB has targeted the Newport Bay watershed, which would include Upper Newport Bay, for increased scrutiny as a higher priority watershed under its Watershed Initiative. The standard of review for development proposed in coastal waters is the Chapter 3 policies of the Coastal Act, including the following water quality policies. Sections 30230, 30231and 30232 of the Coastal Act require the protection of biological productivity, public recreation, and marine resources.

1. Construction Impacts to Water Quality

Storage or placement of construction materials, debris, or waste in a location subject to erosion and dispersion or which may be discharged into coastal water via rain, surf, or wind would result in adverse impacts upon the marine environment that would reduce the biological productivity of coastal waters. For instance, construction debris entering coastal waters may cover and displace soft bottom habitat. In addition, the use of machinery in coastal waters not designed for such use may result in the release of lubricants or oils that are toxic to marine life. Sediment discharged into coastal waters may cause turbidity, which can shade and reduce the productivity of foraging avian and marine species' ability to see food in the water column. In order to deal with possible adverse impacts to water quality during construction, the applicant has submitted a *Storm Water Pollution Prevention Plan for Back Bay Science Center* prepared by Walden & Associates dated November 21, 2003 (Exhibit #10). Best Management Practices within this erosion control plan will be implemented to ensure that secondary construction-related impacts to biological resources of the wetlands are minimized during construction. Soil erosion can occur naturally, and may be accelerated during grading and construction when vegetation cover is removed and bare soil is disturbed. Precautions will be taken to assure that construction does not enter into the sensitive area and that storm water run-off is filtered prior to entering the Bay. The measures proposed adequately deal with water quality impacts associated with construction activities. However, in order to verify that the proposed measures discussed in the *Storm Water Pollution Prevention Plan* are adhered to, **Special Condition No. 9** has been imposed, which requires submittal of a Final Erosion Control Plan. The Commission finds the proposed project, as conditioned, consistent with Sections 30230, 30231 and 30232 of the Coastal Act.

2. Post Construction Impacts to Water Quality

The proposed development will result in urban runoff entering Upper Newport Bay. As stated previously, Upper Newport Bay is a critical coastal water body on the federal Clean Water Act 303(d) list of "impaired" water bodies. Pollutants such as sediments or toxic substances such as grease, motor oil, heavy metals, hydrocarbons, pesticides and fertilizers are often contained within urban runoff entering the Bay. In this case, the site drains new buildings, new parking lot, walkways and landscaped areas. Therefore, the primary post-construction water quality concerns associated with the proposed project include sediments, trash and debris, grease, motor oil, heavy metals, hydrocarbons, pesticides and fertilizer.

The proposed development would result in the discharge of storm water into the Bay. As such, the amount of pollutants carried through the system would increase proportionally. Therefore, the project has the potential to affect the water quality of the coastal waters in Newport Beach.

In order to deal with these post construction water quality impacts, the applicant has submitted a *Water Quality Management Plan (WQMP) for Back Bay Science Center* prepared by Walden & Associates dated January 12, 2004 (Exhibits #2, #6 & #9). The project site is located within the UNBER and is adjacent to sensitive areas. Contaminants such as oil and grease, fertilizers, pesticides, and animal waste typically accumulate on ground surfaces and are then washed into storm drains and waterways

by irrigation or rainfall. In order to reduce the level of contaminants leaving the property, the project has been designed to include a stormwater detention basin and water filtration system. Drainage from the "parking areas" will be directed to a series of Atlantis D-Raintank Water Storage/Infiltration systems that will filter the water and provide storage during rain events. Drainage from the "building areas" will be directed to a detention/infiltration pond at the southwest portion of the site.

The purpose of these treatment control BMPs is to: 1) improve site water quality runoff at the Back Bay site and 2) aid in the teaching of water quality management principals with real-world wetland enhancement programs. The location of the proposed detention/infiltration pond is currently at non-tidal elevations and is not within areas where the endangered salt marsh bird's beak is located. Previously, two (2) infiltration ponds were proposed. However, now only one (1) is proposed. The second pond was to be associated with work to the UCI Rowing Facility, but that is not part of the proposed project. More specific features of these BMP's include:

1) Parking lot area drainage will be filtered through cobblestone layer, filter fabric layer, gravel layer, another filter fabric layer and then into the Atlantis D-Raintank systems located in each of the parking areas. The combined layers serve to filter out debris and sediment prior to the runoff entering the Raintank systems. The Raintanks provide water storage and percolation, are interconnected for capacity sharing and eventually drain through an outlet to the Bay.

2) Stormwater detention/infiltration pond designed to detain and percolate runoff from the building areas with overflow going to the existing marsh area and bay. The ponds will provide for debris and sediment collection prior to the stormwater entering the Bay.

The Atlantis D-Raintank system as currently proposed does not target the treatment of pollutants associated with parking lot runoff, including grease, motor oil, heavy metals, and hydrocarbons. In order to protect water quality impacts associated with parking lot runoff, the BMPs implemented must be designed specifically to minimize and/or treat these pollutants.

There will be no significant long-term adverse affects of the siting of the facilities and the associated infrastructure on the adjacent sensitive biological habitats and resources.

Long-term effects on water quality are anticipated to be beneficial with the operation of the proposed water quality management system. Currently, there is no filtration or treatment of runoff from the site. The proposed system will discharge low volumes of less toxic waters to Newport Bay compared to existing conditions on Shellmaker Island.

In order to ensure that water quality is adequately protected, **Special Condition No. 10** has been imposed, which requires submittal of a Final Water Quality Management Plan. In addition, **Special Condition No. 11** has been imposed, which requires submittal of final project plans. These plans should show all current components of the project including one (1) filtration pond. The Commission finds the proposed project, as conditioned, consistent with Sections 30230, 30231 and 30232 of the Coastal Act.

Regional Water Quality Control Board (RWQCB)

The RWQCB requires that the applicant submit a "Notice of Construction Activity" one (1) month prior to commencement of project construction operations. The notice states that the construction activity will comply with terms of the Area-Wide Urban Storm Water Runoff Permit for the County of Orange, Orange County Flood Control District and the incorporated Cities within the Santa Ana Region (Order No. R8-2002-0010).

This Area-Wide permit includes the City of Newport Beach, which is the municipal agency that will be administering the construction contracts under the provisions of a Cooperative Agreement with the CDF&G.

United States Army Corps of Engineers (USACOE)

A permit under Section 404 of the Federal Clean Water Act from the United States Army Corps of Engineers (USACOE) is not required for this project because no dredging or filling of wetlands or "waters of the United States" is proposed.

E. PUBLIC ACCESS

Section 30213 of the Coastal Act states, in pertinent part:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30252 of the Coastal Act states, in pertinent part:

The location and amount of new development should maintain and enhance public access to the coast by...(4) providing adequate parking facilities or providing substitute means of serving the development with public transportation...

Section 30213 of the Coastal Act requires that lower cost visitor and recreational facilities be protected, encouraged and where feasible provide. The proposed project will allow the CDF&G to continue conduct educational programs within view of the Bay, which enhances the public's opportunity to access the area, while at the same time educating the public on the sensitivity of the Ecological Reserve's resources.

1. Public Access

Public access in the Ecological Reserve exists along Back Bay Drive, and along trails surrounding the bay (Exhibit #2). The existing trail system will be formalized with marked, designated trails that will link educational activities to the wetlands and restoration activities. There will be several spur trails leading to small observation/teaching areas that will be placed around the perimeter of the wetlands at which students will participate in focused activities. Additionally, the California Department of Fish & Game provides public interactive walks and other functions available to the public. The proposed development will not interfere with the existing public access available on site.

2. Parking and New Development

Section 30252 of the Coastal Act requires that new development maintain and enhance public access to the coast by providing adequate parking or alternative means of transportation. When new development does not provide adequate on-site parking and there are inadequate alternative means of reaching the area (such as public transportation), users of that development are forced to occupy public parking that could be used by visitors to the coast. A lack of public parking and public transportation will discourage visitors from coming to the beach and other visitor-serving activities in the coastal zone. A parking deficiency will therefore have an adverse impact on public access. Until adequate public transportation is provided, all private development must, as a consequence, provide adequate on-site parking to minimize adverse impacts on public access.

(a) Proposed Uses and Parking Evaluation

The project site is located on Shellmaker Island and serves as a public access way to the coast in the City of Newport Beach. The site is currently occupied with three (3) trailers, four (4) buildings, and two (2) storage containers totaling 8,594 square feet and is zoned as recreational and environmental open space. These facilities are used by the California Department of Fish & Game, the County of Orange Water Quality Lab, and a Coastal Commission field office. These buildings will be demolished and will be replaced by the Back Bay Science Center (BBSC) comprised of three (3) new buildings with four (4) wings totaling approximately 13,000 square feet. The proposed buildings will contain the Orange County Water Quality Laboratory, the California Department of Fish & Game's Bay Science Center, and administrative offices for the educational and biological staff of partnering organizations. Currently on site there is also a UCI Rowing Facility building. However, no work is proposed to this facility with the proposed project

The applicant proposes one (1) type of land use on-site, 1) educational and recreational. Currently, there is also an existing UCI Rowing Facility that will continue to function on site separate from the proposed BBSC. Currently there is space on site where sixty-seven (67) vehicles may park in an ad-hoc fashion. These spaces are currently not striped and the area is not paved. The applicant is proposing to replace the ad-hoc parking lot with a paved, striped parking lot containing sixty-seven (67) parking spaces as well (66 car parking spaces and one (1) bus parking space). The following is an evaluation of the Commission's regularly used parking requirements for each proposed land use.

(1) Educational and Recreational

The Commission typically imposes a parking standard of 1 space per each 250 square feet of gross floor area for educational and recreational uses. The proposed project is 13,000 square feet in size. Based on the standard of 1 space per 250 square feet of gross floor area for educational and recreational uses, the parking demand totals fifty-two (52) spaces.

(2) UCI Rowing Facility

Currently on site there is also a UCI Rowing Facility. While no work is currently proposed to this facility, the necessary amount of parking for this use was evaluated and also discussed in the Negative Declaration. The study determined that the on site peak parking demand was fifty-four (54) cars and occurs between 5 am and 8am. At this time, the individuals taking up these parking spaces are those that are part of UCI Rowing. The UCI Rowing Facility and Back Bay Science Center currently and will continue to share the same parking area. The proposed project will provide sixty-seven (67) parking spaces. The same amount of parking that currently exists on site. There will be no adverse impacts to parking due to the shared use since the Rowing Facility requires the fifty-two (52) spaces from 5am-8am. The back Bay Science Center would not be operating between these hours. Therefore, adequate parking would be provided for both uses. However, in order to verify that adequate parking is provided for these two (2) uses, **Special Condition No. 12** has been imposed, which requires submittal of written evidence of a reciprocal/shared parking agreement with any other users of the proposed 67-space parking lot which ensures that a minimum of fifty-two (52) parking spaces are available to serve the proposed Back Bay Science Center during all hours that the Science Center operates.

(3) Parking Conclusion

The applicant is proposing sixty-seven (67) new parking spaces for the proposed project (Exhibit #2). This would result in fifteen (15) parking spaces over the required fifty-two (52) parking spaces. The applicant states that nine (9) parking spaces are necessary for the CDF&G (4 spaces), UCI (4 spaces) and OC Water Lab (1 space), while the remaining spaces would be for visitors of the site. Therefore, as proposed, the parking is consistent with the Commission's regularly used parking standards.

Therefore, as conditioned, the Commission finds the project consistent with Sections 30213 and 30252 of the Coastal Act.

F. GEOLOGY

Section 30253 of the Coastal Act states:

New development shall:

(l) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

To assess the feasibility of the project, the applicant submitted the *Geotechnical Report for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated June 25, 2002. In preparing the report, Leighton and Associates, Inc. reviewed available geologic and geotechnical reports, conducted field investigations, performed laboratory tests on samples obtained from the site, conducted geotechnical engineering analysis, performed seismic hazard evaluations and prepared this report containing their findings, conclusions and recommendations. The report states that Shellmaker Island was built from dredged materials obtained from the Newport Bay area. However, the upper 63 feet of the island is made of silty to poorly graded sands mixed with shell fragments, which are potentially liquefiable and may induce significant vertical and lateral deformations during the design basis earthquake.

The report determined that the liquefaction potential of the site is considered to be very high. Existing groundwater at the project site was measured at a depth of 5-7 feet below ground surface and the site is indicated as potentially liquefiable on the Seismic Hazards Zone Maps. If not mitigated, these conditions could result in major damage to the structure during a strong earthquake. Appropriate design of the buildings foundations and structural systems would reduce potential impacts to a level that is less than significant. The geotechnical report states that the site should be mitigated for liquefaction hazards by methods such as stone columns. The geotechnical report also goes on to say that if the site is remediated for liquefaction, shallow foundation and slab-on grade parameters may be utilized to support the proposed structures. Furthermore, the report states that a pile foundation and grade beam system was not considered for the site due to the potential for extensive lateral and vertical deformations at the vicinity of the deep foundation system. The report includes certain recommendations for the proposed development. Among the recommendations included in report are those related to the foundation: "*If the owner accepts the potential adverse effects of a seismic event, we recommend the following foundation requirements as minimum to improve building performance: I) Three layers of high strength geogrids (bi-directional with a minimum strength of 2.0 kips per linear foot), equally spaced within 5 feet of engineered fill, should be installed beneath the proposed buildings foundation and extended 50 feet beyond the buildings' footprints. This measure will help to provide a more uniform and reinforced pad for the proposed structure during a seismic event. II) Both buildings should be supported on rigid mat foundations.*"

In order to evaluate other foundation alternatives to deal with the very high liquefaction potential of the site, a supplemental analysis was conducted entitled *Supplemental Analyses for Mitigation of Lateral Spread and Evaluation of Deep Foundation System for the Proposed Shellmaker Island Development, City of Newport Beach, California (Project No. 010692-001)* prepared by Leighton and Associates, Inc. dated October 16, 2002. Two alternatives regarding 1) stone columns and 2) mat slab over a reinforced pad were discussed in the previous report. This supplemental analysis studied an alternative of a deep foundation system for the proposed structures. However, a deep foundation system would not address the potential for lateral spreading. Therefore, slope stability and simplified deformation analyses were performed to evaluate the potential for lateral spreading/deformation and to estimate the magnitude of deformations for the design basis earthquake (DBE) event. Then a mitigation measure was introduced to mitigate the excessive deformations using soil/cement deep mixing technique. This supplemental analysis determined the following: "*Three foundation systems were considered in this report and our earlier report (Leighton 2002) for the proposed structures at Shellmaker Island including: 1) stone columns and shallow foundation system; ii) retaining*

barrier utilizing soil/cement deep mixing technique at the water front and deep foundation system below the structures; and iii) mat foundation over a 5-foot reinforced graded pad (Leighton 2002). Based on our analysis and understanding stone columns is the best alternative regarding liquefaction mitigation. This alternative will minimize the liquefaction potential and its effects within the mitigated areas. The second alternative, soil/cement deep mixing and a deep foundation system, will reduce the lateral spreading potential and settlement of buildings that are founded on piles/caissons. Earthquake-induced settlement will be expected at the perimeter of building sites that are founded on piles/caissons. We also understand that the cost of soil/cement deep mixing is comparable with the stone columns; however, the cost of the deep foundation system should be added to the total cost of the second alternative. The third alternative is potentially the cheapest short-term alternative. However, this option will not mitigate the adverse effects of a seismic event and the structures may experience the potential earthquake-induced settlements and lateral spreading during design basis earthquake (DBE) event."

Since the price of a deep foundation system was high, an addendum to the two (2) previous geotechnical reports was completed entitled *Addendum to Geotechnical Report, Back Bay Science Center, Shellmaker Island Development, Newport Beach, California (Project No. 131h-200-00)* prepared by Bagahi Engineering Inc. dated October 3, 2003, which discussed the use of a mat-slab foundation. The previous geotechnical report by Leighton and Associates, Inc. dated June 25, 2002 concluded that the site is highly liquefiable and to mitigate liquefaction effects, a stone column treatment was recommended. As an alternate, a mat foundation on geogrid reinforced foundation was presented provided that owners accept adverse effects of a seismic event. In a supplemental geotechnical report by Leighton and Associates, inc. dated October 16, 2002 it concluded that a deep foundation system would mitigate liquefaction influences but would not address the adverse effects of lateral spread. It was recommended that such effects be mitigated through the application of soil/cement mixing technique. Due to the high costs associated with the deep foundation treatment, the owners have opted to proceed with a mat slab system or equivalent without a deep foundation treatment, even though such a system is vulnerable to adverse effects of a seismic event. The addendum to the geotechnical reports prepared by Bagahi Engineering, Inc. dated October 3, 2003 evaluated the new type of foundation and concluded the following: "*From a geotechnical engineering standpoint, it is our opinion that the proposed structures at the subject site would be feasible provided the recommendations and conclusions presented herein are incorporated into the project design, plans and specifications, and implemented during construction. The structure may be supported on a mat-slab foundation with the understanding that such a system will experience significant settlement under a major seismic shaking.*"

In order to assure that risks are minimized, the geotechnical consultant's final recommendations must be incorporated into the design of the project. As a condition of approval (**Special Condition No. 3**), the applicant must submit, for the review and approval of the Executive Director, final design and construction plans signed by the geotechnical consultant indicating that the recommendations contained in the geotechnical report have been incorporated into the design of the proposed project.

Although the proposed project will be constructed with geotechnical approval, risk from development on this highly liquefiable soils not eliminated entirely. Therefore, the standard waiver of liability condition has been attached through **Special Condition No. 4**. By this means, the applicant is notified that the project is being built in an area that is potentially

subject to geologic instability and liquefaction that can damage the applicant's property. The applicant is also notified that the Commission is not liable for such damage as a result of approving the permit for development and is required to indemnify the Commission in the event of a lawsuit against it. Finally, the condition ensures that future owners of the property will be informed of the risks and the Commission's immunity for liability.

Therefore, as conditioned, the Commission finds that the proposed project is consistent with Section 30253 of the Coastal Act, which requires that geologic risks be minimized and that geologic stability be assured.

