

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
(831) 427-4863

Th10e**RECORD PACKET COPY**

Filed: 4/25/2002
49th day: 6/13/2002
180th day: 10/22/2002
Staff: D.Carl
Staff report prepared: 5/23/2002
Hearing date: 6/13/02
Hearing item number: Th10e

COASTAL DEVELOPMENT PERMIT APPLICATION

Application number3-01-111, Pelican Point Riverwall

Applicant.....Pelican Point Homeowners Association

Project location.....Zmudowski State Beach at the mouth of the Pajaro River, at the downcoast end of the Pajaro Dunes residential community located at the confluence of the Pajaro River, Watsonville Slough, and the Monterey Bay in the southernmost reach of unincorporated Santa Cruz County.

Project descriptionInstall a driven sheet-pile metal wall along roughly 715 linear feet of the Pajaro River and Watsonville Slough sides of the Pelican Point condominium portion of the Pajaro Dunes residential development.

File documents.....Coastal Commission Coastal Development Permit (CDP) Files 3-81-105 and A-3-SCO-84-059, and Emergency Permit File 3-91-028-G; Santa Cruz County CDP Files 87-0644 and 99-0620; Santa Cruz County Certified Local Coastal Program (LCP); California Coastal Commission Monterey Bay ReCAP.

Staff recommendation ...Approval with Conditions

Summary: The Pelican Point condominiums are part of the larger Pajaro Dunes residential community that is a pre-Proposition 20/pre-Coastal Act development that exists on a former sand spit dune located between the Watsonville Slough, the Pajaro River, and the Monterey Bay in south Santa Cruz County. These large 3 and 4 story condominium structures are supported on piles embedded in the former dune sands and are separated from the river/slough areas by an existing wooden pile and lagging wall (also pre-dating coastal permit requirements) that is located along the Applicant's property line. The existing wooden wall has been supplemented over the years with rip-rap and sandbags for which CDPs have not been identified. The urbanized back beach shoreline development at Pajaro Dunes/Pelican Point is an anomaly inasmuch as surrounding land use in this area of the coastal zone consists entirely of coastal agricultural fields with minimal structures extending miles in all directions.

The Applicant proposes to install a driven sheet pile wall to prevent river erosion and scour, to retain inland fill, and ultimately to protect the Pelican Point condominium structures from potential river/ocean storm scour events. The proposed sheet pile wall would be installed on the river/slough side of the existing wooden wall, which was not constructed to adequate depth to prevent against extreme scour

**California Coastal Commission****June Meeting in Long Beach**Staff: D.Carl Approved by: **DSL**

3-01-111 (Pelican Point Riverwall) strfpt 6.13.2002.doc

events. The proposed sheet pile wall construction area is entirely within an environmentally sensitive habitat area (ESHA) as defined by the Coastal Act, and is also located within a significant public access, recreation, and viewshed area; the majority of the project site is located within the Zmudowski State Beach unit of the California State Park system, and is otherwise located within a natural area where the Watsonville Slough meets the Pajaro River rivermouth sand spit.

The project as proposed would both temporally (i.e., during construction) and permanently displace and otherwise disrupt significant ESHA and public access within Zmudowski State Beach, the Pajaro River and Watsonville Slough. It would also have long term adverse impacts on the public viewshed and shoreline sand supply dynamics. Responsibility for managing the risks to existing development at this dynamic River/Slough/Ocean interface are unclear. The project as proposed is inconsistent with the resource protective policies of the Coastal Act.

Because of its fundamental inconsistencies with the Act, Staff considered recommending denial of the proposed project altogether. However, based on the fact that the pre-Prop. 20/pre-Coastal Act wooden wall has effectively hardened the shoreline edge at this location, and to avoid future episodes of more substantive, and potentially emergency, armoring at this location, Staff believes that the best public policy and planning approach at the current juncture is to provide for a replacement wall project in lieu of a series of piecemeal and/or emergency projects (and in lieu of potentially more substantial armoring in the future as a result) provided that Coastal Act inconsistencies could be avoided to the maximum extent feasible.

Towards this end, Staff has explored various alternatives with the Applicant to address the Coastal Act inconsistencies with the project as proposed. Staff's preferred option, where the project would be confined on the Applicant's property (outside of the ESHA and public access areas), was deemed infeasible by the Applicant's engineer and the Commission's senior coastal engineer due to construction difficulties deriving from the fact that the condominium units were constructed on a sand spit with an inadequate setback of roughly 10 feet from the property line (and the Pajaro River), and because the Applicant has placed large amounts of rip-rap without CDPs.

Staff has concluded that the most Coastal Act consistent feasible project with which to construct a replacement sheetpile wall would be a project that provides for a sheetpile wall that is constructed primarily inland of the existing wooden wall with two limited exception areas (where the presence of the rip-rap and the narrow setback necessitates placing the wall on the river side of the existing wall). Such a project has the same set of significant resource impacts, but reduces the footprint on the river side of the wall to the minimum degree feasible, thus reducing this impact. To mitigate for project impacts, all areas on the river/slough side of the replacement wall, and an area of the Applicant's property immediately north of the subject site containing Watsonville Slough uplands, would be protected by easements and/or other dedications and restored to high quality habitat. In this way, the sheetpile wall project can be considered a repair/restoration project inasmuch as it would be correcting a pre-Coastal Act anomaly to the degree feasible, reclaiming a portion of the former sand spit dune area currently devoted to urban uses, while at the same time providing for modifications to the existing wall concept to correct design inadequacies relating to actual scour events at this dynamic location, thus simultaneously meeting the



Applicant's project objectives. Other requirements are designed to ensure that adequate long term screening, monitoring, and maintenance are included, and that the Applicant assumes all risks for developing in light of the known hazards present at this precarious location, including a prohibition on any future expansion of structures toward the river/slough.

As so conditioned, Staff recommends approval.

Staff Report Contents

	page
I. Staff Recommendation on CDP Application.....	3
II. Conditions of Approval.....	4
A. Standard Conditions.....	4
B. Special Conditions	4
III. Findings and Declarations.....	11
A. Project Location and Background.....	11
B. Project Description.....	13
C. Coastal Development Permit Determination	14
IV. Exhibits	
Exhibit A: Project Location and Photos	
Exhibit B: Proposed Project Description Summary	
Exhibit C: Proposed Project Plans	
Exhibit D: Existing Rip-Rap Detail and Alternative Project Design	
Exhibit E: Approval Details	

I. Staff Recommendation on CDP Application

The staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development subject to the standard and special conditions below.

Motion. I move that the Commission approve Coastal Development Permit Number 3-01-111 pursuant to the staff recommendation.

Staff Recommendation of Approval. Staff recommends a **YES** vote. Passage of this motion will result in approval of the coastal development 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 a Coastal Development Permit. The Commission hereby approves the coastal development permit on the grounds that the development as conditioned, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the coastal



development 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 feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the development on the environment.

II. Conditions of Approval

A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

1. **Revised Sheetpile Wall Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit Revised Sheetpile Wall Plans to the Executive Director for review and approval. The Revised Sheetpile Wall Plans shall be substantially in conformance with the plans submitted to the Coastal Commission (*Pelican Riverwall Repair Plan* by Haro, Kasunich and Associates Inc. dated received in the Coastal Commission's Central Coast District Office January 25, 2002) but shall show the following changes to the project:
 - (a) **Undulating Wall.** The sheetpile wall shall be located in the alignment identified in the March 22, 2002 Haro, Kasunich and Associates Inc. letter report and identified as "Undulating Wall Concept 21 March 2002" (see exhibit D). For the two locations where the sheetpile wall would



be placed on the Pajaro River side of the existing wood pier and lagging wall (at Pelican Point condominium buildings B and C), the Revised Sheetpile Wall Plans shall indicate that the sheetpile wall shall be installed as close as possible to the existing wood wall, shall extend the minimum length necessary on the river side of the wall, and in no case shall its face extend more than five feet south of the location of the face of the existing concrete whaler beam. The wall may be constructed on the Pajaro River side of the existing wood pier and lagging wall in the area labeled as "Exception Area" on page 1 of exhibit E (i.e., that area nearest the existing revetment and stairway).

- (b) **Removal of Structures on the Pajaro River/Watsonville Slough Side of the Undulating Wall.** The Revised Sheetpile Wall Plans shall provide for the removal of the existing wood pier and lagging wall, and the removal of all rip-rap, sand bags, and other associated structures from the Pajaro River/Watsonville Slough side of the undulating sheetpile wall location. The Revised Sheetpile Wall Plans shall indicate that rip-rap and sand bags may be used to back fill on the inland (condominium) side of the sheetpile wall, but that all other structures removed, including any rip-rap or sand bags not used for back fill purposes, shall be removed off-site and appropriately disposed of.
- (c) **Construction Time Frame.** The Revised Sheetpile Wall Plans shall indicate that construction staging and preparation may commence on the inland (condominium) side of the existing wood pier and lagging wall in the locations identified as necessary, but that construction activities on the river/slough side of the existing wood pier and lagging wall shall be limited to between September 15th and December 15th inclusive. All construction debris and materials shall be removed in their entirety from the river/slough side the existing wood pier and lagging wall and/or the sheetpile wall by December 15th.
- (d) **Notification.** The Revised Sheetpile Wall Plans shall indicate that the Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least 3 days prior to commencement of any construction activities on the river/slough side of the existing wood pier and lagging wall, and immediately after all construction debris and materials have been removed in their entirety from the beach (on or before December 15th).

The Permittee shall undertake development in accordance with the approved Revised Sheetpile Wall Plans. Any proposed changes to the approved Revised Sheetpile Wall Plans shall be reported to the Executive Director. No changes to the approved Revised Sheetpile Wall Plans shall occur without a Commission amendment to coastal development permit 3-01-111 unless the Executive Director determines that no amendment is necessary.

2. **Revised Restoration Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit a Revised Restoration Plan to the Executive Director for review and approval. The Revised Restoration Plan shall be substantially in conformance with the revegetation plans submitted to the Coastal Commission (*Revegetation Plan for the Pelican Riverwall Repair Project* by Elkhorn Native Plant Nursery dated January 11, 2002) but shall show



the following changes to the Plan:

- (a) **Expanded Restoration Area Adjacent to Sheetpile Wall.** The Revised Restoration Plan shall provide for high quality dune and slough restoration of all areas located on the Pajaro River/Watsonville Slough side of the revised undulating sheetpile wall location (identified in the approved Revised Sheetpile Wall Plans per Special Condition 1 above); see page 2 of exhibit E for graphic depiction of this area.
- (b) **Expanded Restoration Area Adjacent to Watsonville Slough.** The Revised Restoration Plan shall provide for high quality wetland/upland restoration and habitat enhancement in the area north of the sheetpile wall as shown on page 2 of exhibit E. All invasive non-natives shall be removed from this area, and significant trees shall be retained.
- (c) **Coastal Strand.** The Coastal Strand restoration planting shall be planted as plugs, and not with a seed mix to ensure a higher level of success for this restoration component.
- (d) **Cascading Vegetation.** The planter box plant species mix previously specified for the upper planted box area (and intended to cascade over the top of the wall towards the river/slough) shall be supplemented with appropriate native species endemic to the Pajaro River Lagoon area and that are known to provide trailing vegetation capable of cascading a minimum of five feet on the river/slough side of the sheetpile wall. Such plantings shall be kept in good growing condition and replaced as necessary to maintain the minimum five feet of screening over the life of the project.
- (e) **Reference Plots.** High quality reference plots shall be identified, and baseline conditions within them provided, for each of the different type of plant communities being restored pursuant to the plan. The reference plots shall then be used as the control for the success criteria established.
- (f) **Interim Success Criteria.** Interim success criteria for years 1 through 4 shall be established based upon making appropriate progress towards achieving the year 5 success criteria already identified. Years, as used in this context, shall be measured from the date that initial planting is completed.
- (g) **Signage and Trails.** The Plan shall provide for the placement of informative signage inland of the restoration areas (i.e., on the condominium side of the restoration areas) that identify the restoration areas, provide information about the restoration areas, prohibit domestic animals, and minimize pedestrian access through the restoration areas. Any pedestrian access trails shall be identified in the Plan and shall be: limited to the area north of the sheetpile wall (and prohibited otherwise); limited to those absolutely necessary for providing necessary through access; minimized in width and length; and sensitively designed (i.e., boardwalks).
- (h) **Monitoring.** The monitoring section of the Plan shall be supplemented to indicate as follows:

All restoration planting areas shall be monitored and maintained by a qualified coastal



dune/wetland biologist to achieve the required minimum performance standards. Monitoring of the restoration shall include both quantitative and qualitative evaluation. At the least, quantitative assessment shall record plant density and relative composition, native plant cover percentages, and the general amount of exotic vegetation remaining. At the least, qualitative assessment shall describe the general health and vitality of the restored vegetation.

On a quarterly basis (as calculated from the initial planting complete date), all restoration areas shall be inspected and monitored by a qualified coastal dune/wetland biologist. Such quarterly monitoring is meant to be an overview of site restoration conditions within which any minor remedial maintenance actions are to be initiated as necessary to achieve required minimum performance standards. All quarterly monitoring observations and maintenance actions shall be recorded. Photo documentation shall be provided.

On an annual basis (as calculated from the initial planting complete date), the site shall be rigorously inspected and monitored by a qualified coastal biologist. Such annual monitoring meant to provide an exacting basis for measuring compliance with the required minimum performance standards, and implementing appropriate maintenance response as necessary. Monitoring results shall be compared against the identified reference plots to measure success.

- (i) **Monitoring Reports.** The reporting section of the Plan shall be supplemented to indicate as follows:

Reports of all restoration monitoring (that clearly describe all quarterly and annual monitoring, maintenance, and remedial activities and observations) shall be prepared annually by a qualified coastal dune/wetland biologist. The annual reports shall be submitted no later than September 15th of each year for the review and approval of the Executive Director. The annual reports shall be submitted until it has been confirmed in writing by of the Executive Director that all success criteria have been achieved; at a minimum, at least five such annual reports shall be submitted.

If any annual report should identify a failure to meet any of the minimum success criteria, or a failure to meet any other standards consistent with current professional dune and slough restoration standards, the report shall include appropriate recommendations for remedial measures for achieving these minimum standards. Each approved monitoring report shall provide for a list of the remedial measures, if any, that are to be implemented and a timeline for their implementation. Such remedial measures shall be undertaken as directed by the approved monitoring report. All reports shall be signed and dated.