G. SCENIC RESOURCES

Section 30251 of the Coastal Act pertains to visual resources. It states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas...*

The site is visible from Back Bay Drive, a public road adjacent to the east, from the Bayview Landing Park site, and from Pacific Coast Highway. Across the bay to the west, the site is visible from the blufftop trail adjacent to Castaways Park, and from the Newport Aquatic Center. The site is also visible from several residential areas, including Harbor Cove, Park Newport Apartments and Eastbluff, as well as the Hyatt Newporter resort on the east side of the bay. Across the bay to the west are residential areas with views of the site. The site is also visible from portions of the Newport Dunes resort and Back Bay Café. It is necessary to ensure that the development be sited and designed to protect views to and along this scenic coastal area and to minimize the alteration of existing landforms.

There are existing facilities located on site, which are very basic trailer-type structures and storage sheds. The new buildings would represent an improvement to the aesthetics of the site. The new buildings would be one-story. The entry portion of the new structure would have a maximum roof peak of 28 feet while the wings would have a roof peak of 15-16 feet. This would be similar to the roof heights of other one-story structures in the vicinity such as Back Bay Café and Newport Dunes.

The project would have a beneficial effect on both public and private views since the permanent buildings would be more attractive than the existing temporary facilities and would be consistent with the community character. Public views of the bay would not be negatively impacted. In addition, the existing three (3) trailers, four (4) buildings, and two (2) storage containers will be removed and will be replaced by three (3) new buildings. Thus, consolidating the uses into a central location and improving the view corridors.

Therefore, the Commission finds that, as conditioned, the project is consistent with the visual resource protection policies of Section 30251 of the Coastal Act.

H. LAND USE PLAN

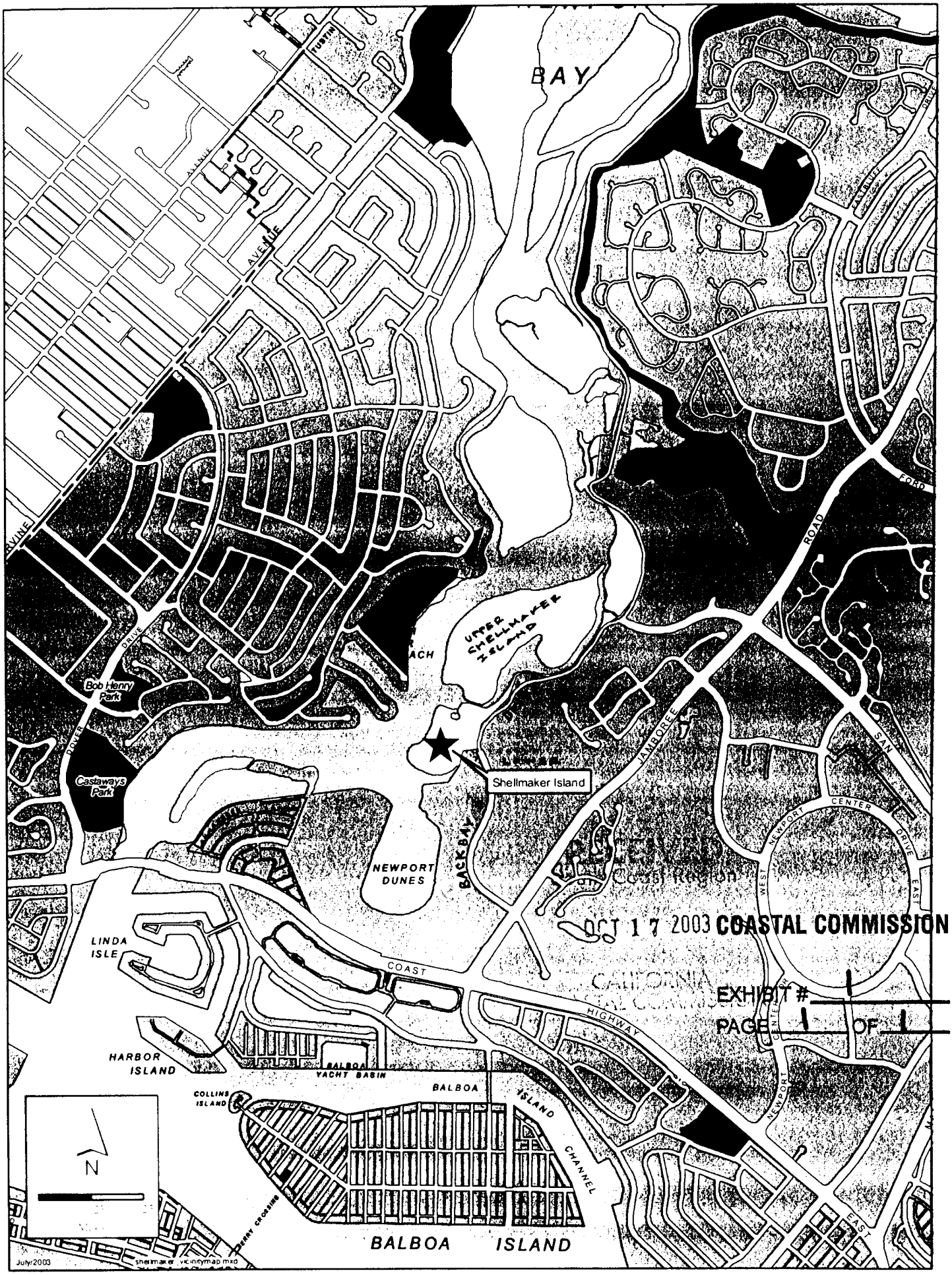
Section 30600(c) of the Coastal Act provides for the issuance of coastal development permits directly by the Commission in regions where the local government having jurisdiction does not have a certified local coastal program. Pursuant to Section 30604(a), the permit may only be issued if the Commission finds that the proposed development will not prejudice the ability of the local government to prepare a local coastal program, which conforms with the Chapter 3 policies of the Coastal Act.

The LUP for the City of Newport Beach was effectively certified on May 19, 1982. The certified LUP was updated on January 9, 1990. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified Land Use Plan for the area. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare a Local Coastal Program that is in conformity with the provisions of Chapter 3.

I. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

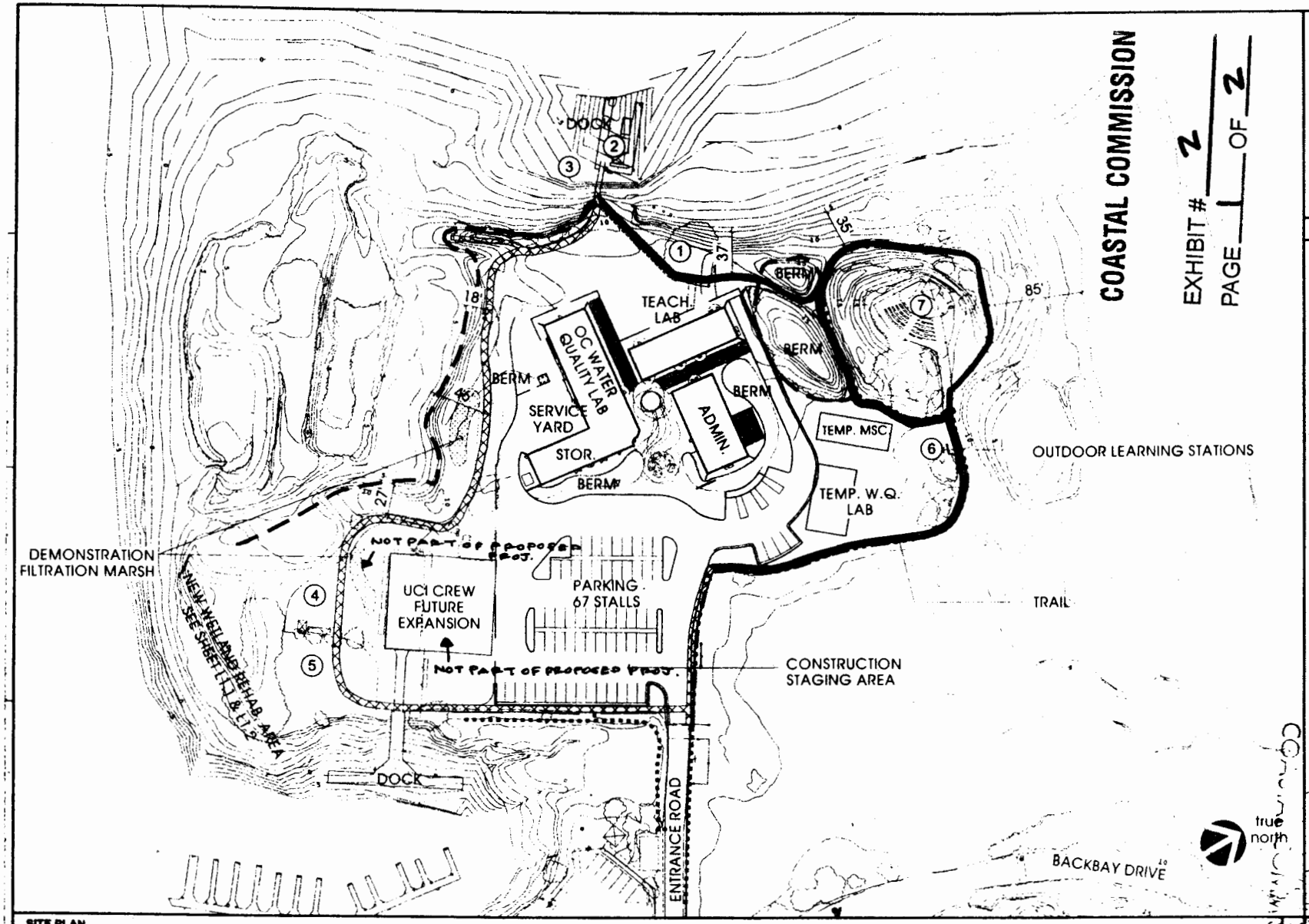
Section 13096(a) of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California 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.

As conditioned, the proposed project has been found consistent with the wetland protection, environmental sensitive habitat areas, water quality, public access, geology and scenic resource policies of the Coastal Act. Mitigation measures include: **1)** submission of a Final Wetland Enhancement and Monitoring Program; **2)** a qualified biologist be present to verify that no degradation of wetland habitat or vegetation occurs; **3)** lighting not be directed into the wetland; **4)** a Salt marsh bird's beak Pre-construction Survey; **5)** a Belding's savannah sparrow, California light-footed clapper Rail and California gnatcatcher Pre-Construction Survey; **6)** submission of a Habitat Buffering and Landscaping Plan; **7)** submission of a Final Erosion Control Plan; **8)** submission of a Final Water Quality Management Plan; **9)** submittal of Final Project Plans; **10)** a Shared/Reciprocal Parking Agreement; **11)** conformance to the Geotechnical Reports; and **12)** an Assumption of Risk agreement.



VICINITY MAP

EXHIBIT # 1
PAGE 1 OF 1



COASTAL COMMISSION

EXHIBIT # 2

PAGE 1 OF 2

DETAIL TITLE 6

- EXISTING TRAIL
- NEW TRAIL (MATCH EXIST. TRAIL CONSTRUCTION D.G. & TREX BOARDWALK
- TEMPORARY SECURITY AND DUST/WINDSCREEN WITH SIGN "NO ADMITTANCE"
- TEMPORARY SECURITY SCREEN WITH SIGN "NO ADMITTANCE"
- TEMPORARY SECURITY SCREEN WITH SIGN "NO ADMITTANCE EXCEPT RESTORATION TEAM - NO VEHICLES"
- (1) TEACHING/OBSERVATION STATION

NOTE: REFER TO CIVIL PLANS FOR HORIZONTAL AND VERTICAL CONTROLS

SITE PLAN 23 **SYMBOL SCHEDULE** 24

REVISIONS	APPROVED	APPROVED	APPROVED				
DATE BY DESCRIPTION APP'D	DATE	DATE	DATE	(CONSULTANT LOGO & STAMP)	DESIGNED / CHECKED / DRAWN / DATE	RON YEO, FAIA ARCHITECT, INC. 820 JASMINE AVE, CORONA DEL MAR, CA 92625 Phone 949-644-8111 Fax 949-644-0449	BACK BAY SCIENCE CENTER 600 Shellmaker Road Newport Beach, CA CITY CONTRACT NUMBER C 7440	Site Plan	A1.1
								CITY OF NEWPORT BEACH PUBLIC WORKS DEPARTMENT	PLAN NO. B-3161-8 SHEET X OF Y

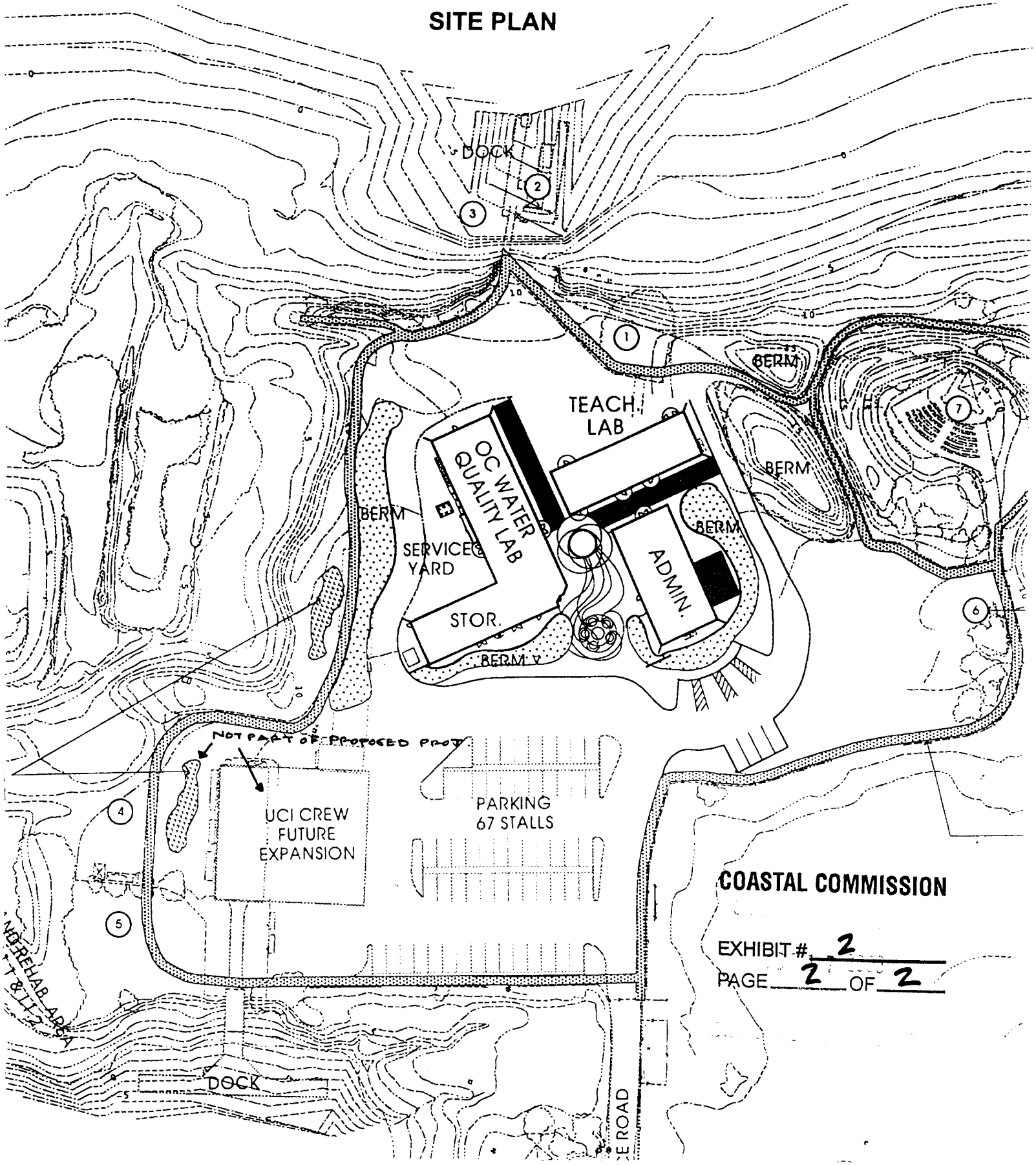
Preliminary Plans

BACK BAY SCIENCE CENTER

SHELLMAKER ISLAND, NEWPORT BEACH, CA

RON YEO, FAIA ARCHITECT, INC. 500 JASMINE AVENUE CORONA DEL MAR, CALIFORNIA 92625 PHONE: (949) 644-8111 FAX 644-0449

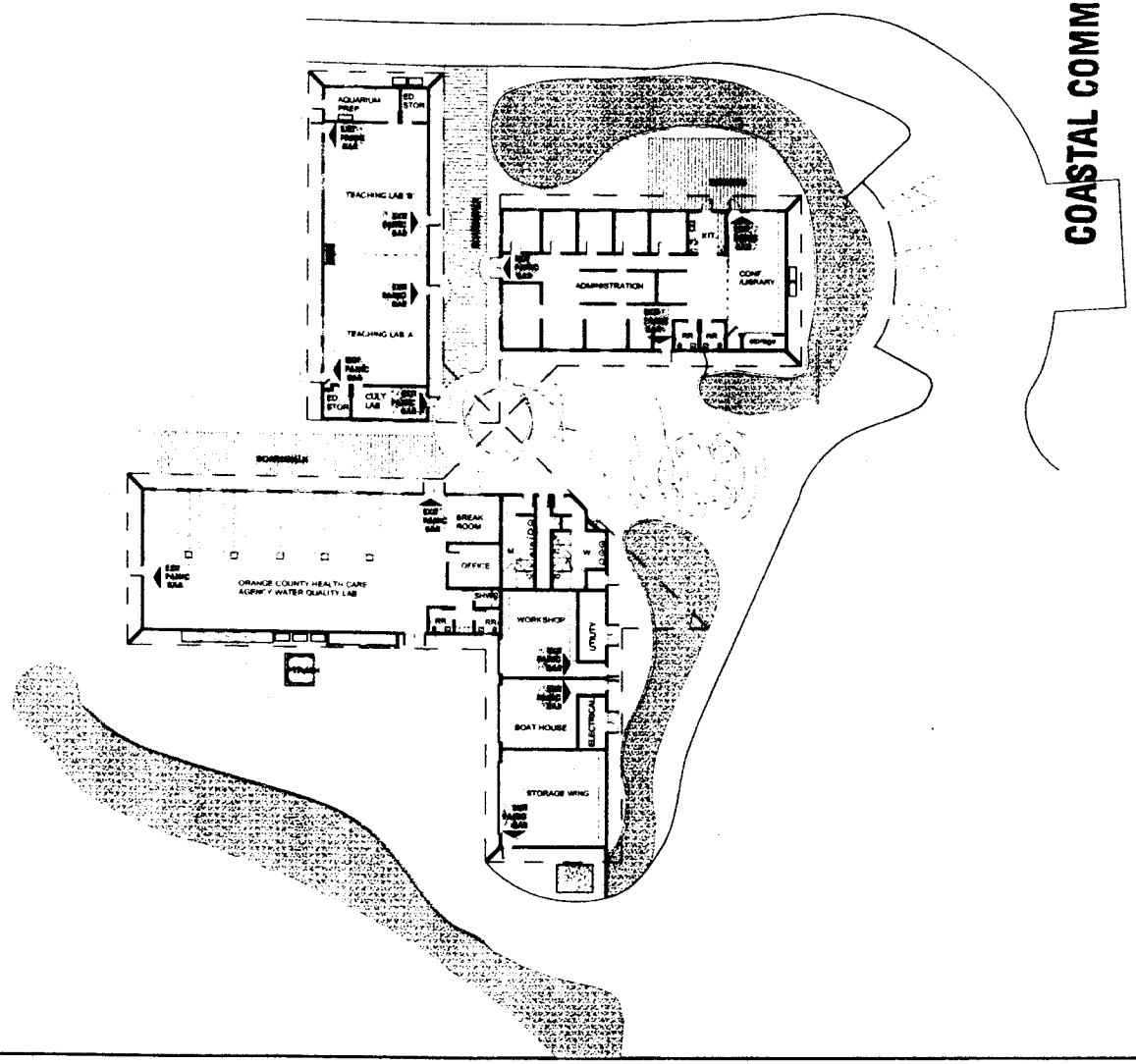
SITE PLAN



COASTAL COMMISSION

EXHIBIT # 2

PAGE 2 OF 2



COASTAL COMMISSION

EXHIBIT # 3

PAGE 1 OF 2

Code Analysis

APPLICABLE CODES
2001 California Building Code
2001 California Plumbing Code
2001 California Mechanical Code
2001 California Fire Code
2001 California Electric Code
Current Edition: NFPA
Current Edition: U.A.C. Title 24
Current Edition: Americans with Disabilities Act