- (j) **Maintenance.** The Plan shall make clear that all maintenance shall be conducted by a qualified coastal dune/wetland restoration specialist.
- (k) **Timing and Phasing.** The Plan may provide for phased restoration as different components of the sheetpile wall are installed. Such phasing shall follow the order in which the wall is to be installed (i.e., working from the Watsonville Slough area towards the Monterey Bay). In addition,



restoration of the area adjacent to Watsonville Slough north of the construction area (as identified above in this condition), can commence concurrently with construction of the sheetpile wall because it is located out of the limits of work for the sheetpile wall. At a minimum, the restoration of the area adjacent to Watsonville Slough north of the construction area shall be initially planted prior to December 15, 2003. At a minimum, any area for which the sheetpile wall has been installed by December 15, 2003 shall have both the area on the river/slough side of such completed sheetpile wall section initially planted prior to December 15, 2003, and the area in the planter boxes initially planted prior to December 15, 2003.

- (I) **As-Built Plans and Planting Complete Date.** The Plan shall indicate that As-Built Plans, describing all initial restoration planting measures undertaken and their location, shall be submitted for the Executive Director's review and written approval. The As-Built Plans shall identify the date when all such plantings were completed ("initial planting complete date"); said date to be used to determine time-frames for the required monitoring, maintenance and reporting parameters

The Permittee shall undertake development in accordance with the approved Revised Restoration Plan. Any proposed changes to the approved Revised Restoration Plan shall be reported to the Executive Director. No changes to the approved Revised Restoration Plan shall occur without a Commission amendment to coastal development permit 3-01-111 unless the Executive Director determines that no amendment is necessary.

3. **Conservation Easement.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the, the Permittee shall execute and record a document, in a form and content acceptable to the Executive Director, irrevocably offering to dedicate an easement to a public agency or private association approved by the Executive Director for the protection of environmentally sensitive Pajaro River and Watsonville Slough habitat (Conservation Easement). The Conservation Easement shall apply to that area identified on page 3 of exhibit E as the "Conservation Easement/Ownership Area." The Conservation Easement may alternatively provide for the outright dedication of land ownership for the Conservation Easement/Ownership Area, either in whole or in part (e.g., an easement that applies to the land north of the sheetpile wall within the Conservation Easement/Ownership Area, and a direct dedication of the remainder of the areas within the Conservation Easement/Ownership Area). The recorded document shall include a legal description and a site plan of: (a) the Conservation Easement/Ownership Area, with any sub-areas within this larger area designated for easement versus outright dedication likewise identified; and (b) the Permittee's parcels involved (APNs 052-343-10, 052-344-10, 052-345-05, 052-342-05, and 052-331-07). The recorded document shall indicate that no development, as defined in Section 30106 ("Development") of the Coastal Act, shall occur in the Conservation Easement area except for habitat enhancement, restoration, and maintenance activities specified in the restoration plan approved pursuant to coastal development permit 3-01-111 and/or future restoration plans that may be approved by the Coastal Commission through amendment to coastal development permit 3-01-111 or by separate coastal development permit.



The offer to dedicate Conservation Easement shall be recorded free of prior liens and encumbrances which the Executive Director determines may affect the interest being conveyed. The offer shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period running from the date of recording.

4. **As-Built Revetment Plans.** WITHIN THREE (3) MONTHS OF COMPLETION OF SHEETPILE WALL CONSTRUCTION, the Permittee shall submit to the Executive Director for review and approval As-Built Plans of the sheetpile wall structure that include permanent surveyed benchmarks for use in future monitoring efforts described in relation to the National Geodetic Vertical Datum (NGVD) as follows: (a) one or more benchmarks shall be located inland of the as-built sheetpile wall; and (b) benchmarks shall be located on the river/slough edge of the top of the as-built sheetpile wall at each location where the wall changes direction in site plan view and at locations at either end of the wall. The As-Built Plans shall identify the extent of the as-built sheetpile wall structure in site plan and cross-section views. The As-Built Plans shall indicate vertical and horizontal reference distances from the inland benchmark(s) to the as-built sheetpile wall benchmarks. The survey points shall be identified through permanent markers, benchmarks, survey position, written description, et cetera to allow measurements to be taken at the same location in order to compare information between years.

The As-Built Plans shall be submitted with certification by a licensed geotechnical engineer, acceptable to the Executive Director, verifying that the shoreline structure has been constructed in conformance with the approved Revised Sheetpile Wall Plans described by special condition 1 above.

5. **Monitoring.** The Permittee shall ensure that the condition and performance of the as-built sheetpile wall is regularly monitored by a licensed geotechnical engineer. Such monitoring evaluation shall at a minimum address whether any significant weathering or damage has occurred that would adversely impact its future performance, and identify any structural damage requiring repair to maintain the as-built sheetpile wall profile. At a minimum, the Permittee shall submit to the Executive Director for review and approval a monitoring report once every five years by May 1st (with the first report due May 1, 2007) for as long as the sheetpile wall exists at this site. Each such report shall be prepared by a licensed geotechnical engineer and shall cover the monitoring evaluation described in this condition above. Each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the as-built sheetpile wall.
6. **Shoreline Development Stipulations.** By acceptance of this permit, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns that:
 - (a) **No Further Encroachment.** Any future response to coastal hazards (including but not limited to coastal hazards associated with shoreline erosion, river erosion and scour, wave attack, etc.) requiring the placement of any type of protective structure, including, but not limited to, modifications to the as-built sheetpile wall, shall be constructed inland (i.e., on the condominium side) of the river/slough edge of the as-built sheetpile wall. An As-Built Sheetpile Wall Plan has



been approved pursuant to coastal development permit 3-01-111 that defines the river/slough edge of the as-built sheetpile wall.

- (b) **Sheetpile Wall Screening.** That portion of the sheetpile wall that is exposed above sand/slough levels on the river/slough side of the sheetpile wall shall be screened from view (as seen from the river/slough side) by a dense cascading screen of native vegetation. At a minimum, such screening shall cover the top five feet of the sheetpile wall. A Restoration Plan has been approved pursuant to coastal development permit 3-01-111 that specifies the native planting palette and the required vegetation maintenance parameters. All native plantings shall be maintained in good growing conditions and shall be replaced as necessary to maintain the required screen over the life of the project.
- (c) **Sheetpile Wall Maintenance.** It is the Permittee's responsibility to maintain the as-built sheetpile wall and vegetative screening in a structurally sound manner and its approved state. An As-Built Sheetpile Wall Plan has been approved pursuant to coastal development permit 3-01-111 that defines the profile of the as-built sheetpile wall. The approval of coastal development permit 3-01-111 does not obviate the need to obtain future permits for any future maintenance and/or repair episodes. The Permittee agrees to apply for a coastal development permit, and any and all other permits required, for any proposed future maintenance and/or repair episodes.
- (d) **Restoration Area Maintenance.** A Restoration Plan has been approved pursuant to coastal development permit 3-01-111 that includes measurable minimum success criteria for restoration areas (located on both sides of the sheetpile wall, and an area north of the sheetpile wall), and it is the Permittee's responsibility to maintain the restoration areas pursuant to the minimum success criteria identified in the Restoration Plan over the life of the residential project.
- (e) **Debris Removal.** The Permittee shall immediately remove all debris that may fall from the area inland (i.e., on the condominium side) of the sheetpile wall into the area on the river/slough side of the sheetpile wall.
- (f) **Assumption of Risk, Waiver of Liability and Indemnity Agreement.** The Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (i) that the site is subject to hazards from coastal erosion, river erosion and scour, slough erosion and scour, wave and storm events, dune and other geologic instability, and the interaction of same; (ii) to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) that any adverse effects to property caused by the permitted project shall be fully the responsibility of the landowner.



WITHIN SIX (6) MONTHS OF COMPLETION OF SHEETPILE WALL CONSTRUCTION, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction (Deed Restriction) shall affect the Permittee's parcels involved (APNs 052-343-10, 052-344-10, 052-345-05, 052-342-05, and 052-331-07) and shall include a legal description and a site plan of (a) the as-built sheetpile wall footprint (per special condition 4); (b) the Permittee's parcels involved (APNs 052-343-10, 052-344-10, 052-345-05, 052-342-05, and 052-331-07); and (c) all restoration areas required pursuant to special condition 2 above. 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 coastal development permit 3-01-111.

7. **Other Agency Review.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit to the Executive Director written evidence that all necessary permits, permissions, approvals, and/or authorizations for the project as approved by coastal development permit 3-01-111 have been granted by both the underlying land owner (i.e., California State Lands Commission) and land manager (i.e., California Department of Parks and Recreation) of the Pajaro River/Watsonville Slough area involved in the project.
8. **Public Rights.** The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights which may exist on the property. The Permittee shall not use this permit as evidence of a waiver of any public rights which may exist on the property.

III. Findings and Declarations

The Commission finds and declares as follows:

A. Project Location and Background

The proposed project is located in southern Santa Cruz County where the Pajaro River meets the Monterey Bay. The upcoast edge of the Pajaro River rivermouth was artificially fixed at this location by the construction of the Pelican Point portion of the larger Pajaro Dunes residential development prior to the coastal development permitting requirements of Proposition 20 (the Coastal Initiative) and the Coastal Act. The Pajaro Dunes/Pelican Point residential development occupies the former sand spit area located between Watsonville Slough (running parallel to the ocean) and the Monterey Bay, with the Pelican Point condominiums themselves defined by a series of 3 and 4 story buildings supported on piles at the River's edge (see photos in exhibit A). The subject residential development is isolated from other more inland urban development (the nearest being the City of Watsonville roughly 3 miles inland) and is surrounded inland as well as up and downcoast by mile after mile of agricultural fields.

The project would take place in the sandy Pajaro River rivermouth area (running perpendicular from the



Monterey Bay back inland to Watsonville Slough) and Watsonville Slough proper (where it enters the Pajaro River). Other than a small portion of the proposed project area (where Watsonville Slough meets the Pajaro River) the majority of the project would take place on lands owned by the California State Lands Commission within the Zmudowski State Beach State Park's unit. See exhibit A for project location.

The boundary between the Pelican Point condominiums and Pajaro River proper is demarcated by an existing wooden pile and lagging wall that was initially installed when the condominium structures were constructed in the late 1960s and early 1970s. This existing wooden pile wall extends inland perpendicular to the Bay from the Pajaro Dunes revetment (a large revetment that runs along the shoreline length of the Pajaro Dunes development for roughly 1 mile, terminating at the mouth of the River) to a point roughly 650 feet inland with a return extending back upcoast along the edge of Watsonville Slough. The wooden pile wall includes tie backs to "dead man" pilings located under the condominium buildings themselves. The existing wooden pile wall is located along the Pelican Point property boundary. See exhibits A and B for location of the existing pile wall.

The Applicant indicates that a small amount of rip-rap was placed along the full linear extent of the inland side of the existing wooden pile, and along roughly 100 feet of the "headland" of the wall along Watsonville Slough when the wall was initially constructed. Since that time, the existing wall has been damaged repeatedly due to river/wave scour and due to the 1989 Loma Prieta earthquake. The Applicant indicates that additional rip-rap and sandbags (roughly 1,600 additional cubic yards) have been placed on multiple occasions, including at least five times since 1982, on both the river and inland sides of the wall in response to such events (see the Applicant's estimates of rock/sand bag locations in exhibit D). The Commission has been unable to locate coastal development permits authorizing such placement.¹ In addition to the rock placed, a concrete whaler beam was installed following the Loma Prieta earthquake, with the original tie backs attached to the whaler beam and repaired as necessary, under emergency permit 3-91-028-G; this temporary emergency work was never recognized by the required follow-up CDP.

Thus, due to pre-Prop. 20/pre-Coastal Act development (i.e., the condominiums, wooden pile wall, and related inland development), and due to shoreline armoring that appears to have been placed without required CDPs, the existing conditions at the site are as follows:

- There exists a wooden pile and lagging wall with a reinforced concrete whaler beam extending inland from an ocean-fronting revetment (not the subject of this application) perpendicular to the Monterey Bay to the Watsonville Slough (with a wall "return" extending back upcoast along the slough itself). The wall includes tiebacks that are connected inland to deadman piles that are located under the inland condominium units. The existing wall is supplemented by rip-rap and sandbags along both its inland and river sides. The existing wall is located along the Applicant's property line and is the dividing point between the inland urban development and Pajaro River/Zmudowski State Beach. According to the Applicant's geotechnical reports, the original purpose of the existing wall

¹ See "Alleged Violation" finding below.



was to prevent the Pajaro River from eroding into the building area, and to support the fill that defines the inland condominium development area.

- There exists a large condominium development with 87 units spread over seven separate 3 and 4 story structures. These condominium units are at the downcoast end of the overall larger Pajaro Dunes residential area that extends roughly a mile upcoast from the Pajaro River between the Monterey Bay and Watsonville Slough. The condominium structures are supported atop pilings resting in the beach sands. According to the Applicant's geotechnical reports, the pilings on which the condominiums are supported are meant to function independent of the wooden pile and lagging wall running along the river.

See exhibit A for photos of the project area.

B. Project Description

The Applicant proposes to install a driven sheetpile wall supported by steel I-beam "king piles" on the river side of the existing wooden wall. The 3-foot wide I-beams would be driven approximately 65 feet below existing grade (roughly -53 feet NGVD), at a 6-foot on center spacing, with 2-foot wide interlocking and angled sheetpiles driven roughly 35 feet below existing grade (or roughly -23 NGVD). The face of the sheetpile wall would be roughly 5 feet further into the rivermouth/sandy beach area than is located the existing wooden pile and lagging wall. The wall would run linearly roughly 715 feet, with roughly 85 feet of that for a new return section extending upcoast along the Watsonville Slough "headland" where the Slough meets the River. The top of the proposed sheetpile wall would be slightly higher (about a foot or so on average) than the existing wooden wall. The existing wall would remain in place and would be covered with backfill. All existing rip-rap materials on the riverside of the existing wood wall would be removed and either used for back fill purposes inland of the sheetpile wall and/or removed off site. See exhibit C for proposed sheet-pile project plans.

The proposed project also includes the following elements:

- Construction would be limited to a 3 month period (between September 15th and December 15th) to avoid snowy plover breeding and steelhead migration periods.
- Construction areas would be limited to the roughly 40 foot area riverward of the existing wall, with a narrower area of construction footprint adjacent to Watsonville Slough. All construction areas would be restored with native wetland and coastal strand dune species (as applicable) following project completion.
- Construction BMPs are required to minimize and/or eliminate impacts to the Pajaro River and Watsonville Slough, and pre-construction surveys for listed species are required.
- Areas inland of the constructed sheetpile wall between the condominium buildings would be revegetated with native dune species, and cascading plants would be established at the river edge of



the sheetpile wall to provide viewshed screening. The sheetpiles themselves would be epoxy coated a sandy beach color.

- The Applicant would deed roughly 4,500 square feet of beach lands in their fee-title ownership located on the river side of the sheetpile wall to an appropriate resource management entity, and would offer a conservation easement over about an acre of their property extending upcoast along Watsonville Slough.

The Applicant's proposed project (as summarized by excerpted sections of their CEQA documents and CEQA mitigation measures) is attached as exhibit B.