	O.C. Water Lab	Boathouse	Storage Wing	Teach. Lab	Admin.	Total
OCCUPANCY DATA						
Description	B	B	B-3	B1	B / A	
Area (gross)	1,680 s.f.	705 s.f.	2,196 s.f.	2,820 s.f.	2,705 (500 s.f.	10,406 s.f.
Occ. Load Factor	100	100	300	20	165 / 15	
Number of Occupants (s.f. / occ. load)	40	8	12	141	23/34	258
Exits required (table 10A-Uilc.)	2 exits	1 exit	1 exit	2 exit	1 exit / 2 exits	
Exits provided	2 exits	2 exits	3 exit	2 exit	1 exit / 2 exits	
CONSTRUCTION TYPE						
Type	V-N	V-N	V-N	V-N	V-N	
Rooms	1 hr. = 30 NR sprinklered	1 hr. = 20 NR sprinklered	1 hr. = 20 NR sprinklered	2 hr. = 5 1 hr. = 10 NR sprinklered	1 hr. = 20 NR sprinklered	
Openings	Not permitted less than 5' protected less than 10' (1 occupancy not permitted less than 3'					
Side Yards	All yards around building are > 20					
BUILDING ENVELOPE						
HEIGHT						
Allowed Height (Table 5-B)	2 story	2 story	2 story	1 story	2 story	
Actual Building Height	(		1 stories/ 30'		)	
FLOOR AREA (w/ openings)						
Basic Allowable/Table 5B)	8,000 s.f.	8,000 s.f.	8,000 s.f.	9,100 s.f.	8,000 s.f.	
+ 20 Side Yard Increase	8,000 s.f.	8,000 s.f.	8,000 s.f.	9,100 s.f.	8,000 s.f.	
Fire sprinkler (1Hr. NR)	8,000 s.f.	8,000 s.f.	8,000 s.f.	9,100 s.f.	8,000 s.f.	
Allowable sq. ftge.	24,000 s.f.	24,000 s.f.	24,000 s.f.	27,300 s.f.	24,000 s.f.	
Percentage of total sq. ftg.	11%	5%	17%	22%	29%	
Total allowable sq. ftg. increase (1% / all entities)	7,440 s.f.	1,200 s.f.	4,080 s.f.	6,006 s.f.	6,000 s.f.	
Existing Allowable Area	(		34,69 3 s.f.		)	
Building Total Area	(		17,243 s.f.		)	

PLUMBING FIXTURE COUNT per UBC table A-28-A

O.C. WATER LAB
GROUP B USE 200 s.f. per occupant for min. no. of fixtures

TOTAL S.F. net (assess area (usable area is everything except mechanical, storage and trash spaces) 1,481 s.f. / 200 = 20 occupants. Assume 50% male 50% women = 10 occ

MALE required water closets = 1 fixture
provided water closets = 1 fixture

FEMALE required water closets = 1 fixtures
provided water closets = 1 fixtures

Lavs required = 1 per required water closet
provided = 1 per required water closet

TEACHING LABS
GROUP B USE 1 water closet per 40 male occupants for min. no. of fixtures
1 water closet per 30 female occupants for min. no. of fixtures
The occupants in this portion of the structure as well as those in the storage wing will use the large public restroom.
TOTAL OCCUPANTS 141 occupants total. Assume 50% male 50% females =71 occ

MALE *1 per 40 occ. per w.c. = 2 fixtures
required water closets = 2 fixtures
provided water closets = 2 fixtures + 2 urinals
(exception (4) where urinals are provided
one water closet less than the number
specified may be provided for each urinal
installed, except the number of water closets
in such cases shall not be reduced to less than
1/2 of the min. specified

FEMALE required water closets = 3 fixtures
provided water closets = 4 fixtures

Lavs required = 1 per required water closet (2 min. 3 women)
provided = 1 per required water closet (2 min. 3 women)

Drink Fount required = 1 /150 occ. (150 occ. per dr.)
provided = /

ADMINISTRATION
GROUP B USE 200 s.f. per occupant for min. no. of fixtures

TOTAL S.F. net (assess area (usable area is everything except mechanical, storage and trash spaces) 3,074 s.f. / 200 = 15 occupants. Assume 50% male 50% women = 15 occ

MALE required water closets = 1 fixture
provided water closets = 1 fixture

FEMALE required water closets = 1 fixtures
provided water closets = 1 fixtures

Lavs required = 1 per required water closet
provided = 1 per required water closet

CODE PLAN 22

PROJECT DATA 24

REF	DATE	BY	DESCRIPTION REVISIONS	APPD	APPROVED DATE	APPROVED DATE	APPROVED DATE

(CONSULTANT LOGO & STAMP)

DESIGNED
CHECKED
DRAWN
DATE

RON YBO, FAIA ARCHITECT, INC.
320 JASMINE AVE, CORONA DEL MAR, CA 92625
Phone 949-644-8111 Fax 949-644-0449

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

PLAN NUMBER 8 S I E L S CITY CONTRACT #C 1640

Code Data

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

A1.2

SHEET # OF #

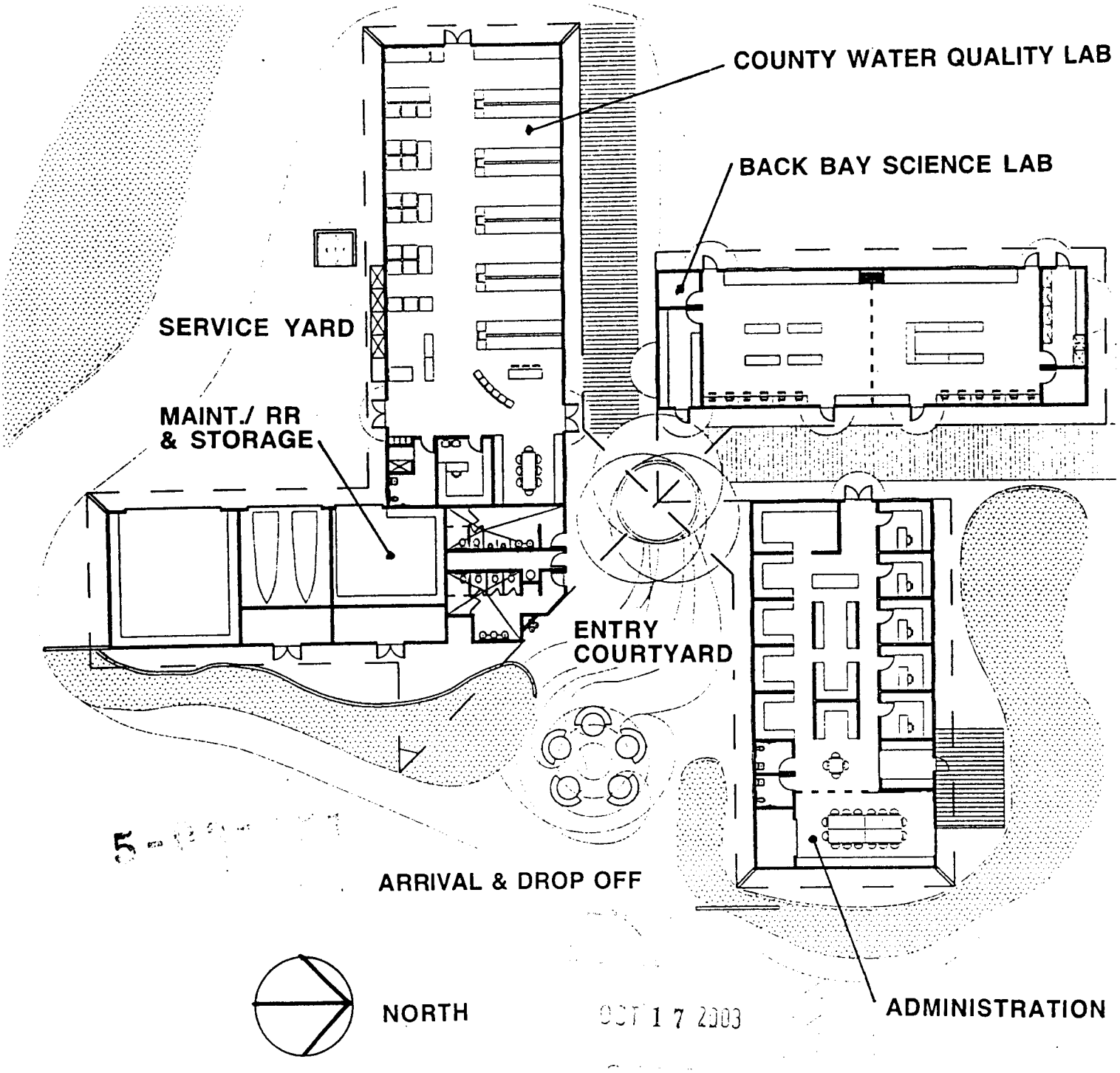
Plot Date
04/14/03

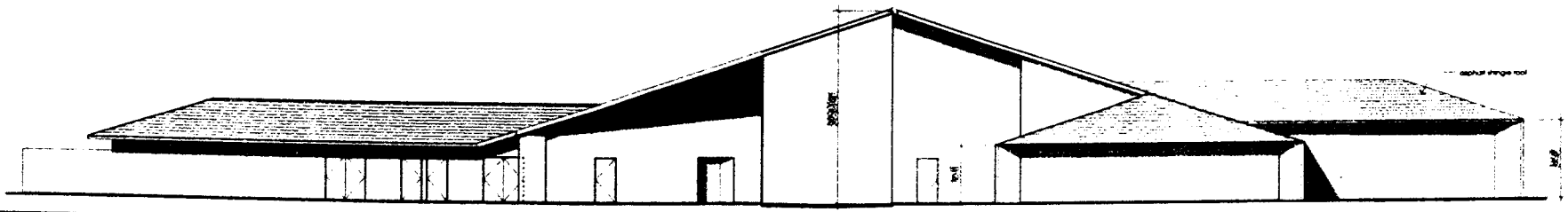
PRELIMINARY FLOOR PLANS

BACK BAY SCIENCE CENTER

SHELLMAKER ISLAND, NEWPORT BEACH

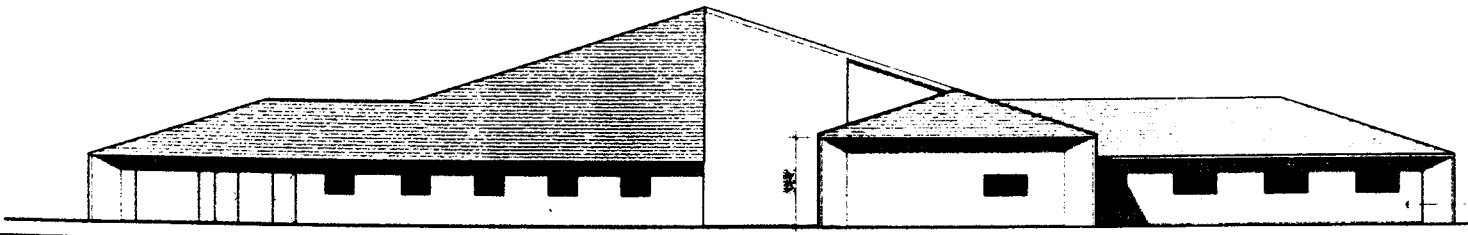
RON YEO, FAIA ARCHITECT, INC. 500 JASMINE AVENUE CORONA DEL MAR, CALIFORNIA 92625 PHONE: (949) 644-8111





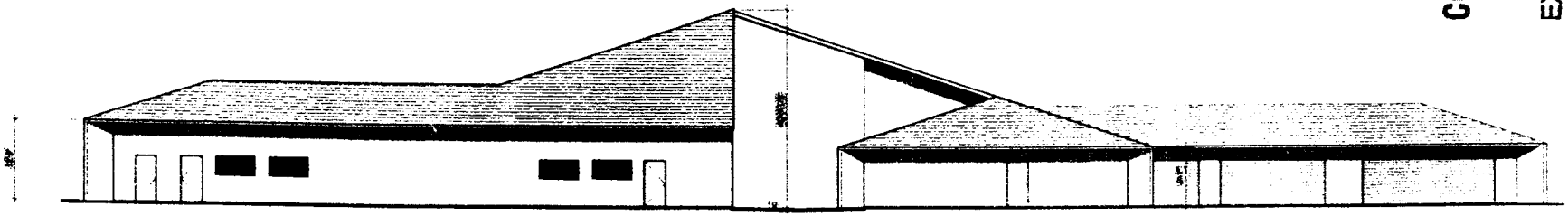
EAST ELEVATION

Scale 1/8" = 1'-0" 6



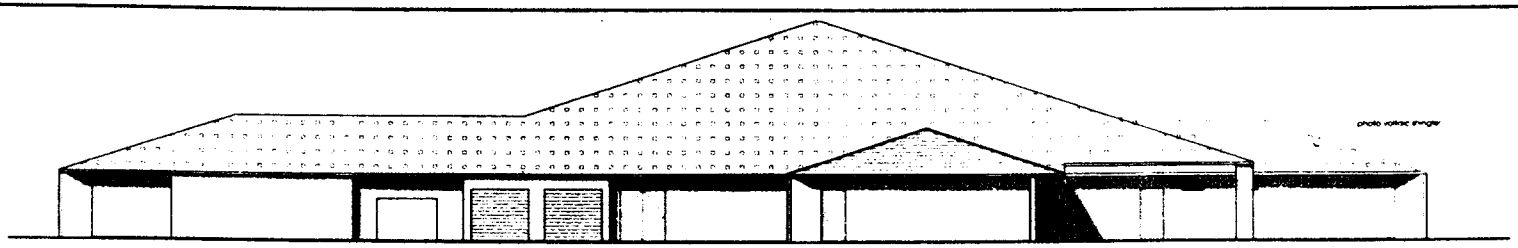
NORTH ELEVATION

Scale 1/8" = 1'-0" 12



WEST ELEVATION

Scale 1/8" = 1'-0" 18



SOUTH ELEVATION

Scale 1/8" = 1'-0" 24

COASTAL COMMISSION

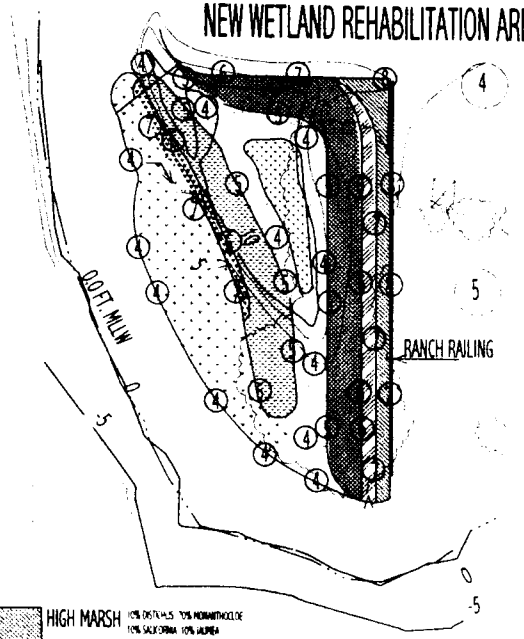
EXHIBIT # 4

PAGE 1 OF 1

REVISIONS							
REF.		APPROVED	APPROVED	APPROVED	(CONSULTANT LOGO & STAMP)	DESIGNED	IRON YEO, FAIA ARCHITECT, INC. 820 JASMINE AVE CORONA DEL MAR, CA 92625 Phone: 949-644-8111 Fax: 949-644-0949	BACK BAY SCIENCE CENTER 600 Shellmaker Island Newport Beach, CA	Site Elevations	A1.6
DATE BY DESCRIPTION APP'D		DATE	DATE	DATE		CHECKED		CITY CONTRACT NUMBER C- 5661	CITY OF NEWPORT BEACH PUBLIC WORKS DEPARTMENT	PLAN NO. 8 (18)
						DRAWN				SHEET X OF X
						DATE				

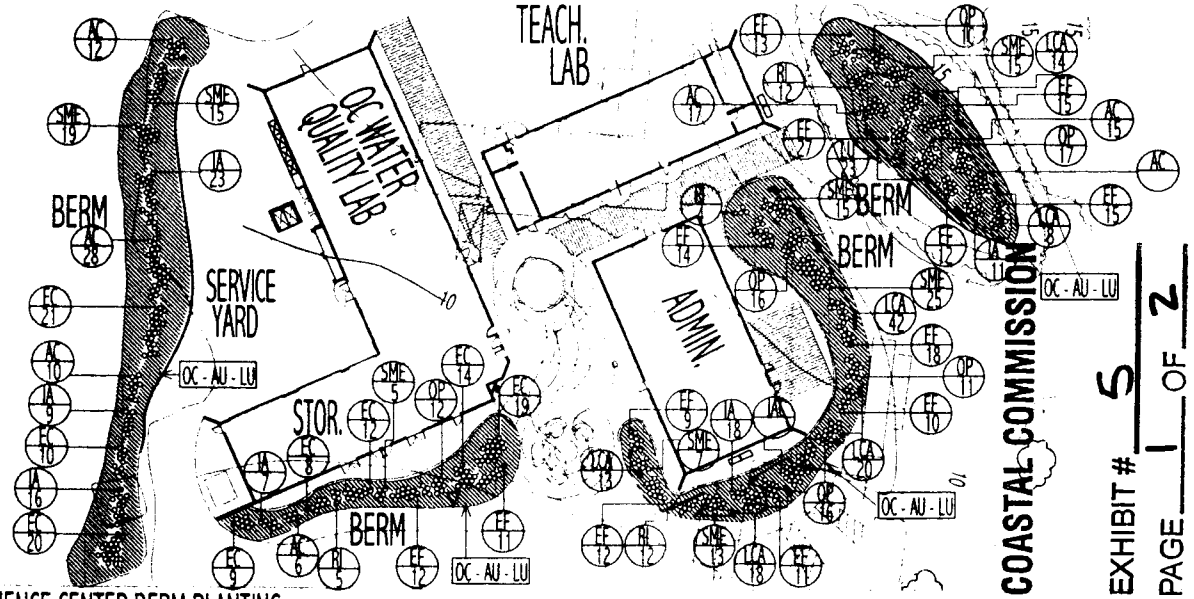
x Date
11/4/03

NEW WETLAND REHABILITATION AREA

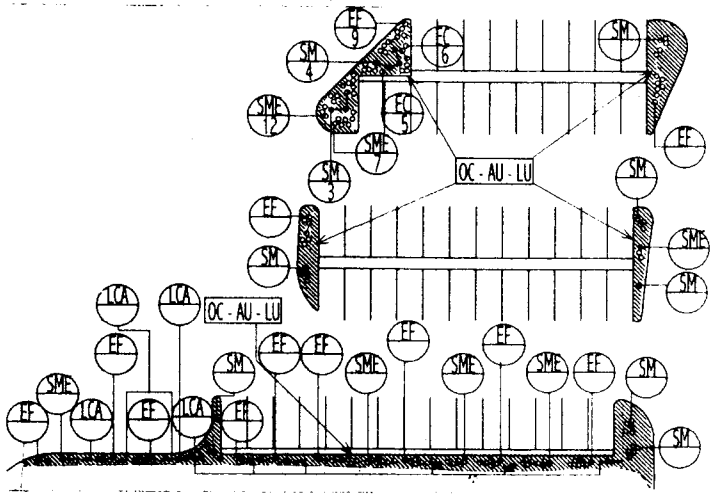


SALT MARSH DEMONATRATION PROJECT AREA

SCIENCE CENTER BERM PLANTING



SCIENCE CENTER PARKING LOT ISLANDS



FRESH WATER DRAINAGE PONDS

LIMONIUM CALIFORNICUM
JUMEA CARNOSA
JUNCUS ACUTUS SPP. LLEOPOLDII
SALICORNIA SUBTERMINALIS
SALICORNIA VIRGINICA
DISTICLIS SPICATA
SUEDA TAXIFOLI
ATRIPLEX PATULA SPP HASTATA
PLANT @ 1' O.C.

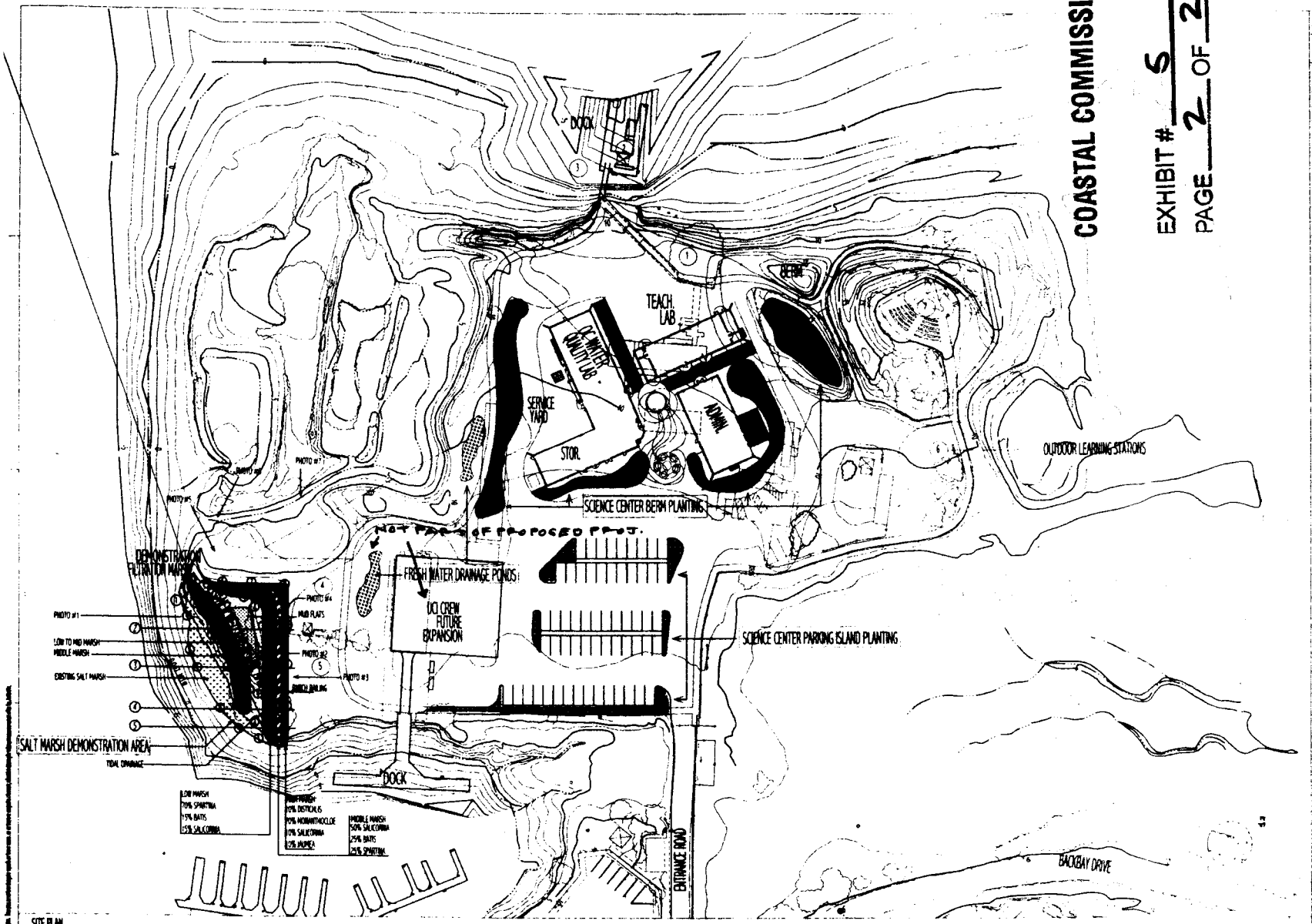
COASTAL COMMISSION
EXHIBIT # 5
PAGE 1 OF 2

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

LANDSCAPE
20 SCALE ENLARGED DETAIL PLANS

L1.2

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT



PLANT LIST

SALT MARSH DEMONSTRATION AREA PLANT LIST

SPECIES	COMMON NAME	SIZE CONTAINER	O.C. PLANTING	SYMBOL
Spartina foliosa	cord grass	liner	1' O.C.	SPO
Salicornia virginica	common pickleweed	liner	1' O.C.	SM
Bolboschoenus maritimus	saltmarsh	liner	1' O.C.	BM
Distichlis spicata	salt grass	liner	1' O.C.	SPI
Monanthochloe littoralis	shore grass	liner	1' O.C.	MLI
Jaumea carnosa	jaumea	4" pot	1' O.C.	JCA
FRESH WATER DRAINAGE PONDS (SALT TOLERANT)				
Limonium californicum	sea lavender	4" pot	1' O.C.	LCA
Juncus cooperi	pithy rush	4" pot	1' O.C.	JCA
Juncus acutus spp. leopoldii	spiny rush	liner	1' O.C.	JAL
Salicornia subterminalis	parish's glasswort	liner	1' O.C.	SSU
Salicornia virginica	saltgrass	liner	1' O.C.	SM
Distichlis spicata	saltgrass	liner	1' O.C.	DPSP
Scirpulus cyperinus	woolly sedge	liner	1' O.C.	SMO
Juncus patens spp. hesperius	saltbush	liner	1' O.C.	SPA
SCIENCE CENTER BERM PLANTING				
Encelia californica	encelia	1 gal	3' O.C.	EC
Isomeris arborea	bladder pod	1 gal	3' O.C.	IA
Opuntia chorocarpa/littoralis	beach prickly pear	4" pot	1' O.C.	OC
Abronia umbellata	sand verbena	4" pot	1' O.C.	AU
Artemisia californica	coastal sage	1 gal	3' O.C.	AC
Lupinus sp.	lupine	4" pot	1' O.C.	LU
Eschscholzia californica	california poppy	seed		EC
Rhus integrifolia	lemonade berry	1 gal	3' O.C.	RI
Limonium californicum	sea lavender	4" pot	1' O.C.	LC
Eriogonum fasciculatum	buckwheat	1 gal	3' O.C.	EF
Salvia mellifera	black sage	1 gal	3' O.C.	SME
Opuntia sp.	prickly pear cactus	pads	3' O.C.	OP
Juncus acutus spp. leopoldii	spiny rush	1 gal	3' O.C.	JAL
SCIENCE CENTER PARKING ISLAND PLANTING				
Sambucus mexicana	elderberry	1 gal	3' O.C.	SM
Eriogonum fasciculatum	buckwheat	1 gal	3' O.C.	EF
Encelia californica	encelia	1 gal	3' O.C.	EC
Salvia mellifera	black sage	1 gal	3' O.C.	SME

GENERAL NOTES

① THIS SYMBOL DENOTES NEW ELEVATIONS IN SALT MARSH DEMONSTRATION PROJECT

SITE PLAN

BY	DESCRIPTION	DATE
	REVISIONS	

APPROVED | APPROVED | APPROVED

DESIGNED
DRAWN
CHECKED
DATE

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

LANDSCAPE SITE PLAN

L1.1

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

GENERAL GRADING NOTES:

1 ALL WORK SHALL CONFORM TO CHAPTER 15 OF THE NEWPORT BEACH MUNICIPAL CODE (NBMC), THE PROJECT SOILS REPORT AND SPECIAL REQUIREMENTS OF THE PERMIT

2 DUST SHALL BE CONTROLLED BY WATERING AND/OR DUST PALLIATIVE

3 SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE DURING THE CONSTRUCTION PERIOD

4 WORK HOURS ARE LIMITED FROM 7:00 AM TO 6:30 PM MONDAY THROUGH FRIDAY, 8:00 AM TO 6:00 PM SATURDAYS, AND NO WORK ON SUNDAYS AND HOLIDAYS PER SECTION 10 28 OF THE NBMC

5 NOISE, EXCAVATION, DELIVERY AND REMOVAL SHALL BE CONTROLLED PER SECTION 10-28 OF THE NBMC

6 THE STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AT ALL TIMES

7 PERMITTEE AND CONTRACTOR ARE RESPONSIBLE FOR LOCATING AND PROTECTING UTILITIES

8 APPROVED DRAINAGE PROVISIONS AND PROTECTIVE MEASURES MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING THE GRADING OPERATION

9 CESSPOOLS AND SEPTIC TANKS SHALL BE ABANDONED IN COMPLIANCE WITH THE UNIFORM PLUMBING CODE AND APPROVED BY THE BUILDING OFFICIAL

10 HAUL ROUTES FOR IMPORT OR EXPORT OF MATERIALS SHALL BE APPROVED BY THE CITY TRAFFIC ENGINEER AND PROCEDURES SHALL CONFORM WITH CHAPTER 15 OF THE NBMC

11 POSITIVE DRAINAGE SHALL BE MAINTAINED AWAY FROM ALL BUILDING AND SLOPE AREAS

12 FAILURE TO REQUEST INSPECTIONS AND/OR HAVE REMOVABLE EROSION CONTROL DEVICES ON-SITE AT THE APPROPRIATE TIMES SHALL RESULT IN FORFEITURE OF THE CONSTRUCTION SITE CLEANUP DEPOSIT

13 ALL PLASTIC DRAINAGE PIPE SHALL CONSIST OF PVC OR ABS PLASTIC AND EITHER ASTM 2751, ASTM D1527 ASTM D3034 OR ASTM D1785

14 NO PAINT, PLASTER, CEMENT, SOIL, MORTAR OR OTHER RESIDUE SHALL BE ALLOWED TO ENTER STREETS, CURBS GUTTERS OR STORM DRAINS. ALL MATERIAL AND WASTE SHALL BE REMOVED FROM THE SITE. NBMC 17 32 020

EROSION CONTROL NOTES:

SEE SHEET C-10

REQUIRED INSPECTIONS:

1 A PRE-GRADING MEETING SHALL BE SCHEDULED 48 HOURS PRIOR TO START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, GEOLOGIST, CITY GRADING ENGINEER OR THEIR REPRESENTATIVES. REQUIRED FIELD INSPECTIONS WILL BE OUTLINED AT THE MEETING

2 A PRE-PAVING MEETING SHALL BE SCHEDULED 48 HOURS PRIOR TO START OF THE SUB-GRADE PREPARATION FOR THE PAVING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, PAVING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, CITY GRADING ENGINEER OR THEIR REPRESENTATIVES. REQUIRED FIELD INSPECTIONS WILL BE OUTLINED AT THE MEETING

GRADING FILLS/CUTS:

1 GRADED SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL

2 FILL SLOPES SHALL BE COMPACTED TO NO LESS THAN 90 PERCENT RELATIVE COMPACTION OUT TO THE FINISHED SURFACE

3 ALL FILLS SHALL BE COMPACTED THROUGHOUT TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY ASTM TEST METHOD 1557, AND APPROVED BY THE SOILS ENGINEER. COMPACTION TESTS SHALL BE PERFORMED APPROXIMATELY EVERY TWO FEET IN VERTICAL HEIGHT AND OF SUFFICIENT QUANTITY TO ATTEST TO THE OVERALL COMPACTION EFFORT APPLIED TO THE FILL AREAS

4 AREAS TO RECEIVE FILL SHALL BE CLEARED OF ALL VEGETATION AND DEBRIS, SCARIFIED AND APPROVED BY THE SOILS ENGINEER PRIOR TO PLACING OF THE FILL

5 FILLS SHALL BE KEYED OR BENCHED INTO COMPETENT MATERIAL

6 ALL EXISTING FILLS SHALL BE APPROVED BY THE SOILS ENGINEER OR REMOVED BEFORE ANY ADDITIONAL FILLS ARE ADDED

7 ANY EXISTING IRRIGATION LINES AND CISTERNS SHALL BE REMOVED OR CRUSHED IN PLACE AND BACKFILLED AND APPROVED BY THE SOILS ENGINEER

8 THE ENGINEERING GEOLOGIST AND SOILS ENGINEER SHALL, AFTER CLEARING AND PRIOR TO THE PLACEMENT OF FILL IN CANYONS, INSPECT EACH CANYON FOR AREAS OF ADVERSE STABILITY AND DETERMINE THE PRESENCE OF, OR POSSIBILITY OF FUTURE ACCUMULATION OF, SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, DRAINS WILL BE DESIGNED AND CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN EACH RESPECTIVE CANYON

9 THE EXACT LOCATION OF THE SUBDRAINS SHALL BE SURVEYED IN THE FIELD FOR LINE AND GRADE

10 ALL TRENCH BACKFILLS SHALL BE COMPACTED THROUGHOUT TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION, AND APPROVED BY THE SOILS ENGINEER. THE BUILDING DEPARTMENT MAY REQUIRE CORING OF CONCRETE FLAT WORK PLACED OVER UNTESTED BACKFILLS TO FACILITATE TESTING

11 THE STOCKPILING OF EXCESS MATERIAL SHALL BE APPROVED BY THE CITY GRADING ENGINEER

12 LANDSCAPING OF ALL SLOPES AND PADS SHALL BE IN ACCORDANCE WITH CHAPTER 15 OF THE NBMC

13 ALL CUT SLOPES SHALL BE INVESTIGATED BOTH DURING AND AFTER GRADING BY AN ENGINEERING GEOLOGIST TO DETERMINE IF ANY STABILITY PROBLEM EXISTS. SHOULD EXCAVATION DISCLOSE ANY GEOLOGICAL HAZARDS OR POTENTIAL GEOLOGICAL HAZARDS, THE ENGINEERING GEOLOGIST SHALL RECOMMEND AND SUBMIT NECESSARY TREATMENT TO THE CITY GRADING ENGINEER FOR APPROVAL