The Applicant's proposed project has been reviewed and signed-off (with mitigations incorporated into the project as generally described above) by the California Department of Fish and Game (CDFG), the United State Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the Regional Water Quality Control Board (RWQCB), and Santa Cruz County. In addition, the California Department of Parks and Recreation (DPR) has provided a preliminary conditioned endorsement of the project.

As of the date of this staff report, reviews still outstanding include those of the Army Corps of Engineers (ACOE) and the California State Lands Commission (SLC), the latter being the property owner where the sheetpile wall would primarily be installed.

C. Coastal Development Permit Determination

1. Applicable Policies

Wetland and Other Environmentally Sensitive Habitat Areas (ESHAs)

The Coastal Act is very protective of sensitive resource systems such as wetlands, dunes and other environmentally sensitive habitat areas (ESHAs). The Coastal Act defines environmentally sensitive areas as follows:

Section 30107.5. "Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Almost all development within ESHAs is prohibited, and adjacent development must be sited and designed so as to maintain the productivity of such natural systems. In particular, Coastal Act Section 30240 states:

Section 30240(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.



Section 30240(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.

Article 4 of Chapter 3 of the Coastal Act also describes protective policies for the marine environment and specifically calls out wetland resources. Coastal Act Sections 30230 and 30231 provide:

Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231. 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.

In addition, Coastal Act Section 30233(a), 30233(c) and 30233(d) specifically address protection of resources like Pajaro River and Watsonville Slough. In particular, Coastal Act Section 30233 limits development in wetlands to a few limited categories where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects:

Section 30233(a). The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically*



productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.

- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) Restoration purposes.*
- (8) Nature study, aquaculture, or similar resource dependent activities.*

Section 30233(c). *In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division....*

Section 30233(d). *Erosion control and flood control facilities constructed on water courses can impede the movement of sediment and nutrients which would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for such purposes are the method of placement, time of year of placement, and sensitivity of the placement area.*

Section 30236 specifically describes the limited uses for which stream alteration is allowed. Section 30236 states:

Section 30236. *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.*



Public Access, Recreation, and Views

Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. This includes protecting public visual access as well. In particular:

30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

30211. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

30212(a): Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ...

30221. Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

30223. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Coastal Act Section 30240(b) also protects parks and recreation areas such as the beach and surfing area seaward of the site. Section 30240(b) states:

30240(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.

Coastal Act Section 30251 details specific public viewshed protections. Section 30251 states:

30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land



forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Shoreline protective devices

Section 30235 of the Coastal Act:

30235. Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Long term stability

Section 30253 of the Coastal Act also addresses the need to ensure long-term structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future:

30253. New development shall:

- (1) 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. ...*

Policy Summary

In sum, the Coastal Act requires protection and preservation of significant resource, public access and recreational, and viewshed areas such as exist at the project site. The Act also allows for shoreline structures to protect existing endangered development, and allows flood control projects in rivers under certain criteria. Development within ESHAs is essentially prohibited, and any development authorized must be mindful of the policies protecting the general rivermouth environs and its inhabitants.

2. Consistency Analysis

Project Area Coastal Resources

The majority of the project would take place in the nominal Pajaro River rivermouth area, with a smaller portion taking place within Watsonville Slough (where it outlets to the Pajaro). The rivermouth area in question is infrequently and seasonally covered by Pajaro River waters. As of the date of this staff report, the typical sand spit dune berm is in place and the Pajaro enters the Monterey Bay roughly a quarter-mile



downcoast. A summer lagoon generally forms in this area during the summer months and is generally seasonally breached (both naturally and artificially in the past) in late fall or early winter.

The project area provides known habitat for such listed species as Tidewater goby, Steelhead trout, Snowy plover, Brown pelican, legless lizards, Western pond turtles, Santa Cruz long-toed salamanders, and Monterey spineflower. These species are either federally and/or state-listed as endangered (Brown pelican and long-toed salamander), threatened (goby, steelhead, snowy plover, brown pelican (State), and spineflower), or either a candidate for listing/a species of special concern (pond turtle and legless lizard). The Pajaro River and its associated estuary and lagoon are Federally-designated critical habitat for steelhead. Watsonville Slough is the namesake branch of the larger Watsonville Slough System, previously recognized by the Commission as probably the largest and most significant wetland habitat between Pescadero Marsh (in San Mateo County) to the north and Elkhorn Slough (in Monterey County) to the south. The entire Watsonville Slough System has been designated by CDFG as an "Area of Special Biological Importance." Zmudowski State Beach, the rivermouth/dune area within which the project would be installed, is one of 28 critical habitat areas for snowy plover designated along the west coast. The proposed project area represents a significant and prolific natural resource providing biologically productive habitats for listed and non-listed plant, aquatic, and land species, including important foraging, roosting, breeding and rearing habitat. Accordingly, the entire project area constitutes ESHA within the meaning of the Coastal Act.

In addition, when dry, the sand dune area (that is sometimes inundated with wave wash and/or river waters) provides for low intensity recreational public access to the general rivermouth environs. Because the intervening Pajaro Dunes/Pelican Point development blocks public access to the mile of shoreline upcoast of this site (with the primary vertical access provided at the Palm Beach unit of State Parks just north of the Pajaro Dunes revetment and its related inland development), public access to this area is limited by its remoteness. Given the sand-swept and remote nature of this portion of Zmudowski State Beach, and given the significant resource values here, such low intensity level of recreational access is probably appropriate. That said, these same factors that limit access make this an especially good example of a low intensity/high resource value/interpretive shoreline coastal access facility for which remaining opportunities in reach of more urbanized/populated areas are relatively few.

Furthermore, partly because of its remote nature, and partly because the general lack of surrounding development (with the obvious exception of the pre-Prop. 20/pre-Coastal Act Pajaro Dunes/Pelican Point development), the project area also represents a significant public viewshed. This is made all the more relevant given the resource value and the related interpretive layer that applies.

Thus, the project area is all ESHA and a significant public recreational access and viewshed area.

Project As Proposed Inconsistent with the Coastal Act

As proposed, the project would permanently displace a portion of the dune rivermouth area (roughly 3,000 square feet) and would permanently displace a portion of the wetland of Watsonville Slough (roughly 450 square feet). Together, nearly 3,500 square feet of ESHA would be lost permanently; the majority located within the State Lands' owned/DPR managed Zmudowski State Beach unit. In other



words, publicly owned, managed, and preserved ESHA area would be displaced to allow for a sheetpile wall to be installed for the benefit of the inland landowners. Such development within the subject ESHA is inconsistent with Coastal Act Section 30240 and 30233, which provide for a very limited subset of development within these types of natural resource areas.

In terms of public access and recreation, the project as proposed would also forever remove an area of State Beach to replace it with private development. Although the area lost provides limited access in and of itself, the overall area available for public access would be reduced in size. As discussed above, a primary reason this resource area is conducive to providing public access is its windswept remoteness; a quality that is enhanced by the overall size of the area in question. Although the Applicant proposes to offset this area lost by giving title to the portion of the beach sandspit/slough owned by the Applicant in fee title (roughly 4,500 square feet),² the area owned in fee title by the Applicant is already de facto part of the existing natural resource and access area, and it cannot be distinguished from the surrounding beach/slough areas. In other words, deeding fee title helps in perfecting a public legal ownership of the resource area in question, but does little to offset the permanent loss of dune/slough real estate associated with the proposed structure. The permanent loss of public access and recreation area is inconsistent with Coastal Act Sections 30210, 30211, 30213, 30221, 30223, and 30240(b).

In addition, as described above, the access point to the affected stretch of beach is limited to the Palm Beach State Park unit access roughly one mile upcoast of the proposed project site. Palm Beach is located at the terminus of Beach Drive where it meets the shoreline, and fronts the private entrance to the Pajaro Dunes/Pelican Point residential development. This private entrance is blocked by an electronic gate and a guard house, and the general public is not allowed through. Because the intervening Pajaro Dunes/Pelican Point development is located along the former sand spit located between Watsonville Slough, the Pajaro River and the Monterey Bay, public access to the project site area is made by accessing the sandy beach at Palm Beach, and navigating along the narrow beach occupied in large measure by the existing mile long revetment fronting Pajaro Dunes/Pelican Point. Although several stairways exist along the existing wooden wall providing access to the subject sandy rivermouth area in question, the general public is prohibited from both entering the Pajaro Dunes/Pelican Point development at the Beach Road entrance and making use of the developed road and parking areas therein, and prohibited from using the stairways themselves. Because adequate access does not exist nearby, and because the Applicant has not proposed providing public access through to the subject sandy rivermouth area, the project as proposed is inconsistent with Coastal Act Section 30212.

In terms of public viewshed impacts, the proposed project would be slightly taller (above grade) than the existing wood lagging wall. It would also replace the existing wood lagging facade of the existing wall with a metal wall composed of panels with rigid and uniform angles. Although the existing wooden pile wall with a large concrete whaler beam at its crest is hardly "natural," the aged wood materials are more sensitive to the beach area public viewshed aesthetic than would be the metal wall proposed. Due to the change in materials in tandem with the increased mass in the viewshed, the public viewshed would be

² This 4,500 square foot area is located on the portion of the Applicant's parcel that is on the river side of the existing wooden wall at the headland where the Watsonville Slough meets the Pajaro River (see exhibits A and E).



negatively impacted by the wall proposed. The Applicant proposes to offset the impacts from the metal wall proposed by colorizing the wall a sandy color to match the beach, by replanting dune strand and wetland plants (as appropriate) in the construction area fronting the wall, and by installing planter boxes atop the wall to allow for cascading vegetation to camouflage the wall as seen from Zmudowski State Beach. These mitigations are appropriate. However, the species, densities, and locations of vegetation proposed to screen the wall are inadequate with which to provide effective screening, particularly the cascading plant species identified inasmuch as they are not species expected to effectively cascade. As such, the project as proposed is inconsistent with Coastal Act Sections 30251 and 30240(b).

In addition to the permanent loss of ESHA and sandy beach area, the proposed project would result in temporary negative impacts to same from the estimated three months of construction. The construction zone would occupy nearly an acre of the rivermouth/slough area. Temporary dewatering of a portion of Watsonville Slough would be required. The Applicant proposes to restore the area affected by construction. However, cleaning up the mess made by construction does not mitigate for the roughly three months of construction activities during which time the affected area will be off limits to access and within which resource values will be effectively eliminated for that time. Furthermore, as described above, the site area is part of a fairly remote natural resource area. Three months of construction noise, lights, vibration (from the driving of substantial piles), and overall construction activities and human presence will also be expected to adversely affect habitat outside of the construction zone established (and in the surrounding biologically significant Watsonville Slough, Pajaro River, and River Lagoon/Estuary areas). The project includes a series of construction BMPs and restricted timing provisions to help lessen these negative impacts, but they cannot be eliminated. As partial mitigation for this and other impacts of the project, the Applicant proposes a conservation easement over a portion of land owned in fee title by the Applicant but occupied by the Watsonville Slough and its related uplands (to the northwest of the proposed project site area). However, as with the deeding of the beach area proposed, this area is already Slough. And while perfecting an easement applicable to this resource area is beneficial, absent associated restoration (none is proposed), its utility as a mitigation tool is limited. As a result, the project as proposed is inconsistent with Coastal Act Sections 30230, 30231 and, because there is a less environmentally damaging feasible alternative (see below), 30236.

The project includes a new portion of wall extending upcoast along the Watsonville Slough. This new portion of wall is roughly 85 feet in length. Although such wall can feasibly be considered a return to correct against end effects based on the scope of the project and the specific circumstances of this case, it would lead to additional armoring that would block the transport of sand generating sediments into the shoreline sand supply system. The Applicant's engineer estimates that the proposed return portion of the wall would retain roughly 12 cubic yards of sand per year. The project as proposed does not include mitigation for this loss of sand to the shoreline sand supply. As such, the proposed project is inconsistent with Coastal Act Section 30235.

Pursuant to Coastal Act Section 30253, development is to be designed, sited, and built to allow for natural shoreline processes to occur without creating a need for additional more substantive armoring. Coastal development permittees for new shorefront development thus are essentially making a



commitment to the public (through the approved action of the Commission, and its local government counterparts) that, in return for building their project, the public will not lose public beach access, sand supply, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems. Coastal Act Section 30253 requires that the proposed project assure structural stability without the need for additional armoring. Although it is likely that additional armoring will not be necessary in the future should the proposed project be installed, the project as proposed does not include a corresponding implementing mechanism to ensure that this is the case. As such, the proposed project raises questions of consistency with Coastal Act Section 30253.

Finally, the experience of the Commission in evaluating the consistency of proposed developments with Coastal Act policies regarding development in areas subject to problems associated with geologic instability, flood, wave, river, and/or erosion hazard, has been that development has continued to occur despite periodic episodes of heavy storm damage, landslides, or other such occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden on the people of the state for damages, applicants are regularly required to acknowledge site geologic risks and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. The project as proposed does not include any such assumption of risk. As such, the proposed project again raises questions of consistency with Coastal Act Section 30253.

In sum, the project as proposed raises core Coastal Act inconsistencies relating to ESHA, public access and recreation, the public viewshed, shoreline processes, and long-term structural stability.

Alternatives Considered

In light of the range of Coastal Act inconsistencies engendered by the proposed project, one option considered was denial of the proposed project. However, given that the existing wood and lagging wall and condominium structures pre-date Proposition 20/Coastal Act permitting requirements and have established a hardened edge (both in the proposed project area and along the seaward frontage where the existing revetment lies); given that additional piece-meal armoring efforts meant to retain development at this precarious location are likely to continue unabated in the future (as evidenced by the fact that repairs have taken place and additional armor stones have been placed almost continuously over the years to retain the fill below the Pelican Point condominiums); given that the existing wood lagging wall does not extend below the established scour levels for this part of the Pajaro River; and given that the existing condominium structures were installed on piles embedded in dune sands that appear to be inadequate of themselves to protect against the erosion threat present here, the best public policy and planning approach was deemed to be to provide for a replacement wall project at the current time (in lieu of a series of piecemeal and/or emergency projects, and in lieu of potentially more substantial armoring in the future as a result) provided that Coastal Act inconsistencies could be avoided.

Toward this end, the Commission's preference was for the Applicant to construct their proposed



replacement sheetpile wall on the inland side of the existing wood and lagging wall. Such placement could be located entirely on private lands, and, while it would not prevent the temporary construction impacts of a project of this type and magnitude, it would prevent the permanent loss of ESHA and beach area. By removing the existing wall and restoring in the area that would be seaward of the new sheetpile wall, some portion of the negative impacts from such a project could be mitigated. After consultation between the Applicant's engineers and the Commission senior coastal engineer, however, it was determined that such an alignment, while preferred under the Coastal Act, was not technically feasible.