14 WHERE SUPPORT OR BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE ENGINEERING GEOLOGIST AND SOILS ENGINEER, THE SOILS ENGINEER WILL OBTAIN APPROVAL OF DESIGN, LOCATION AND CALCULATION FROM THE CITY GRADING ENGINEER PRIOR TO CONSTRUCTION

15 THE ENGINEERING GEOLOGIST AND SOILS ENGINEER SHALL INSPECT AND TEST THE CONSTRUCTION OF ALL BUTTRESS FILLS AND ATTEST TO THE STABILITY OF THE SLOPE AND ADJACENT STRUCTURES UPON COMPLETION

16 WHEN CUT PADS ARE BROUGHT TO NEAR GRADE THE ENGINEERING GEOLOGIST SHALL DETERMINE IF THE BEDROCK IS EXTENSIVELY FRACTURED OR FAULTED AND WILL READILY TRANSMIT WATER. IF CONSIDERED NECESSARY BY THE ENGINEERING GEOLOGIST AND SOILS ENGINEER, A COMPACTED FILL BLANKET WILL BE PLACED

17 THE ENGINEERING GEOLOGIST SHALL PERFORM PERIODIC INSPECTIONS DURING GRADING

18 NOTIFICATION OF NONCOMPLIANCE. IF, IN THE COURSE OF FULFILLING THEIR RESPONSIBILITY, THE CIVIL ENGINEER, THE SOILS ENGINEER, THE ENGINEERING GEOLOGIST OR THE TESTING AGENCY FINDS THAT THE WORK IS NOT BEING DONE IN CONFORMANCE WITH THE APPROVED GRADING PLANS, THE DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE PERSON IN CHARGE OF THE GRADING WORK AND TO THE CITY GRADING ENGINEER. RECOMMENDATIONS FOR CORRECTIVE MEASURES, IF NECESSARY, SHALL BE SUBMITTED TO THE CITY GRADING ENGINEER FOR APPROVAL

DOCUMENTATION:

1 AN AS-BUILT GRADING PLAN SHALL BE PREPARED BY THE CIVIL ENGINEER INCLUDING ORIGINAL GROUND SURFACE ELEVATIONS, AS-GRADED GROUND SURFACE ELEVATIONS, LOT DRAINAGE PATTERNS AND LOCATIONS, AND ELEVATIONS OF ALL SURFACE AND SUBSURFACE DRAINAGE FACILITIES. HE SHALL PROVIDE WRITTEN APPROVAL THAT THE WORK WAS DONE IN ACCORDANCE WITH THE FINAL APPROVED GRADING PLAN AND STATE THE NUMBER OF YARDS OF CUT AND/OR FILL MOVED DURING THE OPERATION

2 A SOILS GRADING REPORT PREPARED BY THE SOILS ENGINEER, INCLUDING LOCATIONS AND ELEVATION OF FIELD DENSITY TESTS, SUMMARIES OF FIELD AND LABORATORY RESULTS AND OTHER SUBSTANTIATED DATA AND COMMENTS ON ANY CHANGES MADE DURING GRADING AND THEIR EFFECT ON THE RECOMMENDATIONS MADE IN THE SOILS ENGINEERING INVESTIGATION REPORT. HE SHALL PROVIDE WRITTEN APPROVAL AS TO THE ADEQUACY OF THE SITE OF THE INTENDED USE AND COMPLETION OF WORK IN ACCORDANCE WITH THE JOB SPECIFICATIONS

3 A GEOLOGIC GRADING REPORT PREPARED BY THE ENGINEERING GEOLOGIST, INCLUDING A FINAL DESCRIPTION OF THE GEOLOGY OF THE SITE, INCLUDING ANY NEW INFORMATION DISCLOSED DURING THE GRADING AND THE EFFECT OF SAME ON RECOMMENDATIONS INCORPORATED IN THE APPROVED GRADING PLAN. HE SHALL PROVIDE WRITTEN APPROVAL AS TO THE ADEQUACY OF THE SITE FOR THE INTENDED USE AS AFFECTED BY GEOLOGIC FACTORS

LEGEND:

AC - ASPHALT CONCRETE
BLDG - BUILDING
BW - BACK OF WALK
CB - CATCH BASIN
CF - CURB FACE
CONC - CONCRETE
EG - EDGE OF GUTTER
EXIST - EXISTING
FF - FINISHED FLOOR
FL - FLOW LINE
FS - FINISHED SURFACE
GB - GRADE BREAK
WM - WATER METER
HP - HIGH POINT
INV - INVERT
PB - PULL BOX
PA - PLANTER AREA
R - RIDGE LINE
MH - MANHOLE
PCC - PORTLAND CEMENT CONCRETE
PP - POWER POLE
RD - ROOF DRAIN
SD - STORM DRAIN
SMH - SEWER MANHOLE
ST - STREET
TB - TOP OF BERM
TC - TOP OF CURB
TEL - TELEPHONE
TG - TOP OF GRATE
TRW - TOP OF RETAINING WALL
SCO - SEWER CLEANOUT
P/L - PROPERTY LINE
C/L - CENTERLINE
WV - WATERVALVE
ICV - IRRIGATION CONTROL VALVE
PIP - POUR IN PLACE
DAYLIGHT
FH - FIRE HYDRANT
RPB - REDUCED PRESSURE BACKFLOW ASSEMBLY
WM - WATER METER
DDC - DOUBLE DETECTOR CHECK
PIV - POST INDICATOR VALVE
FDC - FIRE DEPARTMENT CONNECTION
FR - FIRE RISER

EARTHWORK:

EXCAVATION/ CUT (PURE VOLUME)	4400 C.Y.
OVEREXCAVATION (1' IN PAVED AREAS) 1980 C.Y. (3' UNDER BUILDING) 480 C.Y.	2360 C.Y.
SHRINKAGE (ASSUMED 10%)	670 C.Y.
EMBANKMENT/ FILL (PURE VOLUME)	3320 C.Y.
SUBSIDENCE (ASSUMED 0.10' OVER ENTIRE SITE)	410 C.Y.
IMPORT/ EXPORT	0 C.Y.

NOTES: 1 THE ABOVE QUANTITIES DO NOT INCLUDE ANY TRENCHING OR FOOTING SPOIL. THEY ARE ENGINEER'S ESTIMATE AND ARE FOR PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE INDEPENDENT ESTIMATE FOR BIDDING AND CONTRACT PURPOSES

2 REFER TO SHEET C-3 FOR TYPICAL FOUNDATION SECTION

CONSTRUCTION NOTES & QUANTITY ESTIMATE:

NO	DESCRIPTION	QUANTITY	UNIT
	GRADING		
* 1	CONSTRUCT 4" D.G. A.C. / 5" A.B. / 12" COMPACTED SUBGRADE (DRIVE AISLES)	[illegible]	SF
* 1a	CONSTRUCT 4" D.G. A.C. / 5" A.B. / 12" COMPACTED SUBGRADE (PARKING AREAS)	[illegible]	SF
1b	CONSTRUCT VARIABLE THICKNESS A.C. OVERLAY	240	SF
2	CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2	485	LF
2a	CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2	350	LF
2b	CONSTRUCT 0" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2	940	LF
3	CONSTRUCT 6" C.F. P.C.C. CURB AND GUTTER PER DETAIL ON SHEET C-2	325	LF
4	CONSTRUCT GRAVEL GUTTER (RIPPER PLAN) PER DETAIL ON SHEET C-2	875	SF
5	CONSTRUCT 4" THICK CONCRETE HARDSCAPE/ 2" SAND PER LANDSCAPE ARCHITECT'S PLANS	6,606	SF
6	CONSTRUCT GRAVITY RETAINING WALL PER LANDSCAPE ARCHITECT'S PLANS	470	LF
7	CONSTRUCT CURB ACCESS RAMP PER DETAIL ON SHEET C-2	1	EA
8	CONSTRUCT TEMPORARY 2" x 6" REDWOOD HEADER	215	LF
** 9	CONSTRUCT TRASH ENCLOSURE PER ARCHITECT'S PLANS	1	EA
10	REMOVE EXISTING RANCH RAILING AND RELOCATE PER SECTION B-B ON SHEET C-5	75	LF
11	CONSTRUCT BOARDWALK PER LANDSCAPE ARCHITECT'S PLANS	2,670	SF
12	ADJUST EXISTING SEWER MANHOLE TO FINISH GRADE	1	EA
13	INSTALL GRAVEL PER LANDSCAPE ARCHITECT'S PLANS	5,565	SF
14	PROTECT IN PLACE		
15	INSTALL WHEEL STOP PER ARCHITECT'S PLANS	3	EA
	STORM DRAIN		
20	CONSTRUCT 9" x 9" N.D.S. SQUARE GRATE INCL. REQUIRED FITTINGS PER DETAIL ON SHEET C-2 (FINISH PER LANDSCAPE ARCHITECT'S PLANS)	19	EA
21	CONSTRUCT 4" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS	390	LF
22	CONSTRUCT 6" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS	780	LF
23	CONSTRUCT 8" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS	215	LF
24	CONSTRUCT STORM DRAIN CLEANOUT	5	EA
25	PROVIDE DIRECT CONNECTION BETWEEN DOWN SPOUT AND THE STORM DRAIN SYSTEM	12	EA
26	CONSTRUCT FRENCH DRAIN PER DETAIL ON SHEET C-2	30	LF
	SEWER		
30	CONNECT PROPOSED SEWER LINE TO EXISTING SEWAGE RECEPTOR	1	EA
31	CONSTRUCT 6" VCP SEWER LINE, PIPE BEDDING AND TRENCHING PER CITY OF NEWPORT STD-105-L & STD-106-L	135	LF
32	CONSTRUCT 4" VCP SEWER LATERAL (FLAT WYE CONNECTION) INCL. REQUIRED FITTINGS PER CITY OF NEWPORT BEACH STD-405-L & STD-406-L, PIPE BEDDING AND TRENCHING PER CITY OF NEWPORT BEACH STD-105-L & STD-106-L	185	LF
33	CONSTRUCT SEWER CLEANOUT PER CITY OF NEWPORT BEACH STD-400-L	4	EA
34	CONSTRUCT 8" PVC SLEEVE FOR FUTURE SEWER CONNECTION	30	LF
	WATER		
40	REMOVE TEMPORARY PLUG AND CONNECT TO EXISTING 6" A.C.P. (CL 200) WATER LINE WITH APPROPRIATE FITTINGS INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A, PIPE BEDDING & TRENCH BACKFILL PER CITY OF NEWPORT STD-105-L & STD-106-L	1	EA
41	REMOVE EXISTING WATER METER AND ABANDON SERVICE AT WATER MAIN	3	EA
42	ABANDON/ REMOVE EXISTING SERVICE LINE IN PLACE	500	LF
43	PROTECT EXISTING FIRE HYDRANT IN PLACE	1	EA
44	CONNECT TO EXISTING SERVICE LINE	1	EA
45	CONSTRUCT 6" PVC C-900 (CL 200) WATER LINE	855	LF
46	CONSTRUCT 6" 45° BEND INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A	1	EA
47	CONSTRUCT 6" 90° BEND INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A	3	EA
48	CONSTRUCT 6" x 6" x 6" TEE INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A	2	EA
49	CONSTRUCT FIRE HYDRANT PER CITY OF NEWPORT BEACH STD-501-L	1	EA
50	CONSTRUCT 2 1/2" PVC WATER LINE (SCH 40) INCL. REQUIRED FITTINGS AND THRUST RESTRAINTS PER CITY OF NEWPORT BEACH STD-510-L-A	805	LF
51	CONSTRUCT RISER INCLUDING THRUST BLOCKS PER CITY OF NEWPORT BEACH STD-510-L-A TO 6" ABOVE F.F. DUCTILE IRON WATERLINE SHALL BE CONSTRUCTED WITHIN 5' OF BLDG. FOOTING	3	EA
52	CONSTRUCT 2" WATER SERVICE PER CITY OF NEWPORT STD-503-L INCLUDING METER BOX	2	EA
53	CONSTRUCT 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY PER CITY OF NEWPORT BEACH STD-520-L	2	EA
54	CONSTRUCT 6" R.F. VALVE PER CITY OF NEWPORT BEACH STD-508-L	1	EA
55	CONSTRUCT 6" DOUBLE CHECK DETECTOR BACKFLOW PREVENTION ASSEMBLY PER CITY OF NEWPORT BEACH STD-517-L	1	EA
56	CONSTRUCT 2-WAY FIRE DEPARTMENT CONNECTION (FDC) PER O.C.F.A. REQUIREMENTS INCL. REQUIRED FITTINGS AND THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A	1	EA
57	CONSTRUCT 6" POST INDICATOR VALVE (PIV) PER O.C.F.A. REQUIREMENTS	2	EA
58	INSTALL TEMPORARY PLUG	2	EA
	SIGNING AND STRIPING		
70	INSTALL REFLECTIVE R99 SIGN	3	EA
71	INSTALL PARKING STALL STRIPING PER CITY OF NEWPORT BEACH STD-805-L-A AND STD-805-L-B AND PER DETAIL ON SHEET C-7 & C-8	1,010	LF
72	INSTALL HANDICAPPED PARKING STALL STRIPING PER CITY OF NEWPORT BEACH STD-805-L-A AND STD-805-L-B AND PER DETAIL ON SHEET C-7	270	LF

NOTES:
* PAVEMENT SECTIONS ARE TO BE VERIFIED BY R-VALUE TEST ALONG WITH SOILS ENGINEER'S RECOMMENDATIONS AT TIME OF GRADING, OR MINIMUM GRADING CODE REQUIREMENTS
** ALL FENCES, WALLS, AND OTHER DETACHED OR ATTACHED STRUCTURES EXCEEDING 42 INCHES IN HEIGHT REQUIRE SEPARATE BUILDING PERMITS

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THIS PLAN ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR, AND THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS"

THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS' AND SUBCONTRACTORS' COMPLIANCE WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR OR WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS"

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER

NOTE:
EXPOSED BOTTOM SURFACES IN EACH REMOVAL AREA SHOULD BE OBSERVED AND APPROVED BY THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO PLACING FILL

NOTE:
SURVEYOR OR ENGINEER SHALL MONUMENT PROPERTY CORNER BEFORE STARTING GRADING, EITHER WITH PERMANENT OR TEMPORARY 3 FT LONG 1/2" DIA. METAL ROD DRIVEN INTO THE GROUND TO NEAR FLUSH AND MARKED WITH PAINT

UNAUTHORIZED CHANGES AND USES:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS

COASTAL COMMISSION
EXHIBIT # 6
PAGE 1 OF 4

PROGRESS PRINT

REF			
DATE	BY	DESCRIPTION	APP'D
REVISIONS			

APPROVED DATE ____ APPROVED DATE ____ APPROVED DATE ____

WALDEN & ASSOCIATES — CIVIL ENGINEERS, PLANNERS, LAND SURVEYORS

DESIGNED BA
CHECKED DB
DRAWN BA
DATE 10/15/03

RON YEO, FAIA ARCHITECT, INC.

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

TITLE SHEET
PRECISE GRADING PLAN

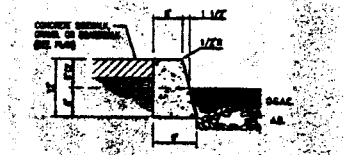
CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

C-1

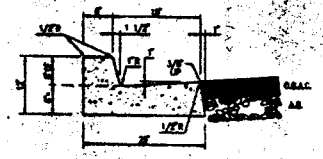
COASTAL COMMISSION

EXHIBIT # 6

PAGE 2 OF 4

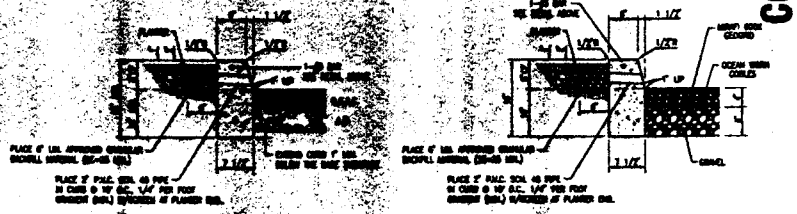


2 6" C.F. CONCRETE CURB DETAIL



3 6"C.F. CONCRETE CURB AND GUTTER DETAIL

REINFORCEMENT DETAIL



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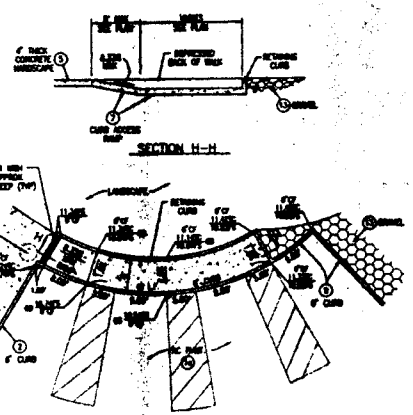
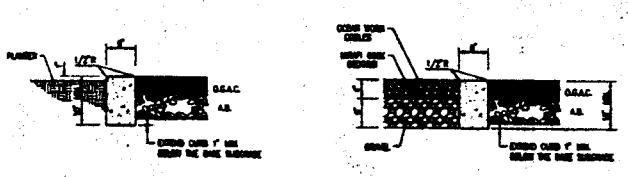


SECTION H-H

7 CURB ACCESS DETAIL



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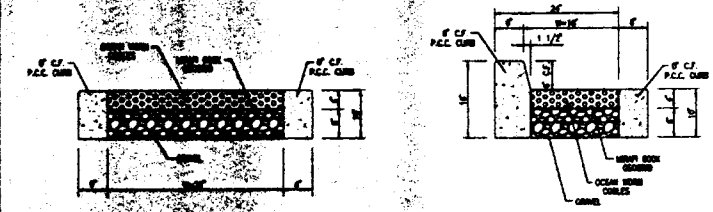
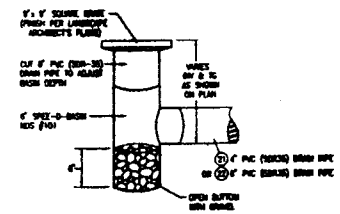
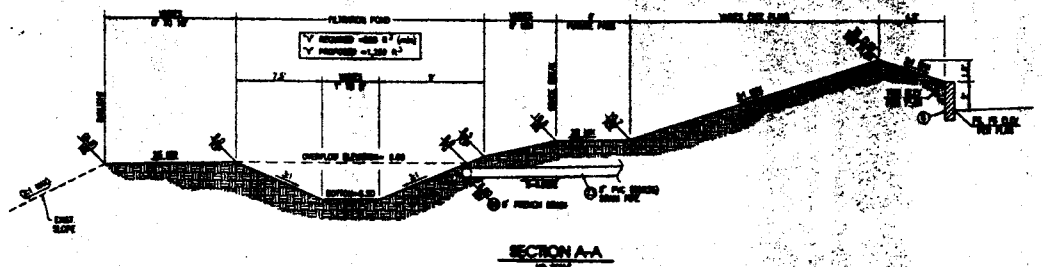