The Commission's preferred option was deemed infeasible because (1) the existing condominium units are, in two locations, within 10 feet of the existing wooden wall, and the removal of the existing wall and related rip-rap in this area and/or the installation of the sheetpile wall at these locations could lead to damage and/or loss of the subject condominium structures themselves; and (2) the existing wood lagging wall is surrounded (inland, riverward, and likely below the pilings themselves) with rip-rap that could not all be removed (due to its depth and location adjacent to the condominiums) and that would prevent piles from being driven where the rip-rap could not be entirely removed.³ Thus, in other words, because the condominium units were constructed on a sand spit with an inadequate setback of roughly 10 feet from the property line (and the Pajaro River), and because the Applicant has placed large amounts of rip-rap without CDPs, rip-rap that has migrated, feasible options with which to construct a replacement wall are limited.

Respectful of both the Coastal Act inconsistencies and the construction feasibility issues at the site, the Applicant's engineers developed a hybrid sheetpile wall alternative that would be located primarily inland of the existing wood wall location, but would be located abutting the river side of the wooden wall in the two locations where the existing condominium buildings were located within ten feet or so of the existing wall (see exhibit D). As the Applicant indicates, areas seaward of the sheetpile wall location could be restored to sandy beach/dune rivermouth for a net habitat gain. Both the Applicant's engineers and the Commission's senior coastal engineer indicate that such an option is feasible.

The main resource concern is that the undulating wall alternative may require more time to construct than would the proposed project (5 months estimated by the Applicant's engineer as compared to 2 months). With a limited construction window of August 15th through December 15th due to snowy plover and steelhead issues, such additional construction time may spread construction over two seasons. However, actual construction duration is difficult to predict given the range of unknown factors (including weather and species issues); this is particularly the case for the alternative project given the uncertainty with the removal and crossing components. Also, the construction estimates were based upon a Monday through Friday work schedule, where only 22 work days are available in a month (thus 3 months translates into 66 work days, and 5 months translates into 110 work days). Neither estimate includes allotting time for the restoration component.

In any case, it seems that if a 7 day work week were used (to take full advantage of the limited window

³ As described earlier, the Commission has been unable to locate CDPs authorizing the placement of rip-rap in these areas. See "Alleged Violation" finding below.



available within which to construct), and in light of the uncertainty and delay associated with winter storms and site conditions, it seems reasonable that either option may feasibly be constructed within the 3 month window. It may also be necessary, in either case, to spread construction over two seasons, depending on actual construction issues. Given the level of uncertainty, the Commission finds that 2 seasons of construction (if absolutely necessary), and the temporary impacts associated with same, is preferable the long term displacement of ESHA.

The Applicant prefers their proposed project to the undulating alternative primarily because their estimates indicate that it would be less expensive (\$1.5 million versus \$2 million estimated), quicker to construct (3 months compared to 5 months estimated), and that some amount of additional seismic protection would be provided by leaving the existing wood wall and tie backs entirely in place inland of the existing wall (as opposed to severing such tiebacks where the alternative wall extends inland of the existing all location). On the later point, it is instructive to note that the proposed wall is specifically **not** meant to function for seismic protection, nor was the existing wood lagging wall. As the Applicant's consulting engineer states, "the primary purpose of the riverwall is to prevent erosion of the referenced site from the Pajaro River flood waters, not to support the condominium buildings. The existing condominium buildings are supported on piles independent of the riverwall." In fact, the Applicant's engineer indicates that to protect the Pelican Point condominiums from seismic factors, the entire development would need to be surrounded by a continuous, deep-rooted containment wall cross-tied together; an enormous project multiple degrees of magnitude larger than that proposed. Thus, it is disingenuous to argue that one alternative provides for some additional margin of seismic protection when neither alternative is designed to either address seismic risks, nor to ultimately prevent damage due to seismic events; to do so would require a much larger project, different in its design and scope than that proposed here.

Approvable Project

The Commission finds that the most Coastal Act consistent project is the undulating wall alternative with one caveat. Little resource value is gained by crossing the wall inland between Building B and the stairway (at the westernmost end of the project area – see exception area shown on exhibit E). This area is occupied by revetment, and it would make better engineering and resource sense to contain this revetment within the sheetpile wall, and to connect the sheetpile wall and interior pathway to the existing stairway. This revised alternative still raises the same impact and Coastal Act inconsistency issues identified above for the proposed project, but it reduces the area in which the wall is located on the river/slough side of the existing wall to roughly 200 linear feet along the sandy rivermouth area (where the condominium buildings prevent a more inland location), and none along the Watsonville Slough area. Thus, this approval is conditioned for revised final plans for the undulating wall alternative. Such plans must minimize any necessary construction on the river side of the existing wall to the absolute minimum necessary. See special condition 1.

Even with a revised project, there remain impacts and Coastal Act policy inconsistencies to address (as detailed more specifically in the findings above), including the permanent loss of public lands within the sandy rivermouth area (roughly 1,000 square feet); the negative impacts on ESHA and public resource



recreational areas during construction; the loss of 12 cubic yards of sand per year to the shoreline sand supply system; the lack of adequate access to the shoreline; the overall increased artificial massing in the public viewshed; and the lack of assured long-term structural stability and assumption of risk. In order to address the coastal resource impacts and policy inconsistencies, impacts that are reduced in some cases with the revised alternative project (e.g., the area of land given over to wall placement) but otherwise the same or potentially increased (e.g., construction impacts), a roughly proportional mitigation package is necessary. The site issues, in tandem with the mitigations proposed as part of the project, provide a substantial basis from which to develop such a package. Many of the measures already proposed need only slight adjustment to respond to the alternative project and the range of impacts, but are fundamentally sound in their basis. Thus, a mitigation package that provides for high quality restoration on the undeveloped side of the sheetpile wall; compensatory restoration immediately north of the project site within the Watsonville Slough uplands; adequate long term screening, monitoring, and maintenance; assumption of risk and prohibition on riverward/sloughward expansion, is required as follows:

The Applicant has proposed deeding a portion of the land on the river side of the existing wall held by the Applicant in fee title to an appropriate management entity. The Applicant has likewise proposed to offer a conservation easement over an area of land north of the project site within the Watsonville Slough System. These proposed measures need to be implemented consistent with the Commission's standard form and content for such legal documents, and need to be augmented to protect the habitat restoration area (see below). In addition, since a management agency to which to dedicate land has not been positively identified, the outright dedication should provide a mechanism to offer the land either outright or by easement. In addition, all areas on the river side of the undulating wall within the Applicant's property boundaries must be placed under a conservation easement subject to the same or similar legal instrument. See legal instrument detail in exhibit E for depiction of the easement area. See special condition 3.

All areas on the river/slough side of the sheetpile wall within the construction zone must be restored to provide high quality habitat (see restoration area detail in exhibit E). The Applicant will need to submit a revised restoration plan for this purpose consistent with the Commission's generally accepted parameters for such plans. See special condition 2.

The area north of the project site on the Applicant's property between the waters of Watsonville Slough and the paved roadway area (i.e., the general area for which the Applicant has proposed a conservation easement) must be restored to provide high quality slough habitat. The revised restoration plan must be extended to cover this area as well (see restoration area detail in exhibit E). See special condition 2.

Given that the project may take two construction seasons, the restoration may need to be phased as well. In any case, any completed wall components need to be accompanied by the required restoration at those segments. Since the schedule is to begin construction along the Watsonville Slough side and work toward the Monterey Bay, such phasing should allow for construction and restoration in the critical slough area in the first construction season. See special condition 1 and 2.

Adequate screening of the sheetpile wall over the life of the structure must be maintained. The proposed



cascading species must be revised and supplemented to ensure that such camouflaging effectively screens the metallic angled wall as seen from public view areas. Moreover, long-term maintenance of the screening element, and performance standards for it, are required to ensure that the screen is effective over the life of the project. Typical exposed wall heights (i.e., above grade) have been estimated by the Applicant's CEQA document to range from 5 feet in summer to 8 feet in winter; of course, a large storm event and/or maximum river scour event would lead to much higher levels of exposure, if only for brief periods of time. Therefore, the cascading screening must at a minimum camouflage the upper 5 feet of the sheetpile wall, with the goal being to screen the entire wall exposed above grade as seen for the river/slough side of the wall. See special conditions 2 and 6.

To protect the resource area on the river/slough side of the sheetpile wall consistent with the Coastal Act, and in order to find this project consistent with Coastal Act Section 30253 requiring that development not require additional armoring in the future, no further encroachment on the river/slough side of the sheetpile wall is allowed in the future; as built plans provide a basis for assuring that this is the case, and property restrictions can implement these requirement. See special conditions 4, 5, and 6. In addition, further assurance of the required long-term stability requires regular monitoring and maintenance. All monitoring and maintenance commitments must be recorded as property restrictions to ensure long-term compliance, and to ensure that any future landowners are clearly notified of these commitments. See special condition 6.

There are inherent risks associated with development in this dynamic coastal environment; this applies to the sheetpile wall as well as for the development inland of the wall itself. The project site, and all development on it, is likely to be affected by coastal hazard processes in the future. Although the Commission has sought to minimize the risks associated with the development proposed in this application, the risks cannot be eliminated entirely. Given that the Applicant has chosen to pursue the development despite these risks, the Applicant must assume these risks. Accordingly, this approval is conditioned for the Applicant to assume all risks for developing at this location (see special condition 6). Specifically, special condition 6 requires the Applicant to record a deed restriction that evidences their acknowledgment of the risks and that indemnifies the Commission against claims for damages that may be brought by third parties against the Commission as a result of its approval of this permit.

The underlying land owner (SLC) and property manager (DPR) must provide their consent and approval for the project as approved. See special condition 7.

Finally, although access to the shoreline from the nearest public road (i.e., Beach Road roughly one mile upcoast) is not provided with the project, this public access impact of the project as approved is insufficient of itself to require the provision of access through the Pajaro Dunes/Pelican Point development from Beach Road to the project site. Although such access would be appropriate per the Coastal Act, and would help to undo a glaring public access inconsistency associated with the presence of this pre-Prop. 20/pre-Coastal Act development, there appears to be insufficient means to require such access in this case. That said, this access impact, and the others identified, can effectively be mitigated by the increased public access area that will be made available by the approved project due to the restoration of the river side of the undulating wall (a net gain of roughly 1,000 square feet) from what



exists today. In any case, this approval does not in any way not constitute a waiver of any public rights which may exist on the Pajaro Dunes/Pelican Point property. See special condition 8.

By conditioning the approved project in this way, the sheetpile wall project can be considered a repair/restoration project inasmuch as it would be correcting a pre-Coastal Act anomaly to the degree feasible, reclaiming a portion of the former sand spit dune area currently devoted to urban uses, while at the same time providing for modifications to the existing wall concept to correct design inadequacies relating to actual scour events at this dynamic location. Restoration of the construction area and offsite compensatory restoration adjacent to the work site (extending along the Watsonville Slough uplands) along with legal instruments to protect restoration and access areas effectively round out the mitigation package. As such, the approved project simultaneously meets the Applicant's project objectives and addresses Coastal Act policy requirements to the degree feasible.

Alleged Violation

The existing wooden pier and lagging wall at the project location was installed prior to the coastal permitting requirements of Prop. 20 and the Coastal Act. The Applicant indicates that a small amount of rip-rap was placed along the full linear extent of the inland side of the existing wooden wall, and along roughly 100 feet of the "headland" of the wall along Watsonville Slough when the wall was initially constructed. Since that time, the existing wall has been damaged repeatedly due to river/wave scour and due to the 1989 Loma Prieta earthquake. The Applicant indicates that additional rip-rap and sandbags (roughly 1,600 additional cubic yards) have been placed on multiple occasions, including at least five times since 1982, on both the river and inland sides of the wall in response to such events (see the Applicant's estimates of rock/sand bag locations in exhibit D). The Commission has been unable to locate coastal development permits authorizing such placement. In addition to the rock placed, a concrete whaler beam was installed following the Loma Prieta earthquake, with the original tie backs attached to the whaler beam and repaired as necessary, under emergency permit 3-91-028-G; this temporary emergency work was never recognized by the required follow-up CDP.

The proposed project, and the approvable alternative, have been evaluated based upon acknowledged existence of the rip-rap in the project area, and of the concrete whaler beam installed under emergency authorization in 1991. In fact, the approvable project alternative was shaped in part by the need to avoid rip-rap concentration areas near the existing condominium buildings that would preclude sheet pile driving, and partly by the dimensions of the concrete whaler that dictate the location of the approvable wall alternative. Although this application has been considered based upon the policies of Chapter 3 of the Coastal Act, consideration of this application does not constitute an admission as to the legality of any development undertaken on the subject site without benefit of a coastal development permit and shall be without prejudice to the California Coastal Commission's ability to pursue any legal remedy available under Chapter 9 of the Coastal Act.

3. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in



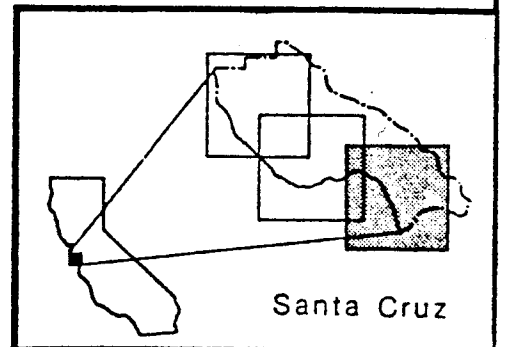
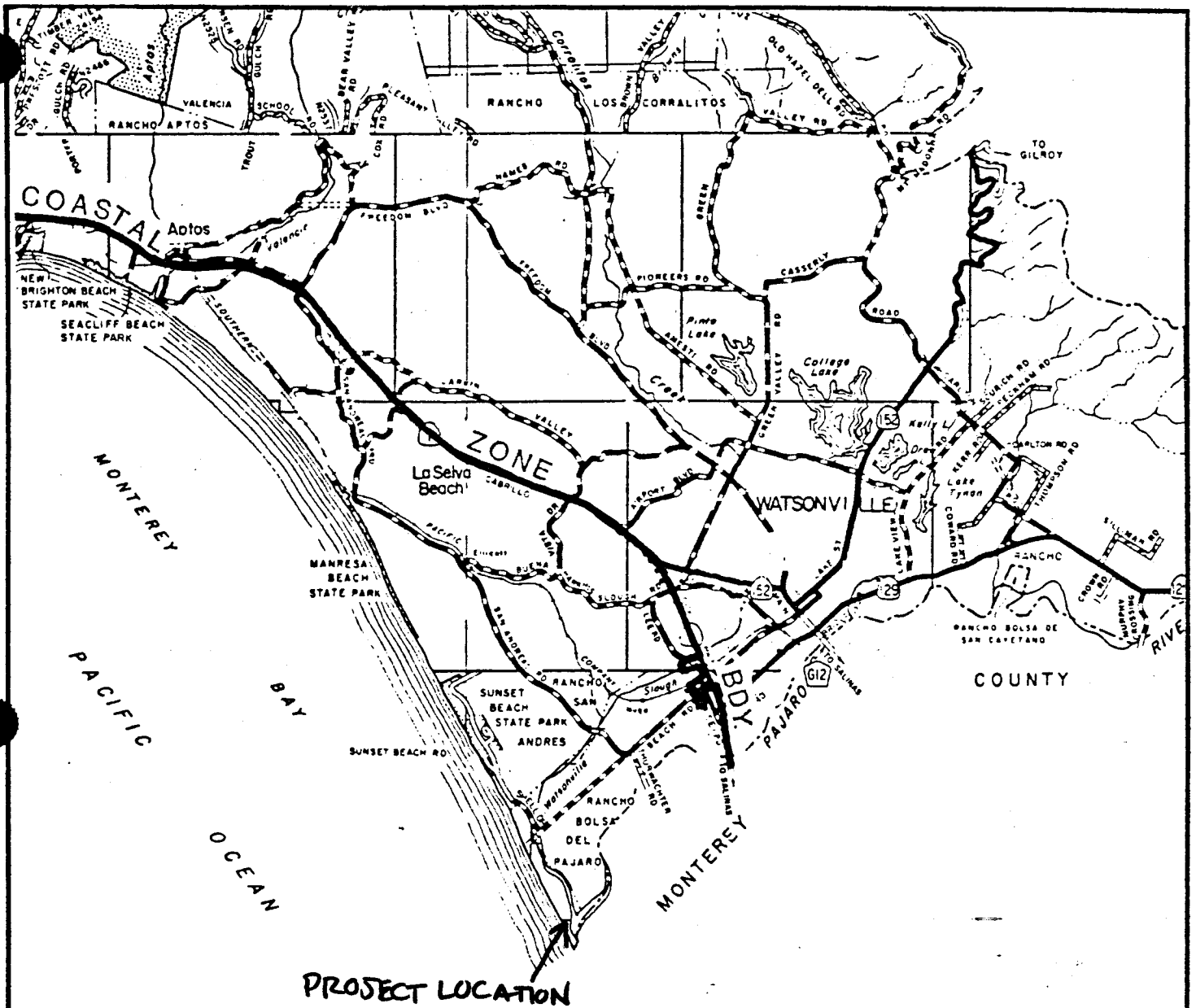
conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Applicant has certified a mitigated negative declaration supplemented by additional alternatives and impact analysis per CEQA. The CEQA mitigation measures identified are included in the proposed project description.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. This staff report has discussed the relevant coastal resource issues with the proposal, and has recommended appropriate suggested modifications to avoid and/or lessen any potential for adverse impacts to said resources. All public comments received to date have been addressed in the findings above. All above Coastal Act findings are incorporated herein in their entirety by reference.

As such, there are no additional feasible alternatives nor feasible mitigation measures available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. Thus, if so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).





California Coastal Commission

LOCATION MAP



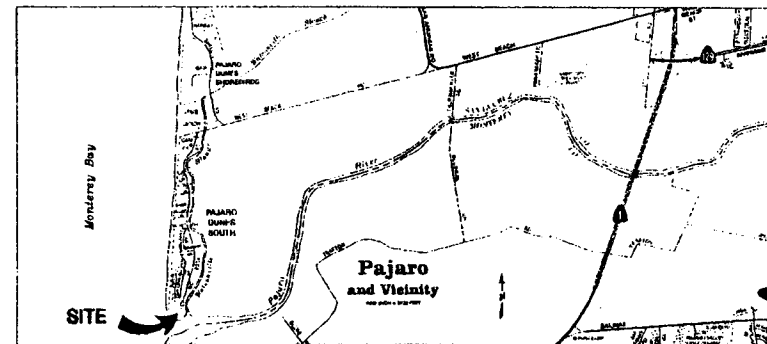
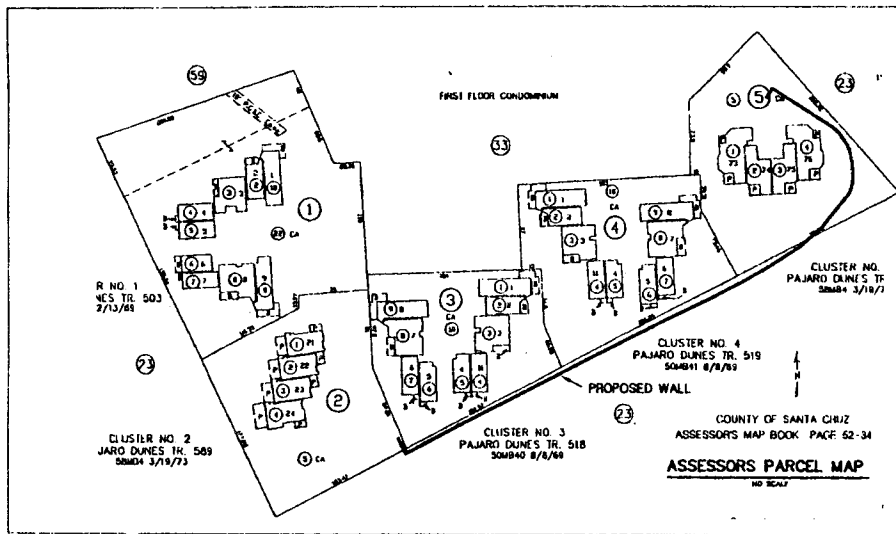
County of Santa Cruz

CCC Exhibit A
(page 1 of 5 pages)

Sheet 3 of 3



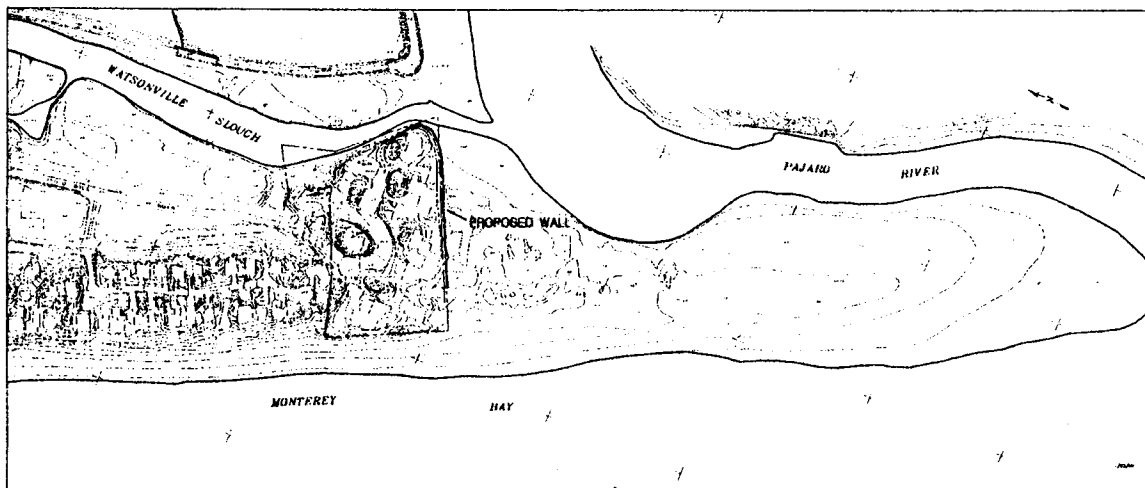
Figure 1
10/01
318-01



VICINITY MAP
NO SCALE

SHEET INDEX

- SHEET 1 - TITLE SHEET
- SHEET 2 - PELICAN RIVERWALL REPAIR PLAN
- SHEET 3 - DETAILS
- SHEET 4 - GENERAL NOTES



REGIONAL TOPOGRAPHIC MAP

PROPERTIES:

Pelican Point Condominiums
Common Area
Santa Cruz County APN 52-343-10,
52-344-10 & 52-345-5
California State Lands Commission
Pajaro River Mouth
Santa Cruz County APN 52-231-18

OWNERS:

Pelican Point Homeowners Association
2661 Beach Road
Watsonville, CA 95076
California State Lands Commission
1416 9th St., Room 1147
Sacramento, CA 95814

PROJECT STRUCTURAL ENGINEER:

Joe Mako, S.E. 1487
HOWARD CARTER ASSOCIATES, INC.
Structural Engineers
9600 Blue Lakeside Lane
Monterey, CA 93940
(831)373-3118 FAX (831)373-5872

EARTHWORK QUANTITIES:

Replacement wall structural backfill.....300 cubic yards
Fill landward of wall.....0 cubic yards
Rip rap & sandbags placed in 1998.....74 cubic yards
Fugitive Rip-rap to be excavated during this project and buried landward of wall.....300 cubic yards

PLAN PREPARERS:

John Kasunich, G.E. 455
Mark Fox, C.E.G. 1493
HARO, KASUNICH & ASSOCIATES, INC.
116 East Lake
Watsonville, CA 95076
(831)722-4175
(831)722-3202 FAX

J. Darby Howard, P.E.
JOH CORROSION CONSULTANTS, INC.
45 Quail Court, Suite 204
Walnut Creek, CA 94596
(925) 927-6630
(925) 927-6634 FAX

PROJECT SURVEYORS:

DUMBAR & CRAIG
1011 Cedar St.
Santa Cruz, CA 95060
(831) 425-7533

REVISIONS	BY
10/19/01	HKA
01/15/02	HKA

CCC Exhibit A
(page 3 of 5 pages)
PELICAN RIVERWALL REPAIR

HARO, KASUNICH AND ASSOCIATES, INC.
 CONSULTING CIVIL, GEOTECHNICAL & CONCRETE ENGINEERS
 116 EAST LAKE AVE., WATSONVILLE, CA 95076 (831) 722-4175

Date	4/11/01
Scale	NONE
Drawn	MAP
CAD	SC 6137
Sheet	1 of 4 Sheets

RECEIVED

JAN 25 2002

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA



Washburnville

Washburnville

CCC Ex

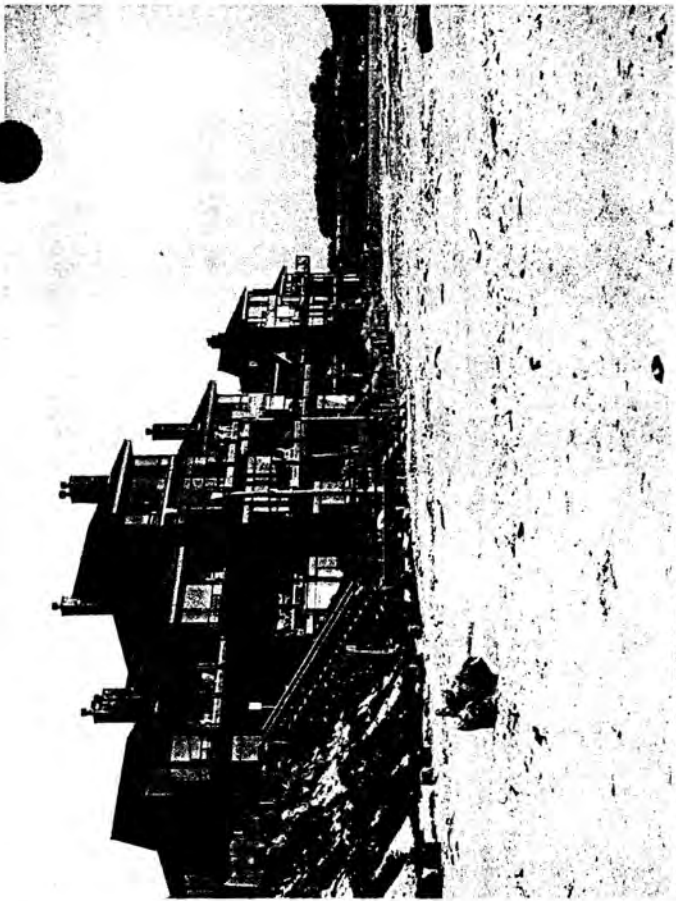


CCC Exhibit B
(page 5 of 5 pages)

VIEW FROM WATSONVILLE SLOUGH LOOKING EXISTING WOOD WAY TOWARDS MONTEREY BAY



VIEW OF WEST END OF PROJECT SITE



VIEW OF PROJECT SITE LOOKING INLAND AND UP PAJARO RIVER



"HEADLAND" WHERE WATSONVILLE SLOUGH MEETS THE PAJARO RIVER

SECTION 2. PROPOSED PROJECT DESCRIPTION

PROJECT LOCATION

The project site is situated along the north bank of the Pajaro River mouth, at its' confluence with the Watsonville Slough and the Monterey Bay in southern Santa Cruz County. Pajaro River forms the county line between Santa Cruz and Monterey Counties. The site is located on the beach adjacent to the existing 87-unit Pelican Point condominium development that is part of the Pajaro Dunes development. The beach adjacent to the project site is generally flat with a gentle slope south towards the mouth of the Pajaro River and west towards Monterey Bay. The beach area is managed by the California Department of Parks and Recreation under a lease with the State Lands Commission. The site is located on properties owned by the Pelican Point Condominiums (APN 52-343-10, 52-344-10, 52-345-5, 52-342-5) and the California State Lands Commission (APN 52-231-18).

PROJECT DESCRIPTION

Project Characteristics

The existing riverwall will remain in place and a new driven sheet pile retaining wall system will be installed adjacent to the outboard side of the existing riverwall. The face of the new sheet pile wall will be a maximum of 5 feet from the outboard edge of the existing concrete waler along the timber pile wall. The total replacement wall alignment is approximately 715 feet long, including approximately 165 feet of the sheet pile wall placed along the west bank of Watsonville Slough, of which approximately 85 feet are an extension from the existing wall.

The wall will be constructed by driving sheet piles to depths of -18.0 to -23.5 feet NGVD and driving king piles to depths of -49.0 to -52.5 feet NGVD, which represents maximum depths of approximately 34 and 65 feet below existing grade, respectively. The top of the new wall will range between 10.5 and 12.0 feet, NGVD, about the same height as the old wall. As determined by the Army Corps, the design scour depth along the base of the wall is -6 feet NGVD. The replacement wall is to be designed for a non-seismic, flood condition, with flood waters trapped behind the wall to 10 feet NGVD and a low tide condition along the outboard perimeter at -3 feet NGVD. This worst-case static, design condition could result in an 18 foot high wall for short periods of time. Typically the wall height will be about 8 feet during the winter and 5 feet during the summer above existing grade.

In order to construct the new wall, existing piles will be removed along an approximate 40-foot section that does not have a concrete waler beam. The area between the new wall and existing wall will be backfilled with engineered fill according to plan specifications.

CCC Exhibit B
(page 1 of 16 pages)

Description of Construction Activities

Construction is planned for the fall of 2002 sometime between October 1 and early December for a total of approximately 2-3 months. The project plans prohibit work on the river side of the wall between March 1 and September 30 in order to protect the snowy plover nesting habitat. The limits of the work area extend approximately 45 feet from the edge of the existing wall. The plans indicate that there will be no disturbance of beach areas beyond the limits of this work area. The active work area will be fenced using 3-foot high wooden stakes and continuous yellow caution tape.