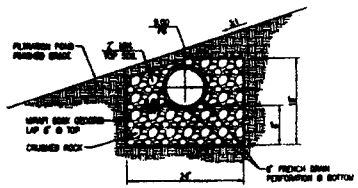
4 GRAVEL GUTTER DETAIL



20 9"x 9" N.D.S. SQUARE GRATE DETAIL



SECTION A-A



26 FRENCH DRAIN DETAIL

CONSTRUCTION NOTES:

- (1) CONSTRUCT 4" O.S.A.C./ 6" A.B./ 12" COMPACTED SUBGRADE (BIKE AISLES).
- (1) CONSTRUCT 6" O.S.A.C./ 6" A.B./ 12" COMPACTED SUBGRADE (PARKING AREAS).
- (2) CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL HEREON.
- (2a) CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL HEREON.
- (2b) CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL HEREON.
- (3) CONSTRUCT 6" C.F. P.C.C. CURB AND GUTTER PER DETAIL HEREON.
- (4) CONSTRUCT GRAVEL GUTTER (9-INCH FLAN) PER DETAIL HEREON.
- (5) CONSTRUCT 4" THICK CONCRETE HARDSCAPE/ 1" SAND PER LANDSCAPE ARCHITECT'S PLANS.
- (6) CONSTRUCT GRANITE RETAINING WALL PER LANDSCAPE ARCHITECT'S PLANS.
- (7) CONSTRUCT CURB ACCESS RAMP PER DETAIL HEREON.
- (8) REMOVE EXISTING ENRICH BALANCE AND RELOCATE PER SECTION H-H HEREON.
- (9) ADJUST EXISTING SEWER MANHOLE TO FINISH GRADE.
- (10) INSTALL GRAVEL PER LANDSCAPE ARCHITECT'S PLANS.
- (20) CONSTRUCT 9" x 9" N.D.S. SQUARE GRATE INCL. REQUIRED FITTINGS PER DETAIL HEREON (FINISH PER LANDSCAPE ARCHITECT'S PLANS).
- (21) CONSTRUCT 4" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
- (22) CONSTRUCT 6" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
- (23) CONSTRUCT 8" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
- (26) CONSTRUCT FRENCH DRAIN PER DETAIL HEREON.

DEC 0 5 2003

* FRENCH SECTIONS ARE TO BE VERIFIED BY R-VALUE TEST ALONG WITH SOILS ENGINEERS RECOMMENDATIONS AT TIME OF GRADING.

PROGRESS PRINT

NO.	DATE	BY	DESCRIPTION	APPD.
			REVISIONS	

APPROVED _____ DATE _____

APPROVED _____ DATE _____

APPROVED _____ DATE _____

WALDEN & ASSOCIATES

DESIGNED BA
DRAWN DB
CHECKED BA
DATE 10/15/03

ARMEL PAGE ARCHITECT, INC.

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

DETAIL SHEET
PRECISE GRADING PLAN

C-2

PLAN NO. 5-4491-5

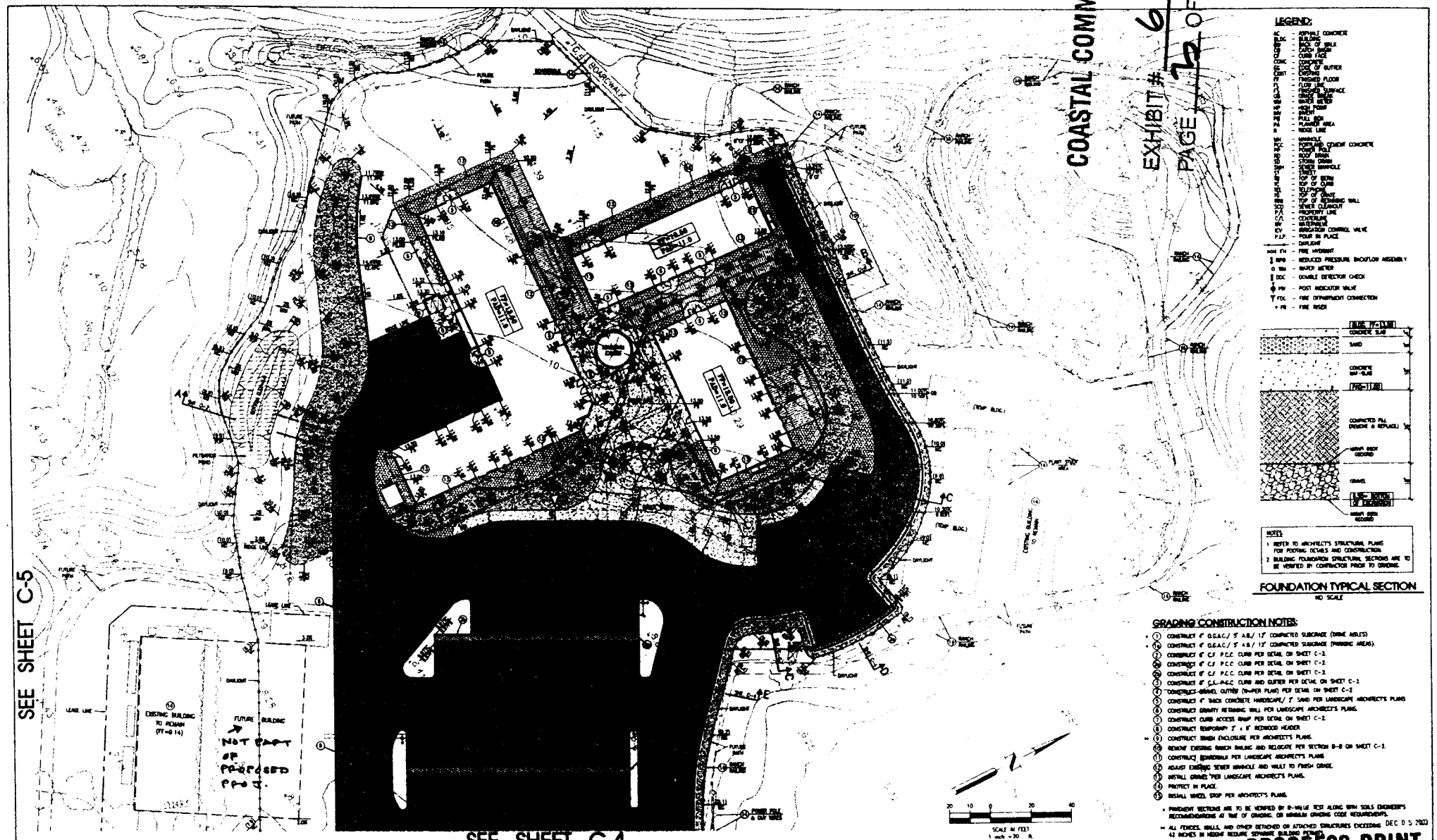
CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

SHEET X OF X

COASTAL COMMISSION

EXHIBIT # 6

PAGE 3 OF 4



PROGRESS PRINT

DEC 05 2003

REF	DATE	BY	DESCRIPTION	APPD.
			REVISIONS	

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APPROVED — DATE

APPROVED — DATE

WALDEN & ASSOCIATES
CIVIL ENGINEERING PLANNING LAND SURVEYING

DESIGNED DB
CHECKED DB
DRAWN JS
DATE 9/23/03

RON YEO, FAIA ARCHITECT, INC.

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

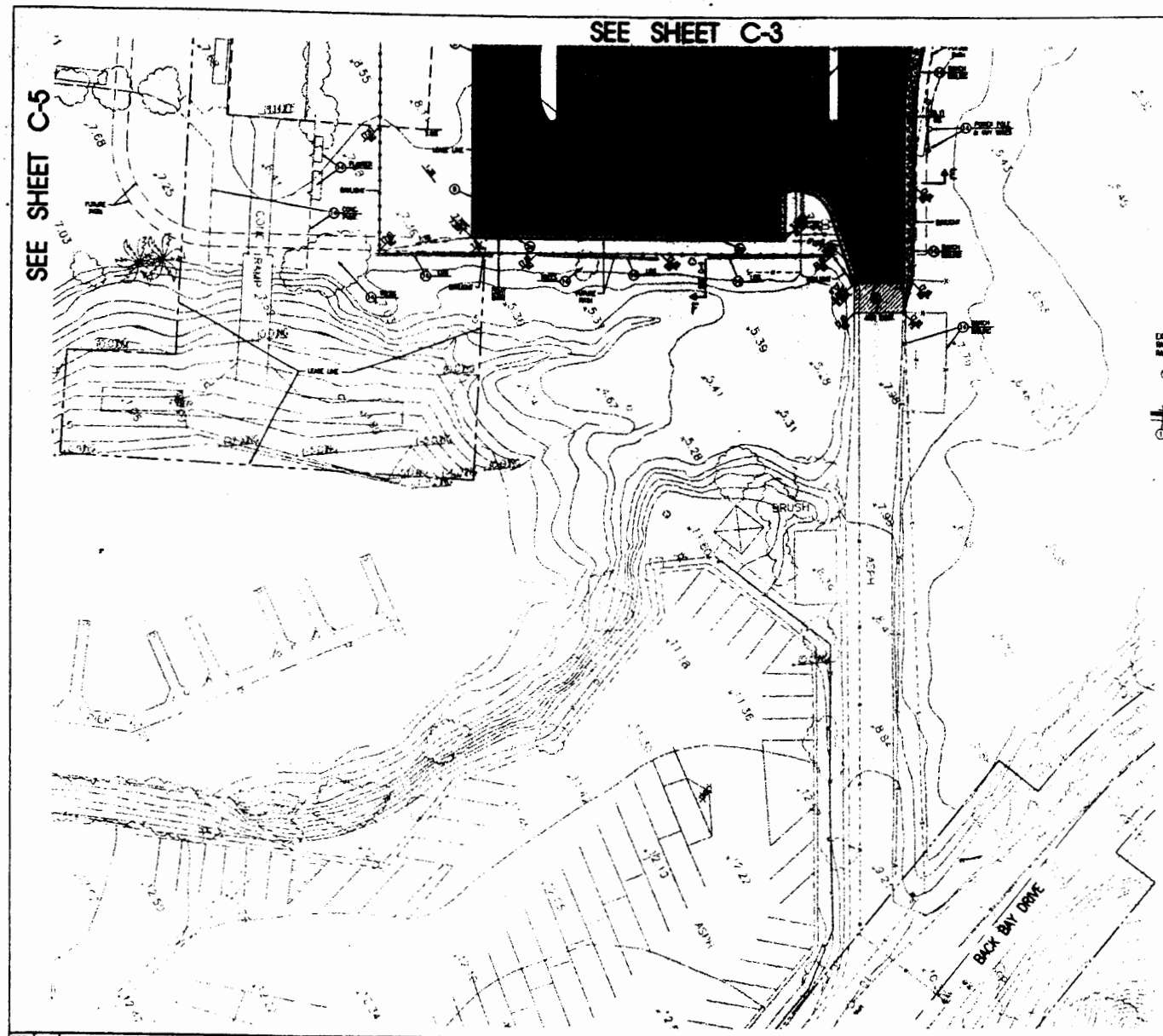
PRECISE GRADING PLAN

C-3

PLAN NO. B-5181-8

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

SHEET X OF X



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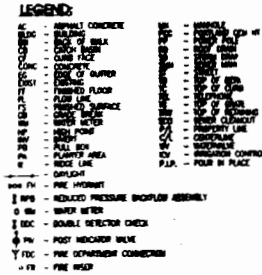
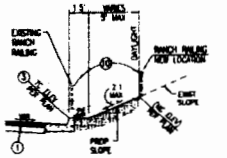
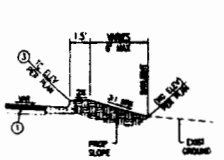




SECTION B-B
SEE PLAN VIEW ON SHEET C-3
NO SCALE



SECTION C-C
SEE PLAN VIEW ON SHEET C-3
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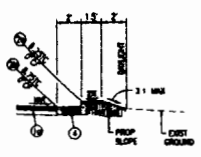
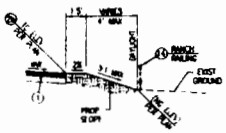
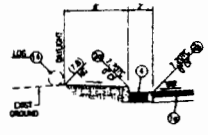


SECTION D-D
SEE PLAN VIEW ON SHEET C-3
NO SCALE



SECTION E-E
SEE PLAN VIEW ON SHEET C-3 & HEREON
NO SCALE

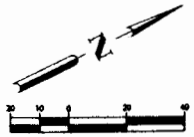


SECTION F-F
SEE PLAN VIEW HEREON
NO SCALE

GRADING CONSTRUCTION NOTES:

- (1) CONSTRUCT 4" CLASS 2 AB/ 12" COMPACTED SUBGRADE (DRIVE AISLES)
- (2) CONSTRUCT 4" CLASS 2 AB/ 12" COMPACTED SUBGRADE (PARKING AREAS)
- (3) CONSTRUCT VARIABLE THICKNESS A.C. OVERLAY
- (4) CONSTRUCT 6" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2.
- (5) CONSTRUCT 8" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2
- (6) CONSTRUCT 0" C.F. P.C.C. CURB PER DETAIL ON SHEET C-2
- (7) CONSTRUCT 6" C.F. P.C.C. CURB AND GUTTER PER DETAIL ON SHEET C-2
- (8) CONSTRUCT GRAVEL GUTTER (8"-PER PLAN) PER DETAIL ON SHEET C-2
- (9) CONSTRUCT 4" THICK CONCRETE HARDSCAPE/ 3" SAND PER LANDSCAPE ARCHITECT'S PLANS
- (10) CONSTRUCT CRIMPTY RETAINING WALL PER LANDSCAPE ARCHITECT'S PLANS
- (11) CONSTRUCT TEMPORARY 3" x 6" REDWOOD HEADER
- (12) REMOVE EXISTING RANCH BAILING AND RELOCATE PER SECTION B-B ON SHEET C-2
- (13) PROTECT IN PLACE

* PAVEMENT SECTIONS ARE TO BE VERIFIED BY R-VALUE TEST ALONG WITH SOILS ENGINEER'S RECOMMENDATIONS AT TIME OF GRADING, OR MINIMUM GRADING CODE REQUIREMENTS.



DEC 0 5 2003

PROGRESS PRINT

REF	DATE	BY	DESCRIPTION	APPD
			REVISIONS	

APPROVED ____ DATE ____
APPROVED ____ DATE ____
APPROVED ____ DATE ____

ALDEN & ASSOCIATES
CIVIL ENGINEERING PLANNING LAND SURVEYING
[redacted]

DESIGNED DB
CHECKED DB
DRAWN JS
DATE 9/23/03

ROSS VIDO, PAAA ARCHITECT, INC.
[redacted]

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

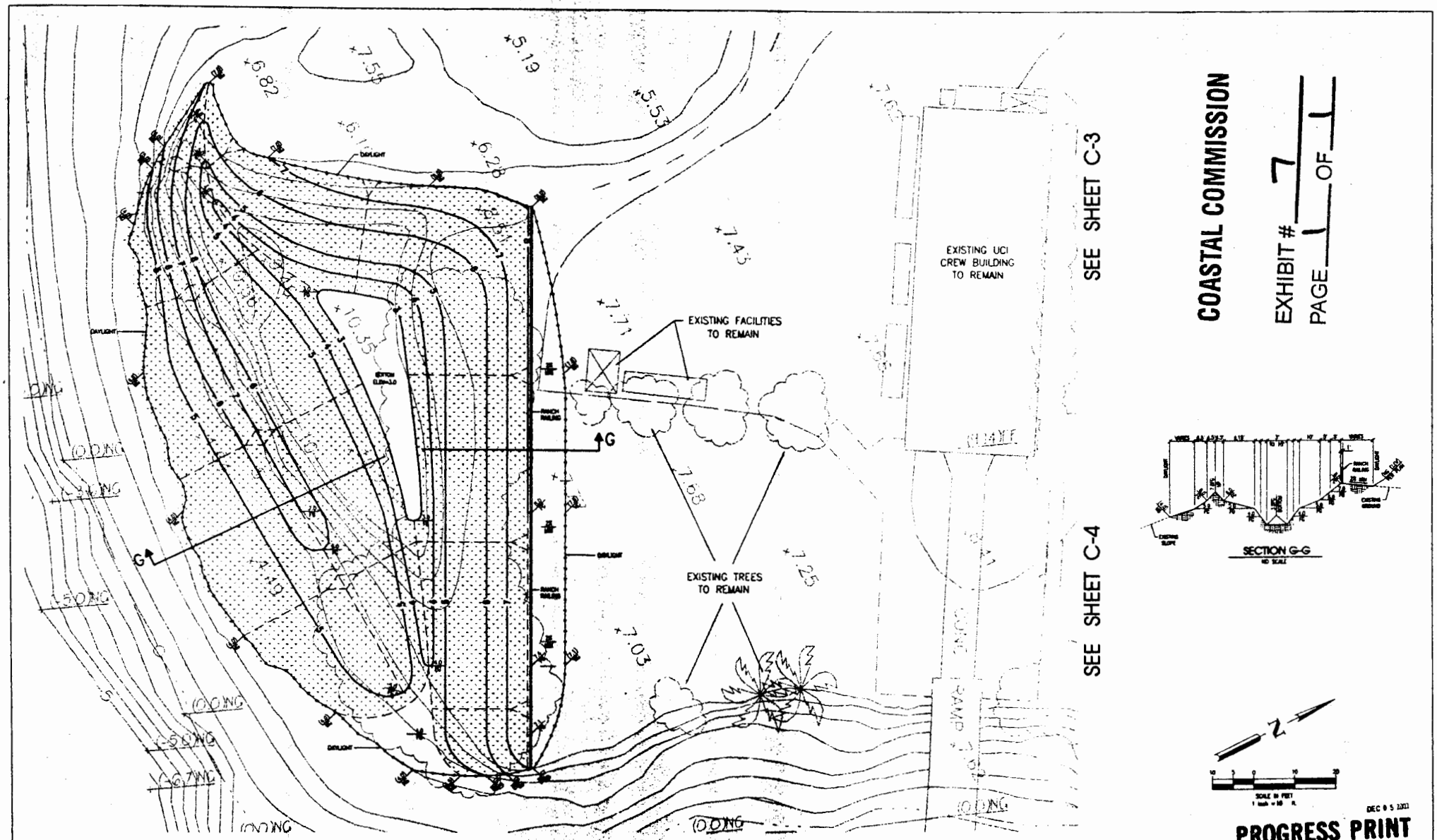
PRECISE GRADING PLAN

C-4

PLAN NO B-1181-6

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

SHEET X OF X



COASTAL COMMISSION

EXHIBIT # 7

PAGE 1 OF 1

DEC 9 5 2011

PROGRESS PRINT

REVISIONS			APPROVED	APPROVED	APPROVED
DATE	BY	DESCRIPTION	APPD.	DATE	DATE	DATE

ALDEN & ASSOCIATES

DESIGNED
DRAWN
CHECKED
DATE 9/23/03

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

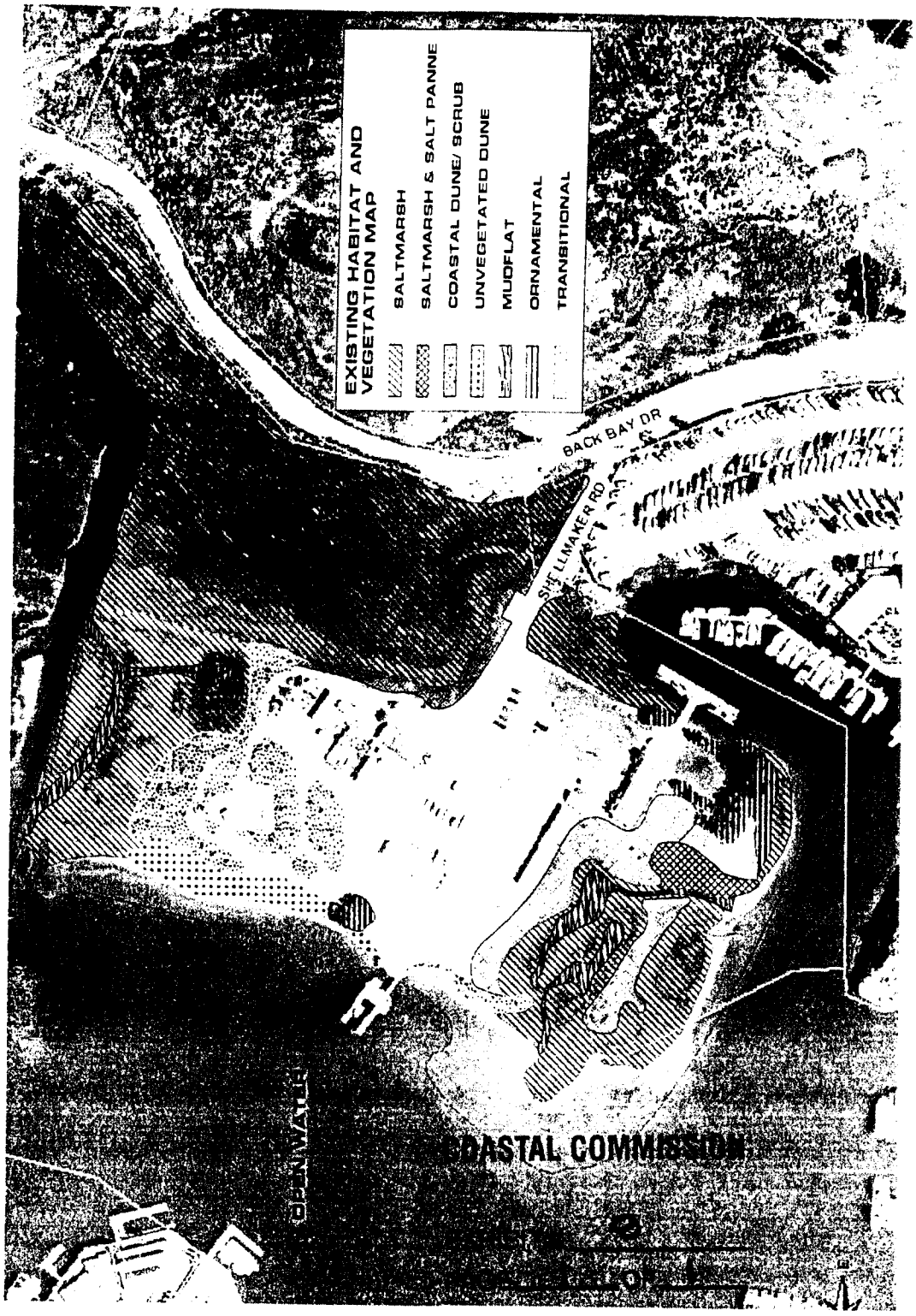
SALT MARSH
DEMONSTRATION AREA

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

C-5

PLAN NO. 9-5151-D

EXHIBIT C-IV.1
VEGITATION PLAN

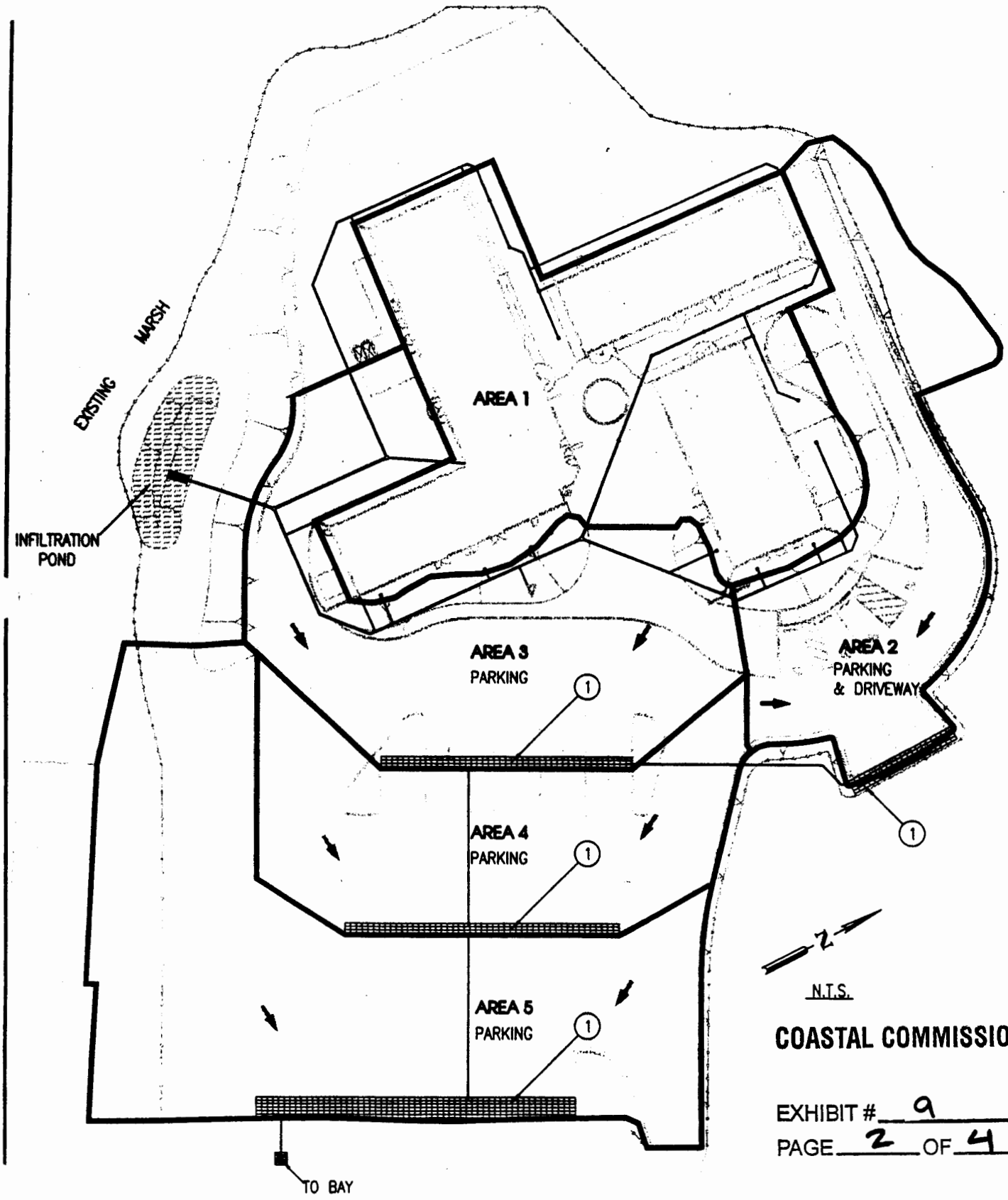


Section III Site Description

The site is located in the Upper Newport Bay Ecological Reserve within the City of Newport Beach. The site address is 600 Shellmaker, Newport Beach and is approximately 2.83 acres in size. The site is within the Newport Bay Watershed.

Area 1, as shown on the following drainage exhibit, drains to a detention/infiltration pond on site. This pond is designed to detain and percolate run-off from Area 1 with overflow going to the existing marsh area and bay. Areas 2 through 5 drain through a cobblestone layer, filter fabric layer, a gravel layer, another filter fabric layer and then into the Atlantis D-Raintank systems located in each of the parking areas. The combined layers serve to filter out debris and sediment prior to the run-off entering the Raintank systems. The Raintanks provide water storage during rain events, are interconnected for capacity sharing and eventually drain through an outlet to the Bay. The units have been sized to accommodate the anticipated first flush storm event.

EXHIBIT III-I
DRAINAGE EXHIBIT

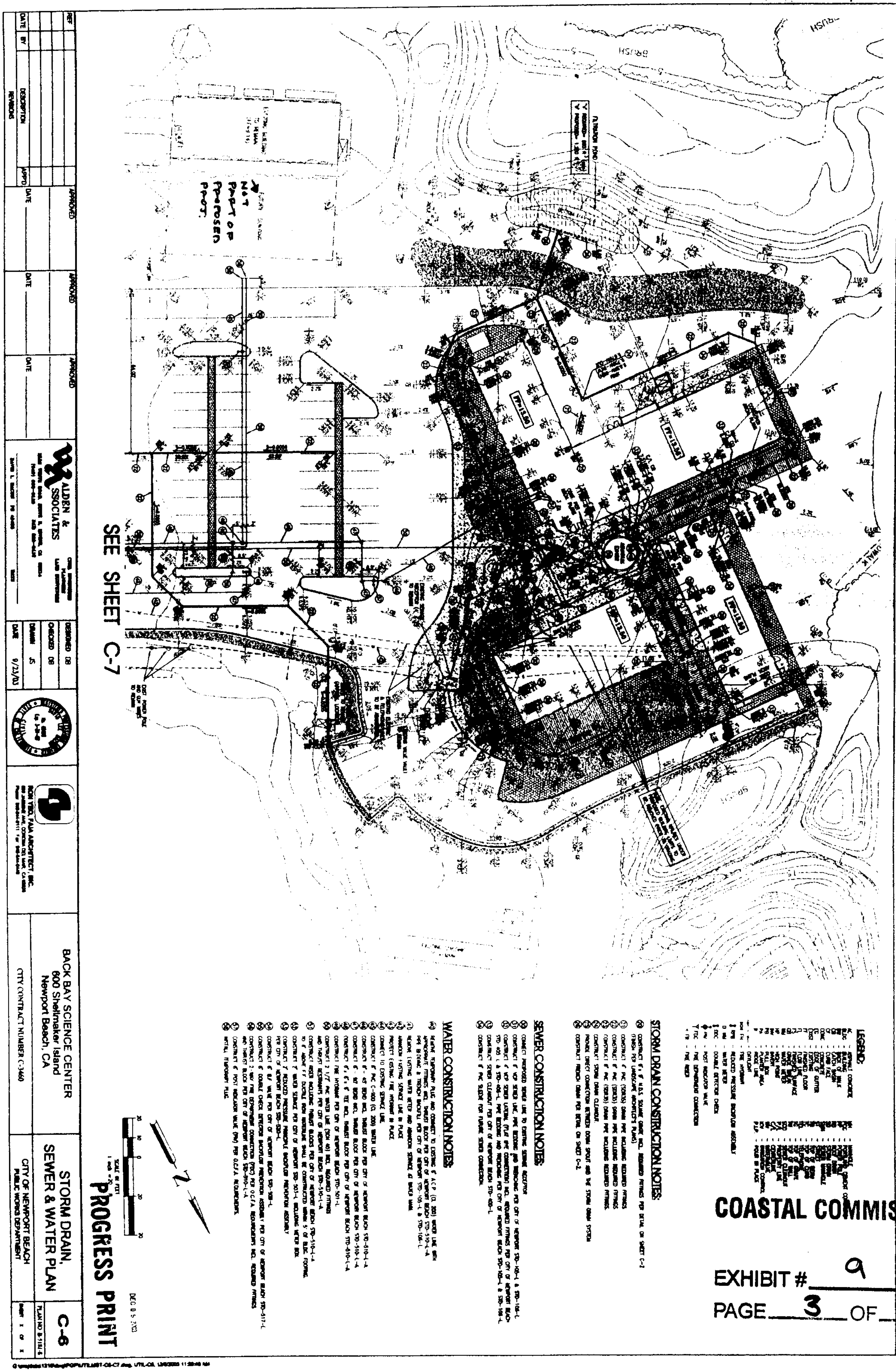


N.T.S.

COASTAL COMMISSION

EXHIBIT # 9
PAGE 2 OF 4

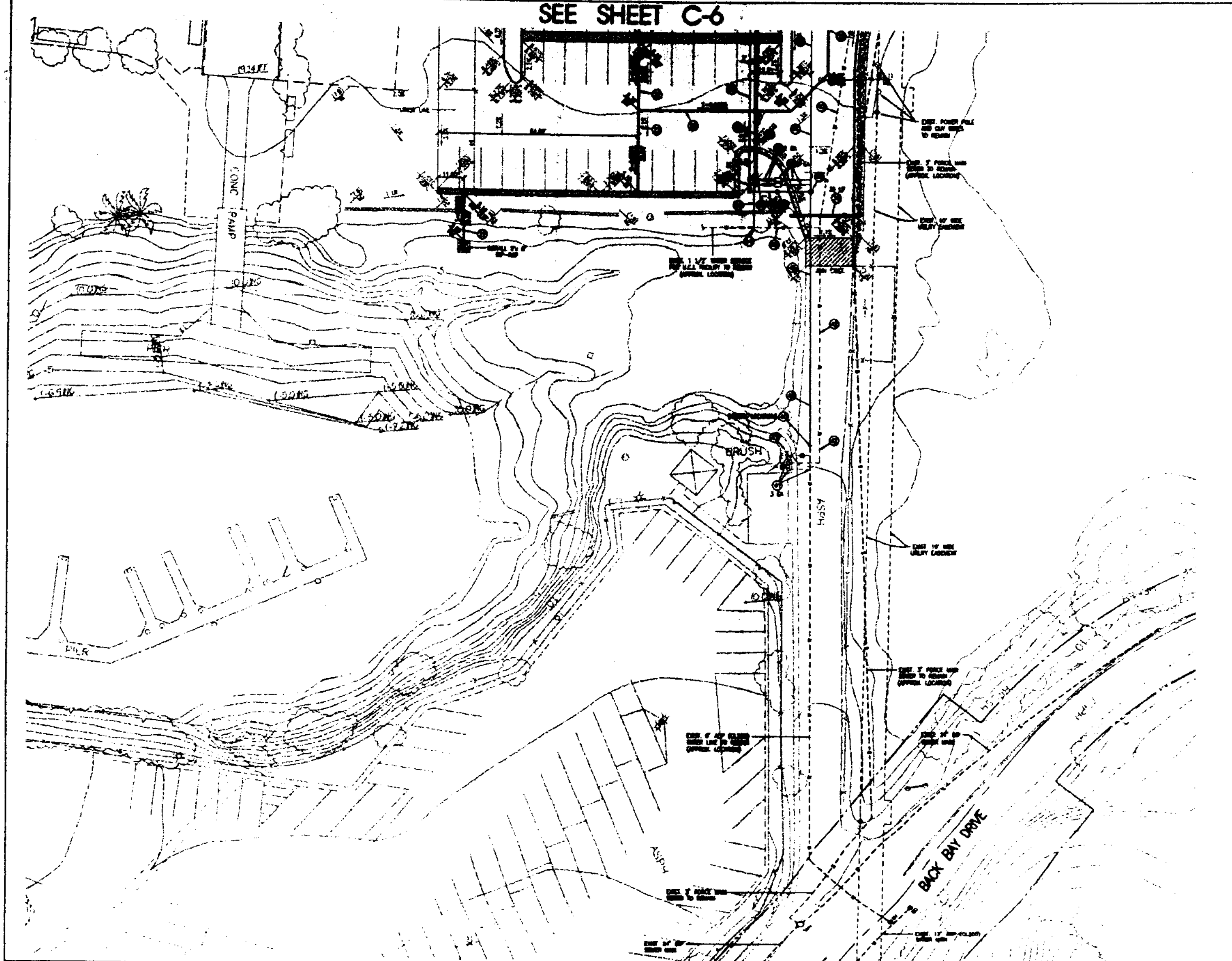
(1) ATLANTIS D-RAINTANK SYSTEM WITH FILTER COVER



COASTAL COMMISSION

EXHIBIT # 9

PAGE 3 OF 4



COASTAL COMMISSION

EXHIBIT # 9

PAGE 4 OF 4

LEGEND:

STORM DRAIN CONSTRUCTION NOTES:

(20) CONSTRUCT 8" x 8" N.D.S. SQUARE GRATE INCL. REQUIRED FITTINGS PER DETAIL ON SHEET C-2 (FINISH PER LANDSCAPE ARCHITECT'S PLANS).
(21) CONSTRUCT 4" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
(22) CONSTRUCT 6" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
(23) CONSTRUCT 8" PVC (SDR35) DRAIN PIPE INCLUDING REQUIRED FITTINGS.
(24) CONSTRUCT STORM DRAIN CLEANOUT.
(25) PROVIDE DIRECT CONNECTION BETWEEN DOWN SPOUT AND THE STORM DRAIN SYSTEM.
(26) CONSTRUCT FRENCH DRAIN PER DETAIL ON SHEET C-8.