Equipment to be used includes a crane-mounted pile driver, excavator and loader. Prior to driving the sheet and king piles, the entire alignment will be pre-dug to depths of approximately -6 NGVD feet using an excavator to remove any quarrstones/debris present along the base of the wall. The retrieved quarrstones/debris will be removed from the beach site and stored inboard of the replacement wall. The sheet and king steel piles will be transported to the site, hoisted by crane into position, and then driven into the ground. A crane mounted pile driver will be placed perpendicular to the wall alignment. At the slough end of the replacement wall, the pile driver may be placed upon the asphalt parking area to finish off the wall.

Construction staging will be from the asphalt parking area fronting Buildings C and D. Construction access to the project site will be between Buildings C and D. The pile driver will be stored on the beach within a designated area totaling approximately 1,350 square feet. Equipment will be required to be parked in a designated area, which will be lined and used as a containment area to prevent spills or fuel leaks from entering the beach. The storage area will be constructed with an impervious liner, a berm surrounding the perimeter liner and a sump to allow collection and disposal of any fuel or lubricants. The pile driver is to be fueled and serviced within this designated parking area only.

The disturbed areas landward of the riverwall shall be planted with native species and straw mulched as necessary to prevent erosion.

CCC Exhibit B
(page 2 of 16 pages)

SECTION 3. SUMMARY OF ENVIRONMENTAL IMPACTS/ISSUES

The Initial Study prepared for the proposed project evaluated significant impacts and identified mitigation measures/recommendations to prevent or minimize identified impacts. The proposed project will not result in permanent impacts to sensitive habitat areas or special status species. However, construction practices, if not properly managed, could result in potentially significant water quality impacts to Watsonville Slough and indirect impacts to aquatic species, including listed species (Impact #1 and 4). Construction will be conducted outside the snowy plover breeding season (Impact #2), and pre-construction surveys will be required for legless lizards, a California species of special concern with relocation if found onsite.

The Initial Study found that significant impacts could be reduced to a less-than-significant level with implementation of mitigation measures. Mitigation Measures # 1, 3, 6 and 6A provide construction controls to prevent water quality degradation and indirect impacts to special status species. Mitigation Measures #2, 4 and 5 provide construction scheduling restrictions and pre-construction species surveys. Identified significant and less-than-significant impacts are summarized below.

SIGNIFICANT IMPACTS

Biotic Resources

- **Indirect Impacts to Special Status Species During Construction.** The proposed project will not result in direct removal of critical habitat or permanently alter flows within Watsonville Slough or Pajaro River that could potentially affect listed species (tidewater gobies or steelhead in Pajaro River or Watsonville Slough or nesting snowy plovers on the beach). The project will be scheduled to avoid the nesting season of the snowy plover. However, indirect impacts could result from construction activities, if not properly controlled, as discussed below.
- **Impact #1:** The proposed riverwall project will not result in habitat removal or direct impacts to fishery and aquatic species, but construction of the riverwall could temporarily affect flows and water quality within the Watsonville Slough channel, thus indirectly impacting tidewater gobies and steelhead, if present.

Project construction is planned outside the juvenile steelhead out-migration season (generally April through May) and outside the adult upstream migration. The construction area is located outside of the flowing Pajaro River channel. However, installation of the riverwall adjacent to the Watsonville Slough channel may occur during periods of high water levels in which waters may encroach into the project work site. If water is present, it may be necessary to dewater the site and provide a system to bypass flows around the construction site. Construction activities may result in indirect, short-term adverse impacts to fish related to water quality degradation and potential increased turbidity if construction

CCC Exhibit B

(page 3 of 16 pages)

activities are not controlled to prevent inadvertent discharge of sediments from excavation or other construction materials into the slough channel or river. Construction equipment will be stored and serviced in a designated area, and will be lined and used as a containment area to prevent any accidental spills from leaving the containment area. The containment pad will consist of an impervious surface covering the entire area with a berm and sump to collect any spilled fuels or lubricants.

MITIGATION MEASURE #1: Contain the work area adjacent to the Watsonville Slough channel if water is present in order to isolate the work area from slough waters and to prevent sediments or other construction materials from entering the channel through use of straw bales, sandbags or other suitable material. If water is present at the time of construction, diversion structures will need to be installed to isolate the work area, consisting of fully protected material such as straw bales, sandbags, bladder dam, or other structure/material in order to isolate the work site from wet areas of the Watsonville Slough channel and to provide bypass flows around the work site. This will also prevent construction materials from inadvertently entering the river channel. All temporary diversion structures shall be removed upon completion of construction and flows shall be restored in a manner that minimizes erosion.

MITIGATION MEASURE #2: Prohibit construction activities in or adjacent to Watsonville Slough between December 1 and mid-June outside steelhead migration seasons.

MITIGATION MEASURE #3: Prohibit fueling, cleaning or maintenance of equipment in any area other than the designated area shown on the site plans. Prohibit onsite washing of equipment. As a precaution, require contractor to maintain adequate materials onsite for containment and clean-up of any spills, which shall be implemented immediately. Require preparation of a contingency plan to describe methods and materials to be used and stored onsite for use in the event of an emergency situation.

- **Impact #2:** The proposed riverwall project will not result in habitat removal or direct impacts to nesting birds due to prohibition of work during the nesting season. The temporary construction period is scheduled outside the nesting season for snowy plovers and other waterfowl species that utilize the Pajaro River mouth. Should construction scheduling change, any activities on the beach during the nesting season would be disruptive to nesting birds that are present and in violation of federal laws.

MITIGATION MEASURE #4: Prohibit construction between March 1 and August 31, as planned, to ensure protection of the nesting area of the endangered snowy plover. (NOTE: Based on follow-up discussions with staff from the U.S. Fish and Wildlife

Service, the breeding period during which construction would be restricted is March 1 through September 30.)

- **Impact #3:** Excavation and construction activities could result in adverse effects on individual legless lizards, if present in the work area. There is a low potential for these species to occur in the work area based on habitat requirements for the species, although legless lizards have been reported in iceplant areas with moist soils in the project vicinity. The species is not federally or state listed as endangered, but is considered sensitive species as both are identified as California Species of Special Concern.

MITIGATION MEASURE #5: Conduct a pre-construction survey to determine whether legless lizards are present on the site, and/or require a qualified professional biologist monitor to be present during initial construction activities (removal of old pilings, vegetation) to monitor activities and potential sitings of legless lizards. If observed, lizards shall be relocated as may be required, in consultation with appropriate agencies.

Hydrology and Water Quality

- **Water Quality.** The project work site will occur within a designated area along the beach and a minor area along Watsonville Slough. Given the location and limited size of the work area and temporary construction duration, impacts to adjacent water bodies are not expected to result in significant impacts. However, due to proximity to the Watsonville Slough and Pajaro River channels that support a listed endangered species, any water quality impacts could be considered significant.
- **Impact #4:** Construction of the proposed riverwall could temporarily affect water quality within the Watsonville Slough channel due to inadvertent transport of excavated soils or removed materials or equipment fuel spills into nearby water bodies. This could indirectly impact tidewater gobies and steelhead, if present, if construction activities are not properly controlled.

As discussed above under Biological Resources, construction could temporarily impact water quality in Watsonville Slough. The construction area is located outside the flowing Pajaro River channel. However, installation of the portion of the riverwall adjacent to Watsonville Slough may occur during period of high water levels, thus requiring dewatering of the work site and installation of dams/barriers to isolate the work area and divert flows around the work site. Mitigation Measure #1 sets forth measures to protect water flows and water quality. There is a potential for increased turbidity when diversion structures are installed and removed. This is minimized with careful removal of materials and use of materials that don't result in excessive sedimentation.

Mitigation #3 sets forth additional measures to insure that construction equipment is properly stored and serviced to prevent fuel or oil spills. If any excavated, removed or drilled materials are not properly stored or contained, there could be inadvertent transport of materials into the Pajaro River or Watsonville Slough channels. (Approximately 1,100 cubic yards of engineered fill will be used to backfill the area behind the constructed wall.) The project plans identify the designated work area and indicate that any removed material will be transferred away from the beach.

MITIGATION MEASURE #6: Identify a location on the Pelican Point property where excavated soils or removed materials will be stored, and site the location at least 100 feet from Watsonville Slough and Pajaro River. Require that the construction area and designated materials storage area be contained with use of silt fencing to prevent inadvertent transport of materials off the site. Keep stockpiled soils covering during periods of rain. Remove stored materials prior to the onset of the rainy season or protect with silt fences and covering to prevent erosion into adjacent water bodies.

MITIGATION MEASURE #6A: Require that the staging area be covered with absorbent material wherever fueling, cleaning or maintenance is conducted.

LESS-THAN-SIGNIFICANT IMPACTS

Aesthetics

The existing project area is visually characterized by prominent views of the ocean, Monterey Bay, the Pajaro River and the existing Pajaro Dunes development. The beach adjacent to the project side is relatively wide (approximately 300 feet). For beach users, views are oriented toward the ocean, Monterey Bay and Pajaro River. The Pajaro Dunes development is an existing structural feature of the surrounding viewshed, of which the existing riverwall is a minor component compared to the two and three-story residential structures.

Alteration of Visual Character of Surrounding Area. The proposed project will result in construction of a new sheet metal riverwall adjacent and parallel to the existing wood timber river wall. The new wall will be of a different type and material than currently exists, but is not expected to substantially degrade the existing visual character of the surrounding area as views in the area are primarily oriented to the existing natural features, most prominently the beach and ocean. The impact was found to be less-than-significant, but design recommendations were presented regarding use of a muted color and landscaping to soften the visual appearance of the structure. The project has been modified to use a sand color finish on the sheetpile wall. A revised photo simulation has been provided and is shown on Figure 1. The change in color further reduces the visual appearance of the wall.

RECOMMENDED CONSTRUCTION SPECIFICATION: Require landscaping within the backfill area of the riverwall and utilize appropriate coastal species, with an emphasis on native species, selected in part to create a cascading effect, if possible, over the riverwall to help soften its appearance.

RECOMMENDATION: Require that the wall front facing the beach be epoxied or painted a sand color or similar light color in order to provide less contrast with adjacent lands and to better blend into the existing landscape.

Biotic Resources

- **Sensitive Habitat Areas.** The project site is located adjacent to the lower Pajaro River where Watsonville Slough joins the river, both of which are considered sensitive habitat areas. The beach adjacent to the project site is owned by the California State Lands Commission and is managed by the California Department of Parks and Recreation as a snowy plover breeding habitat. As discussed below, the project will not result in significant impacts to sensitive habitat areas, and potential indirect significant impacts to special status species during construction can be mitigated to a less-than-significant level with implementation of mitigation measures and best management practices during construction as discussed above.

Aquatic and Wetland Habitat Areas. A sand bar seasonally forms across the mouth of the Pajaro River in the summer and remains until late fall or early winter until storm flows break through. The resulting ponded area behind the sand bar, known as the "Pajaro River Lagoon," and Watsonville Slough provide important foraging habitat, while adjacent land areas provide roosting and breeding habitat for many waterbird species. The Pajaro River Lagoon also supports steelhead, tidewater goby and other native fish species. The Watsonville Slough System is another significant wildlife habitat area that provides important foraging, roosting and breeding habitat for many waterbird species, including migratory, water and resident waterfowl.

The proposed riverwall project will not result in direct habitat removal or effects upon Pajaro River Lagoon. The proposed project includes installation of piles and riverwall for a distance of approximately 165 feet along the lower channel of Watsonville Slough, which may be subject to permits from the U.S. Army Corps of Engineers.

Vegetation adjacent to Watsonville Slough consists of primarily iceplant with pockets of saltgrass and pickleweed. Vegetative cover in this area is variable due to changes in water levels of the adjacent slough and Pajaro River. According to preliminary results of a wetland delineation that is currently being prepared, it is estimated that the project will result in the no permanent fill of jurisdictional wetlands and will temporarily impact 0.03 acre of jurisdictional

wetland during construction.¹ This small amount is considered less-than-significant, and would have no significant adverse effects on the habitat functions of the slough. Vegetation temporarily impacted would be expected to reestablish as currently exists with seasonal fluctuations in water levels. Construction would result in temporary fill and access, although some work may be conducted from the adjacent condominium parking lot. Mitigation Measures #1 and 2 will contain the work area and prevent adverse effects to the channel, water quality or species present.

Beach Habitat. Vegetation in the project vicinity is limited to non-native horticultural landscaping between the existing riverwall and the development. Vegetative cover on the beach is variable. There was little or no vegetation observed in February-March 2001 when the Initial Study was prepared. A site visit in October 2001 revealed areas of vegetation, consisting of a mix of native and non-native species. Figure 2 compares the adjacent beach area at different times of the year.

The project would encroach up to 5 feet onto the sandy beach area (a total of approximately 2,915 square feet) and would permanently remove any vegetation present in this area and would temporarily impact other existing vegetation within the 40-foot construction zone. Given the expansive beach coverage in this area, this would not significantly affect habitat values. Vegetation growing in the area is subject to seasonal and cyclical removal due to river and ocean processes and regrowth. Any vegetation permanently removed by the riverwall construction would be a minor amount (estimated as 1,500 square feet or less), and due to the small area in comparison to the remaining undisturbed beach area would not result in significant disruption of habitat use or degradation of habit. Any vegetation removed as result of the riverwall siting could be compensated within the planned revegetation plans for the area between the riverwall and existing buildings.

Geology and Soils

- **Seismic Hazards.** The project area is located in a seismically active region of California. Liquefaction, lateral displacement, ground cracking and differential settlement are high hazards at the site (Foxy, Nielsen & Associates, April 1999). The liquefaction hazard zone encompasses all of Pelican Point, and liquefiable soils are very deep (Ibid.). The vicinity is subject to tectonic subsidence; approximately 5 inches of subsidence (relative to sea level) has been reported as a result of the 1989 earthquake (Ibid.). Bedrock is not present within 100 feet of the ground surface, and most of the soils within 60 feet of the ground surface are susceptible to liquefaction (Ibid.).

¹Kathy Lyons, Biotic Resources Group, personal communication, October 17, 2001.

FIGURE 1: VIEWS OF MODIFIED RIVERWALL DESIGN



CCC Exhibit B
(page 9 of 16 pages)

FIGURE 2: VIEWS OF BEACH AREA

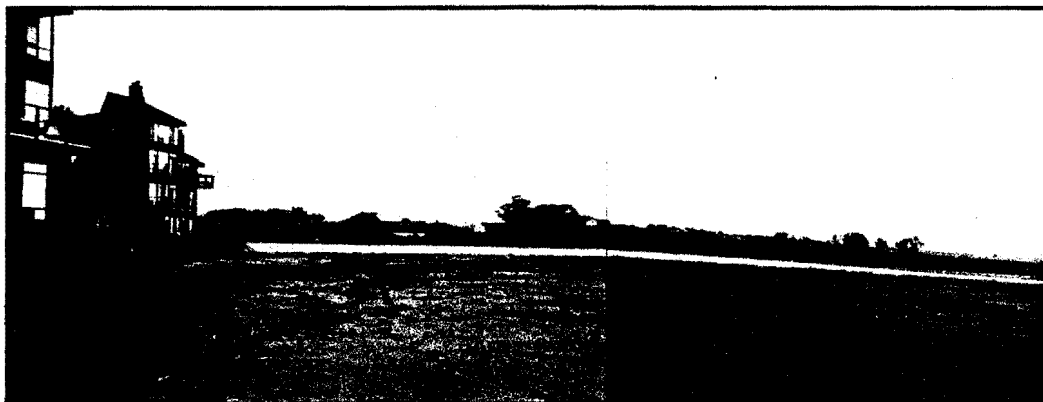


Photo
Taken
February
2001



Photo
Taken
October
2001



Photo
Taken
October
2001

During the 1989 Loma Prieta earthquake, a portion of the adjacent Pelican Point Condominiums experienced extensive structural damage due to strong seismic shaking and liquefaction, to include damage to Units C, the paved parking area in front of Units C and D. Approximately 220 feet of the existing riverwall also was damaged. A new waler beam was constructed in 1990 and all of the anchor tendons were inspected (Haro, Kasunich and Associates, Inc., December 2000).

The proposed riverwall is not designed to meet seismic standards with regards to liquefaction protection. In order to prevent liquefaction and lateral spreading, dynamic deep compaction, compaction grouting, chemical grouting or a continuous cellular sheet pile wall system that surrounds the developed area would be required (Haro, Kasunich and Associates, Inc., December 2000). Due to expense, these options were eliminated from further consideration by the Pelican Point Homeowners Association.

The proposed wall represents a repair of an existing structure, which also was not designed to current seismic standards. The existing riverwall was constructed to prevent the Pajaro River from eroding into the building area of the adjacent condominiums and to channel the river around the development to the ocean (Haro, Kasunich and Associates, Inc., December 2000). The purpose of the wall is to protect against coastal and river erosion. The wall serves no function in protecting the existing development from seismic hazards. While the wall may fail or be damaged during a seismic event, it will not affect the condominium project nor result in greater exposure to seismic hazards than already exists. The Pelican Point Condominium buildings are supported on wood pile foundation systems driven into the ground 10-25+ feet that were designed to function independent of the riverwall (Haro, Kasunich and Associates, Inc., December 2000). Liquefaction potential within subsoils at the referenced site extends to depths of 40 to 60 feet. Both the repaired riverwall and the condominium buildings could suffer damage as a result of liquefaction or lateral spreading.

Furthermore, the proposed project design provides a margin of increased safety due to the fact that the piles will be deeper than the existing riverwall piles. The existing riverwall design consists of driven wood piles at 3½ foot on center spacing driven to a depth of approximately 25 to 35 feet below the top of the riverwall (Haro, Kasunich and Associates, Inc., December 2000). The top of the riverwall timber piles varies in elevation from 9.5 to 13 feet NGVD. The proposed wall will be constructed by driving sheet piles to depths of -18.0 feet to -23.5 feet NGVD and driving king piles to depths of -49.0 to -52.5 feet NGVD, which represents maximum depths of approximately 34 and 65 feet below existing grade, respectively.

Although the proposed riverwall may fail or be damaged during an earthquake because it is not designed to seismic standards, the structure does not increase exposure to seismic hazards. The wall is a repair/replacement to an existing wall, whose purpose is to protect the Pelican Point Condominiums from coastal and river erosion. The wall functions independent of the

adjacent development. The Pajaro Dunes GHAD Plan of Control and Emergency Response Plan identify measures for inspection, maintenance and emergency repairs in the event of damage until permanent repairs can be made. Nonetheless, the following recommendation is made to provide full disclosure to the property owners.

RECOMMENDATION: Require full disclosure of project design to the Pelican Point Homeowners Association regarding the project not being designed to meet seismic standards and the need for potential future repairs.

- **Erosion.** The project area is subject to fluctuations in ground surface elevations on a seasonal, annual and episodic basis. In general, wintertime high river flows erode away the soils on the river side of the wall, and an onshore ocean driven transport of sand plugs the river mouth in the summer (Foxy, Nielsen & Associates, April 1999). Persistent winds cause dune sands to sometimes accumulate along the riverwall, and severe ocean storms erode the beaches and river mouth area (Ibid.). During these conditions, the Pajaro River flows along the face of the wall. At the north end of the wall along Watsonville Slough, high tides and peak discharges in the river waters are causing floodwaters to erode deck foundations (P. Williams and Associates, January 2001).

A combination of ocean swell orientation, local wind and sea directions and river flood flows appear to result in extreme scour along the riverwall (Ibid.). The original riverwall scour design was -6 NGVD, although the wall lagging and rip rap scour protection was extended only to depths of about +3.7 and -0.3 NGVD, respectively (Ibid.). A minimum design scour level of -6 NGVD has been recommended in any riverwall repair or replacement (Ibid.), to which the project has been designed.

The proposed project will provide increased protection against river erosion, coastal erosion and coastal flooding hazards over what currently exists, consistent with provisions and goals of the GHAD "Plan of Control." The proposed sheet pile wall design provides much greater erosion protection than the existing timber pile wood lagging system. The proposed wall will provide a continuous floodwater barrier between the top of the wall, 10.5 to 12.0 feet NGVD, and the projected scour line at -6 feet NGVD. As outlined on the 1969 Santa Cruz County Department of Public Works Construction Details for the existing wall, the wood lagging system originally extended from 9.0 feet to 3.7 feet with a quarystone plug between the piles below the lagging. The proposed sheetpile wall will provide a slight or small increase in the level of protection by being slightly higher than the existing lagging height and by closing the gaps in the wall due to deterioration or debris impact.

Hydrology

- **Groundwater.** The proposed project activities do not entail the withdrawal of groundwater, interception of an aquifer, or changes to groundwater recharge capability.

A review of the effects of the sheetpile wall on groundwater conducted by Weber, Hayes & Associates indicates that the proposed sheet pile wall will be a partial barrier to shallow groundwater flow, but it will not prevent shallow groundwater flow in the project area due to leakage (seepage) known to occur at sheet pile connections and due to expected groundwater underflow through sediments beneath the base of the sheet piles (Weber, Hayes and Associates, July 2001). Because the sheetpiles (with a maximum depth of about 35 feet) will not be keyed into a bedrock layer, groundwater flow beneath the wall can occur in either direction, in response to fluctuating water elevations. No measurable reduction in groundwater recharge flow to the Watsonville Slough and Pajaro River is likely because of the limited surface area behind the riverwall in comparison to the total area bordering the lagoon and due to the remaining routes for groundwater flow if the wall is built. Likewise, the length of the wall along the river and river lagoon is slight compared to the riverbank area on both sides where groundwater flow into the lagoon can occur. Therefore, the proposed project is not expected to change the groundwater flow directions, water chemistry or have a significant impact on groundwater quality in the Watsonville Slough or Pajaro River Lagoon.

Flood Hazards. The Pelican Point Condominiums are located within a flood zone of the Pajaro River; the riverwall appears to be the boundary of the Pajaro River flood zone (Foxy, Nielsen & Associates, April 1999). The Pajaro River floodway is within the flood zone. The area also is identified as V zone, which is subject to ocean wave impact and inundation (Ibid.). The proposed project will not result in construction of permanent habitable structures or development and will not place housing or expose people or structures to flood hazards. However, the proposed project with extension of the riverwall approximately 85 feet along Watsonville Slough will encroach upon the FEMA floodway. The 1986 Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) for Santa Cruz County and the associated FIRM and floodway maps, indicate that the alignment of the existing riverwall lies within the FEMA floodway fringe and possibly forms the floodway boundary along Pajaro River (P. Williams and Associates, January 2001). In accordance with the National Flood Insurance Program (NFIP) regulations, development that encroaches into the regulatory floodway will be prohibited if it results in an increase in flood levels during the occurrence of the base (100-year) flood event (Ibid.).

A hydraulic analysis conducted by Philip Williams and Associates (January 2001) consisted of modeling to determine the effect of the riverwall upon Pajaro River and Watsonville Slough flood elevations. The results of the study found that the net effect of the inclusion of new survey data and existing wall cause the water surface elevations of the backwater profile to decrease for both the floodplain and floodway profiles (P. Williams and Associates, Ltd, January 2001). Thus, the proposed design for the replacement wall along the Pajaro River will result in no increase in the water surface elevations for the 100-year flood event, in both the floodplain and the floodway profiles, which accounts for construction at a 5-foot offset from the existing wall (Ibid.).

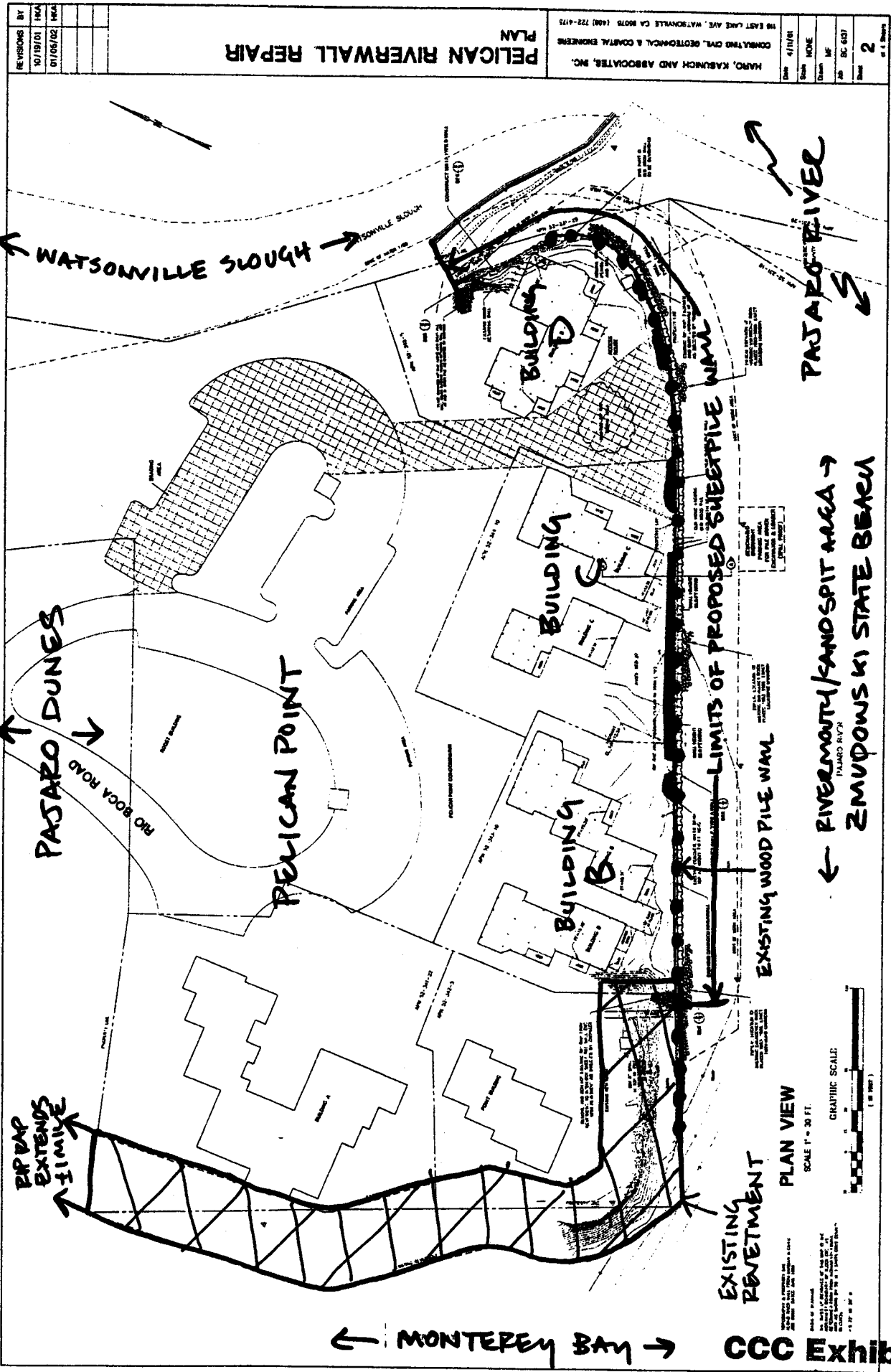
The proposed riverwall along Watsonville Slough will not meet the FEMA zero-rise criteria if constructed on a 5-foot offset as planned for the remainder of the wall. However, the riverwall was found to have no net increases in flood elevations in the Watsonville Slough with placement of the riverwall approximately 15 feet inside the property boundary (Ibid). The proposed riverwall has been designed in accordance with this recommendation.

Construction Impacts

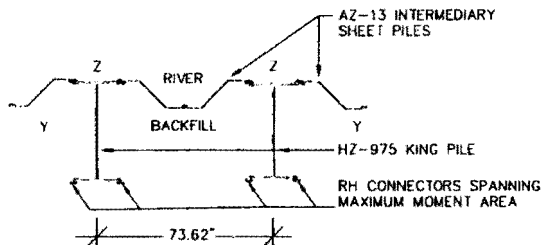
- **Exposure to Construction Noise.** The proposed project will result in short-term, temporary increases in noise levels due to construction and use of pile drivers and other equipment, but will not result in a permanent increase in noise levels once the riverwall has been completed. Construction activities will result in intermittent high noise levels and vibrations throughout the day, resulting in temporary noise increases to residents and visitors of the adjacent Pelican Point Condominiums and beach users, although the planned construction period (October to early December) is a low-occupancy period at the adjacent condominiums.

Although some of the nearby residents and recreational users may be aware of construction-related noise during the daytime, the impact is not considered significant due to the limited level and duration of exposure during the workday caused by construction and the short-term duration of the activity (2-3 months). Construction will not occur during weekends or evening. However, it is recommended that residents and visitors be forewarned of the construction period.

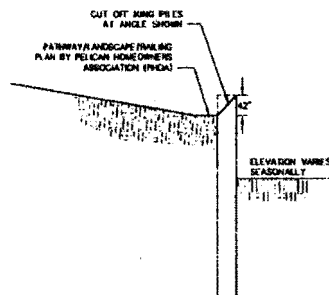
RECOMMENDATION: Require Pajaro Dunes Association to provide advance notice to residents and visitors of the planned construction schedule, and noise sources, that may result in temporary inconveniences.