SEWER CONSTRUCTION NOTES:

(30) CONNECT PROPOSED SEWER LINE TO EXISTING SEWAGE RECEPTOR.
(31) CONSTRUCT 6" VCP SEWER LINE, PIPE BEDDING AND TRENCHING PER CITY OF NEWPORT STD-105-L & STD-108-L
(32) CONSTRUCT 4" VCP SEWER LATERAL (FLAT WYE CONNECTION) INCL. REQUIRED FITTINGS PER CITY OF NEWPORT BEACH STD-405-L & STD-406-L, PIPE BEDDING AND TRENCHING PER CITY OF NEWPORT BEACH STD-105-L & STD-108-L
(33) CONSTRUCT SEWER CLEANOUT PER CITY OF NEWPORT BEACH STD-400-L
(34) CONSTRUCT 6" PVC SLEEVE FOR FUTURE SEWER CONNECTION.

WATER CONSTRUCTION NOTES:

(40) REMOVE TEMPORARY PLUG AND CONNECT TO EXISTING 8" A.C.P. (CL 200) WATER LINE WITH APPROPRIATE FITTINGS INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A PIPE BEDDING & TRENCH BACKFILL PER CITY OF NEWPORT STD-105-L & STD-108-L
(41) REMOVE EXISTING WATER METER AND ABANDON SERVICE AT WATER MAIN.
(42) ABANDON EXISTING SERVICE LINE IN PLACE.
(43) PROTECT EXISTING FIRE HYDRANT IN PLACE.
(44) CONNECT TO EXISTING SERVICE LINE.
(45) CONSTRUCT 8" PVC C-900 (CL 200) WATER LINE
(46) CONSTRUCT 8" - 45° BEND INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A
(47) CONSTRUCT 8" - 90° BEND INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A
(48) CONSTRUCT 8" x 8" x 8" TEE INCL. THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A
(49) CONSTRUCT FIRE HYDRANT PER CITY OF NEWPORT BEACH STD-501-L
(50) CONSTRUCT 2 1/2" PVC WATER LINE (SCH 40) INCL. REQUIRED FITTINGS AND THRUST RESTRAINTS PER CITY OF NEWPORT BEACH STD-510-L-A
(51) CONSTRUCT RISER INCLUDING THRUST BLOCKS PER CITY OF NEWPORT BEACH STD-510-L-A TO 6" ABOVE F.F. DUCTILE IRON WATERLINE SHALL BE CONSTRUCTED WITHIN 5' OF BLDG. FOOTING.
(52) CONSTRUCT 2" WATER SERVICE PER CITY OF NEWPORT STD-503-L INCLUDING METER BOX.
(53) CONSTRUCT 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY PER CITY OF NEWPORT BEACH STD-520-L
(54) CONSTRUCT 6" B.F. VALVE PER CITY OF NEWPORT BEACH STD-500-L
(55) CONSTRUCT 6" DOUBLE CHECK DETECTOR BACKFLOW PREVENTION ASSEMBLY PER CITY OF NEWPORT BEACH STD-517-L
(56) CONSTRUCT 2-WAY FIRE DEPARTMENT CONNECTION (FDC) PER O.C.F.A. REQUIREMENTS INCL. REQUIRED FITTINGS AND THRUST BLOCK PER CITY OF NEWPORT BEACH STD-510-L-A
(57) CONSTRUCT 6" POST INDICATOR VALVE (PIV) PER O.C.F.A. REQUIREMENTS.
(58) INSTALL TEMPORARY PLUG

SCALE IN FEET

PROGRESS PRINT

REF.			APPROVED	APPROVED	APPROVED
DATE	BY	DESCRIPTION / REVISIONS	APP'D	DATE	DATE	DATE

ALDEN & ASSOCIATES

DESIGNED DB
CHECKED DB
DRAWN JS
DATE 9/23/03

RON YEO, FAIA ARCHITECT, INC.

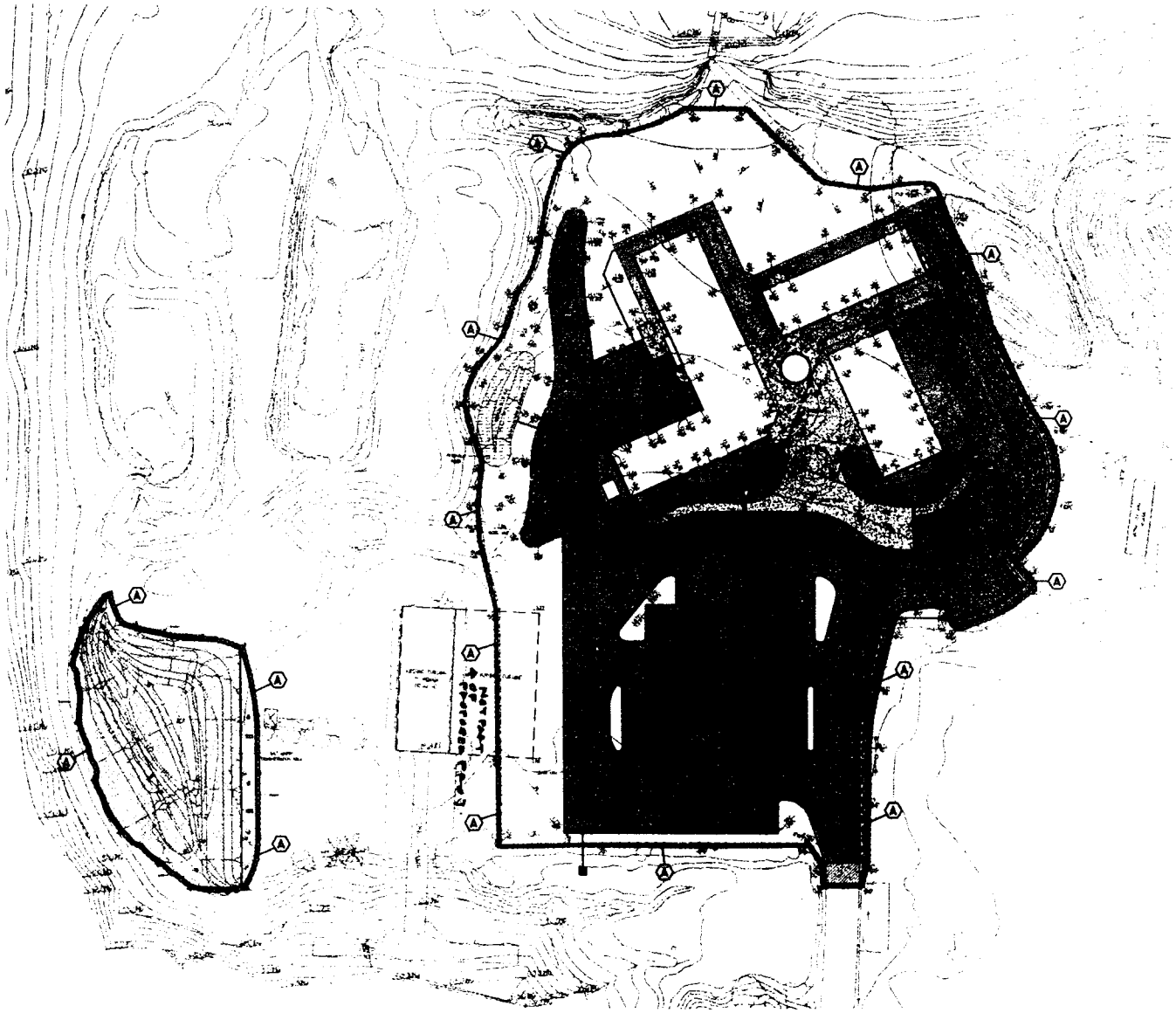
BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

STORM DRAIN, SEWER & WATER PLAN

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

C-7



AQMD NOTES:

1. SIGNS SHALL BE POSTED ALONG THE PROJECT FRONTAGE, AT A MINIMUM OF 250 FT SPACING, STATING FOR GRADING OR DUST CONCERNS PLEASE CALL _____ AT _____ AND AQMD (800) CUT SMOG.
2. ALL EXCAVATION AND DUST CONTROL TO BE IN ACCORDANCE WITH THE CITY OF HUNTINGTON BEACH SPECIFICATIONS AND AQMD RULE 403.

SAND BAGS

FLOW

A SAND BAG DETAIL
NO SCALE

EROSION CONTROL CONSTRUCTION NOTE:

(A) INSTALL DOUBLE LAYER SANDBAGS PER DETAIL HEREON.

NOTE:
THIS PLAN IS INTENDED FOR EROSION CONTROL PURPOSES ONLY. REFER TO PRECISE GRADING PLAN FOR GRADING & PAVING CONSTRUCTION.

EROSION CONTROL GENERAL NOTES:

1. EROSION CONTROL IS REQUIRED FOR GRADING OPERATIONS DURING "DRY SEASON" REQUIREMENTS (MAY 15 THROUGH OCTOBER 15) AND FOR "WET SEASON" REQUIREMENTS (OCTOBER 15 THROUGH MAY 15). APPROVED PLANS ARE REQUIRED FOR ALL GRADING OPERATIONS.
2. THERE SHALL BE A "WEATHER FREQUENCY" ACTION PLAN AND THE ABILITY TO DEPLOY STANDBY EROSION CONTROL DEVICES AS NEEDED TO PROTECT ALL EXPOSED PORTIONS OF THE SITE WITHIN 48 HOURS OF A PREDICTED STORM EVENT (A PREDICTED STORM EVENT IS DEFINED AS A NATIONAL WEATHER SERVICE FORECASTED 50% CHANCE OF RAIN).
3. DEVICES SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE CITY ENGINEER.
4. ALL REASONABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
5. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS, SILT FENCES, AND DESILTING BASINS, ETC.
6. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
8. THE CITY ENGINEER RESERVES THE RIGHT TO MAKE CHANGES OR MODIFICATIONS TO THIS PLAN AS DEEMED NECESSARY.
9. AUTHORIZATION OF THIS PLAN IS FOR EROSION CONTROL ONLY. ALL GRADE INFORMATION IS SUBJECT TO CHANGE.
10. AREAS SHALL BE MAINTAINED IN SUCH A STATE THAT FIRE ACCESS SHALL BE MAINTAINED AT ALL TIMES.
11. NO OBSTRUCTION OR DISTURBANCE OF NATURAL DRAINAGE COURSES OR ONSITE STORM DRAIN INLETS SHALL OCCUR DURING THE "WET SEASON", UNLESS ADEQUATE TEMPORARY/PERMANENT DRAINAGE FACILITIES HAVE BEEN APPROVED AND INSTALLED TO CARRY SURFACE WATER TO THE NEAREST PRACTICAL STREET, STORM DRAIN OR NATURAL DRAIN COURSE.
12. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER THAT STORM RUNOFF WILL BE CONTAINED WITHIN THE PROJECT OR CHANNELED INTO THE STORM DRAIN SYSTEM WHICH SERVES THE RUNOFF AREA. STORM RUNOFF FROM ONE AREA SHALL NOT BE ALLOWED TO DIVERT TO ANOTHER RUNOFF AREA.
13. CONFORMANCE WITH THE REQUIREMENTS OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TO THIS SITE AND ADJACENT PROPERTIES. TEMPORARY EROSION CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT.
14. CLEARING AND GRUBBING SHOULD BE LIMITED TO AREAS THAT WILL RECEIVE IMMEDIATE GRADING. EROSION CONTROL MEASURES WILL BE REQUIRED TO PROTECT AREAS THAT HAVE BEEN CLEARED AND GRUBBED PRIOR TO GRADING OPERATION, AND THAT ARE SUBJECT TO RUNOFF DURING THE PERIOD FROM THE BEGINNING OF THE "WET SEASON".
THESE MEASURES MAY INCLUDE BUT SHALL NOT BE LIMITED TO: GRADED BENCHES, BRUSH BARRIERS AND SILT FENCES. CARE SHALL BE EXERCISED TO PRESERVE VEGETATION BEYOND THE LIMITS OF GRADING.
15. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. UPON REQUEST THE REQUIRED PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

COASTAL COMMISSION

EXHIBIT # 10

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30 15 0 30 60
SCALE IN FEET
1 inch = 30 ft.

DEC 0 5 2003

PROGRESS PRINT

REF	DATE	BY	DESCRIPTION	APP'D
			REVISIONS	

APPROVED _____ DATE _____
APPROVED _____ DATE _____
APPROVED _____ DATE _____

ALDEN & ASSOCIATES
CIVIL ENGINEERING PLANNING LAND SURVEYING

DESIGNED DB
CHECKED DB
DRAWN JS
DATE 9/23/03

RON YEO, FAIA ARCHITECT, INC.

BACK BAY SCIENCE CENTER
600 Shellmaker Island
Newport Beach, CA

CITY CONTRACT NUMBER C-3460

EROSION CONTROL PLAN

C-10

PLAN NO. B-5181-6

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

SHEET 1 OF 1

Preliminary Plans

BACK BAY SCIENCE CENTER

SHELLMAKER ISLAND, NEWPORT BEACH, CA

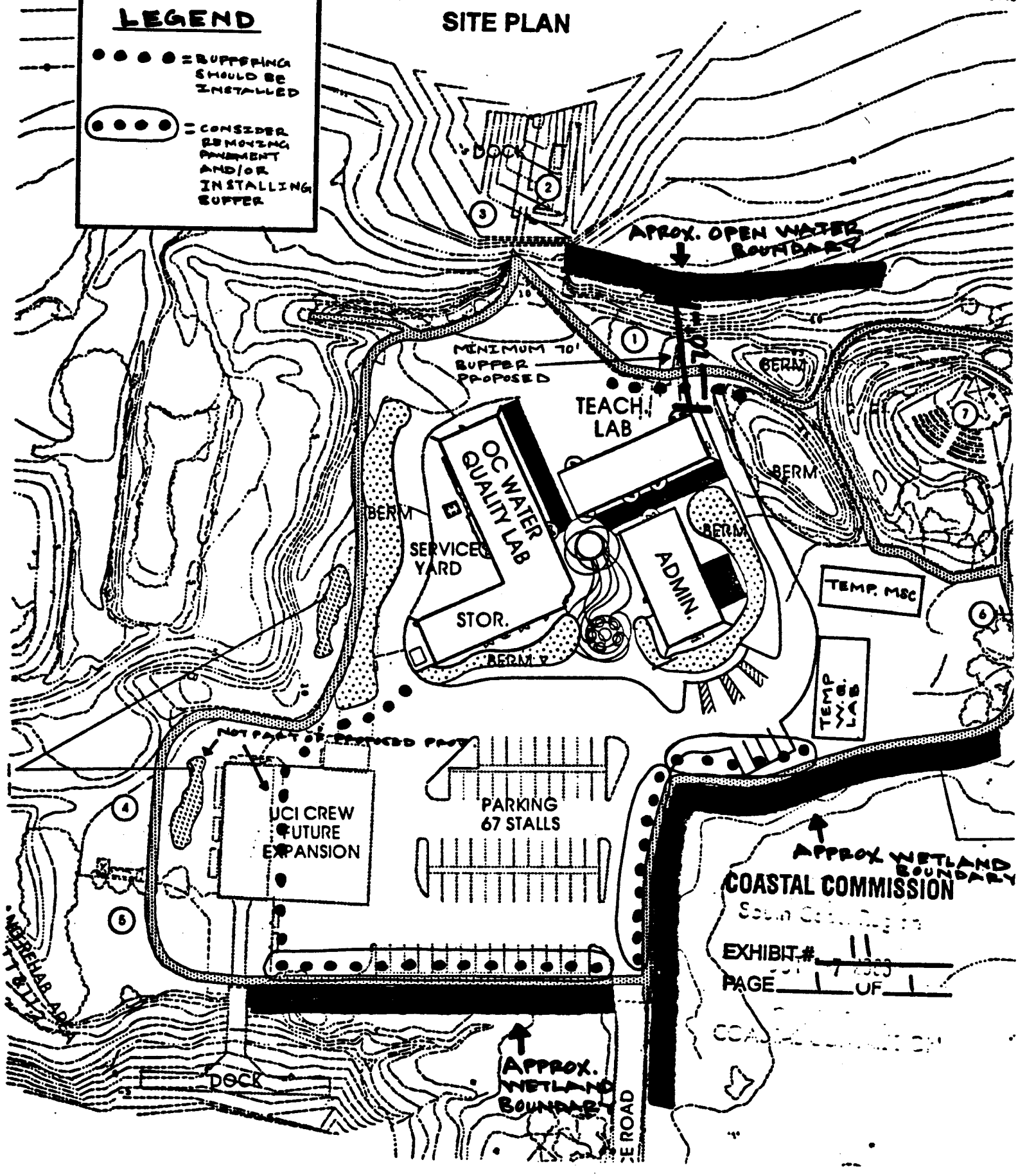
5-09-451

RON YEO, FAIA ARCHITECT, INC. 500 JASMINE AVENUE CORONA DEL MAR, CALIFORNIA 92625 PHONE: (949) 644-8111 FAX 644-0449

SITE PLAN

LEGEND

- = BUFFERING SHOULD BE INSTALLED
- = CONSIDER REMOVING PAVEMENT AND/OR INSTALLING BUFFER



COASTAL COMMISSION

EXHIBIT # 11

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