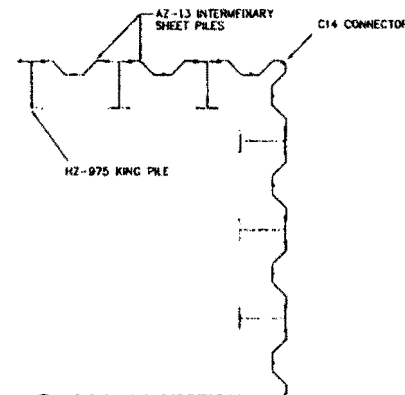
NOTES:
STEEL SHEET PILING SHALL CONFORM TO "PROF. ARBED" WALL SYSTEM, USING ASTM A572 GRADE 60 STEEL FOR COATING SEE SPECIFICATIONS. DRIVING EQUIPMENT AND INSTALLATION SHALL BE ACCORDING TO MANUFACTURER'S SPECIFICATIONS FOR COMBINED HZ WALLS.



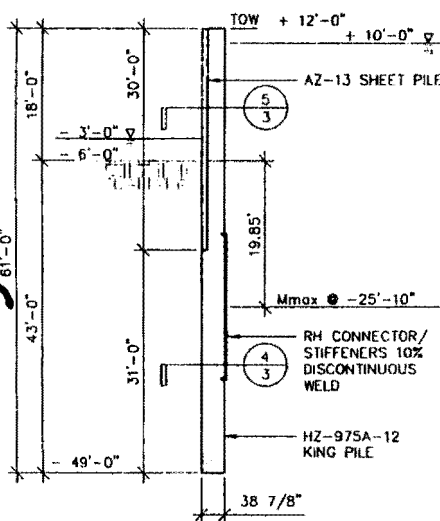
4 KING PILE SECTION
SCALE: 1/2" = 1'-0"



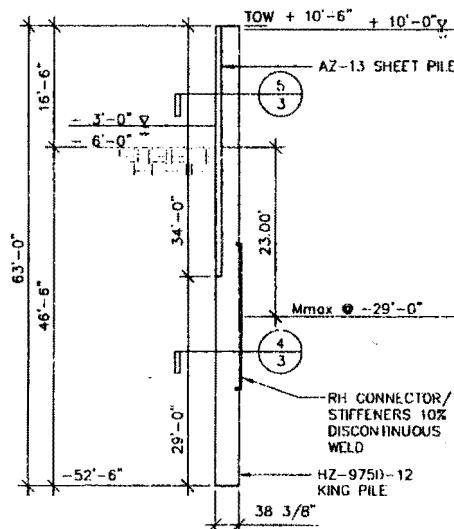
5 TOP DETAIL
SCALE: 1" = 10'-0"



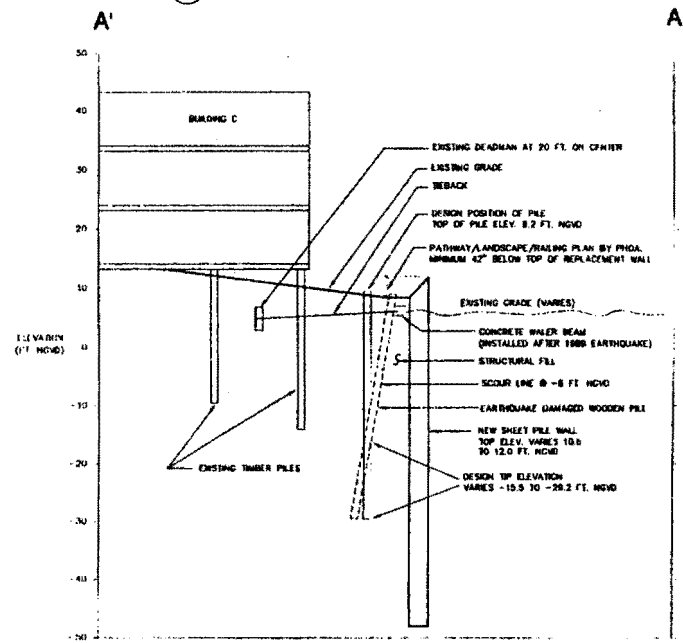
6 CORNER SECTION
SCALE: 1/4" = 1'-0"



1 WALL SECTION - TYPE A
SCALE: 1/8" = 1'-0"



2 WALL SECTION - TYPE B
SCALE: 1/8" = 1'-0"



3 SECTION A'-A
SCALE: 1" = 10'-0"

REVISIONS	BY
10/19/01	HKA
1/15/02	HKA

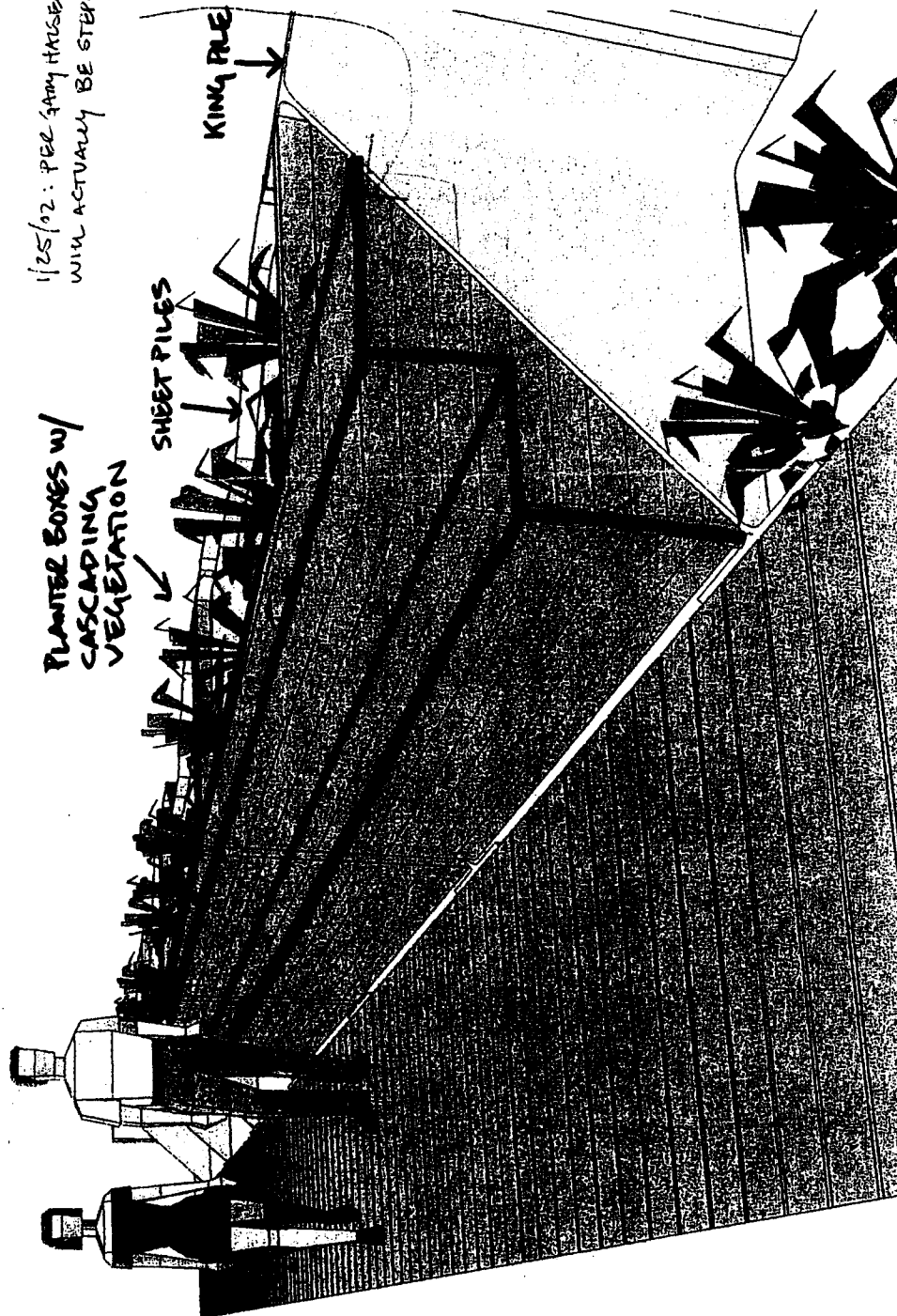
PELICAN RIVERWALL REPAIR DETAILS

HARG, KASINICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
100 EAST LAKE AVE., WATSONVILLE, CA 95076 (408) 722-1715

Date	4/11/01
Scale	NONE
Drawn	MF
Job	SC 8137
Sheet	3 of 4 Sheets

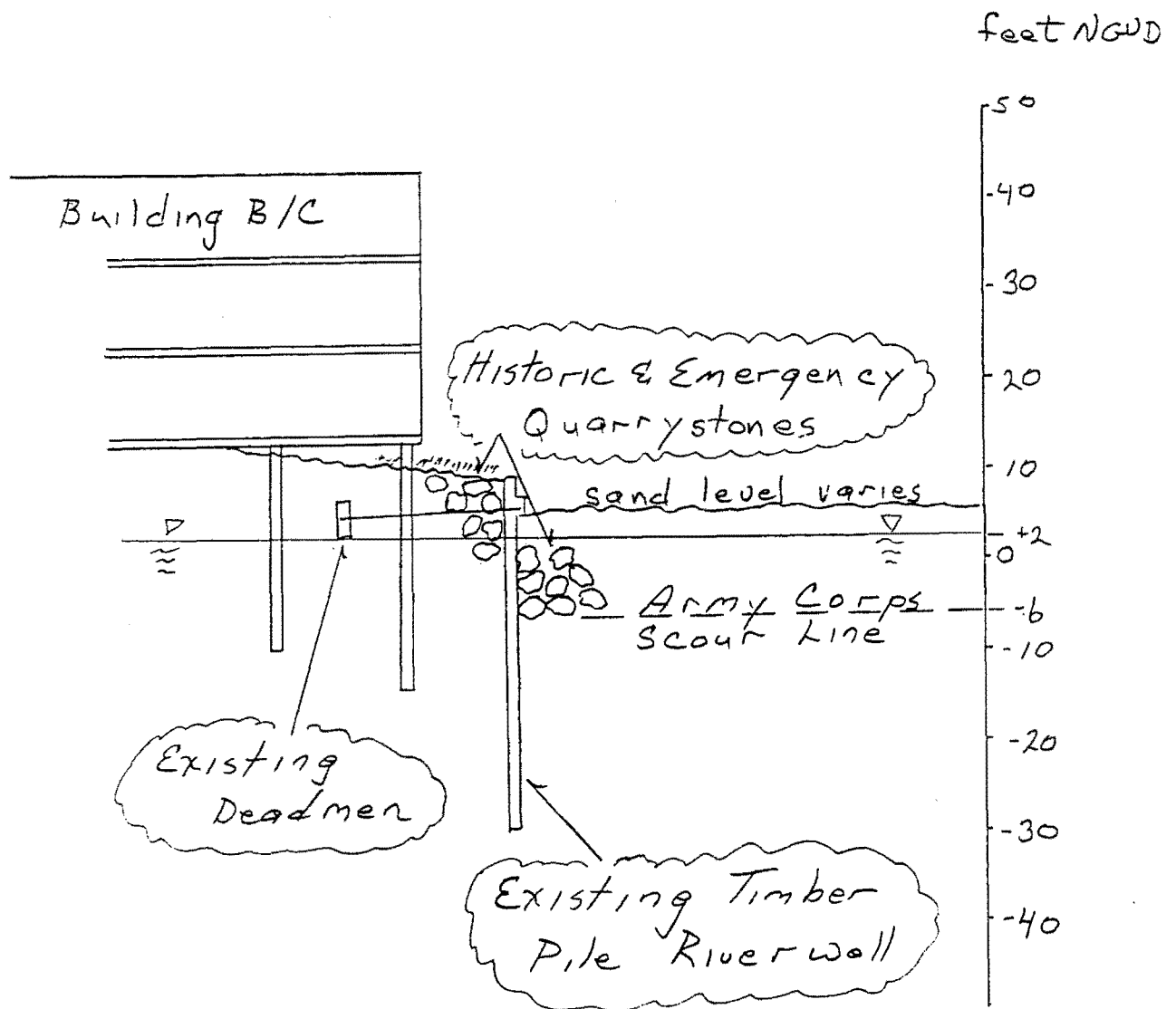
RIVER/SLOUGH
SIDE OF
SHEETPILE WALL

1/25/02: PER GARY HATSEY,
WILL ACTUALLY BE STEPPED



CONDOMINIUM SIDE
OF SHEETPILE WALL





CCC Exhibit D
 (page 1 of 3 pages)

PROJECT No: SC 6137

DATE: 21 March 02

SCALE: 1 inch = 20 feet

DRAWN BY: RP

Buildings B/C with
 Timber Pile Wall and
 Buried Rock

HARO, KASUNICH & ASSOCIATES

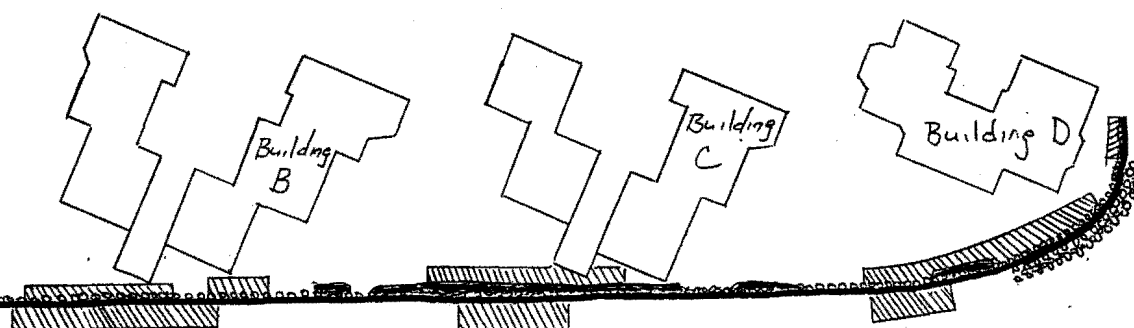
FIGURE No. 1


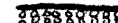


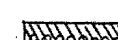
CCC Exhibit D
(page 2 of 3 pages)

Existing Riverwall

Pelican Point Condominiums

North



-  1969 Project Plans - Bankrun quarrystones along interior - 615 ft x $\frac{1}{3}$ yd³/ft = 185 yd³
-  1969 Project Plans - 1 to 3 ton quarrystones along exterior - 80 ft x 1 yd³/ft = 80 yd³
-  1998 Emergency Repair - 28 yd³ quarrystones & 46 yd³ sand bags
-  1983-1996 Historic emergency quarrystones along exterior - 190 ft x 2.2 yd³/ft = 418 yd³
-  1983-1996 Historic emergency quarrystones along interior - 340 ft x 2.4 yd³/ft = 816 yd³

Total import quarry stone estimate = 1,530 yd³
Total sand bags along interior = 46 yd³

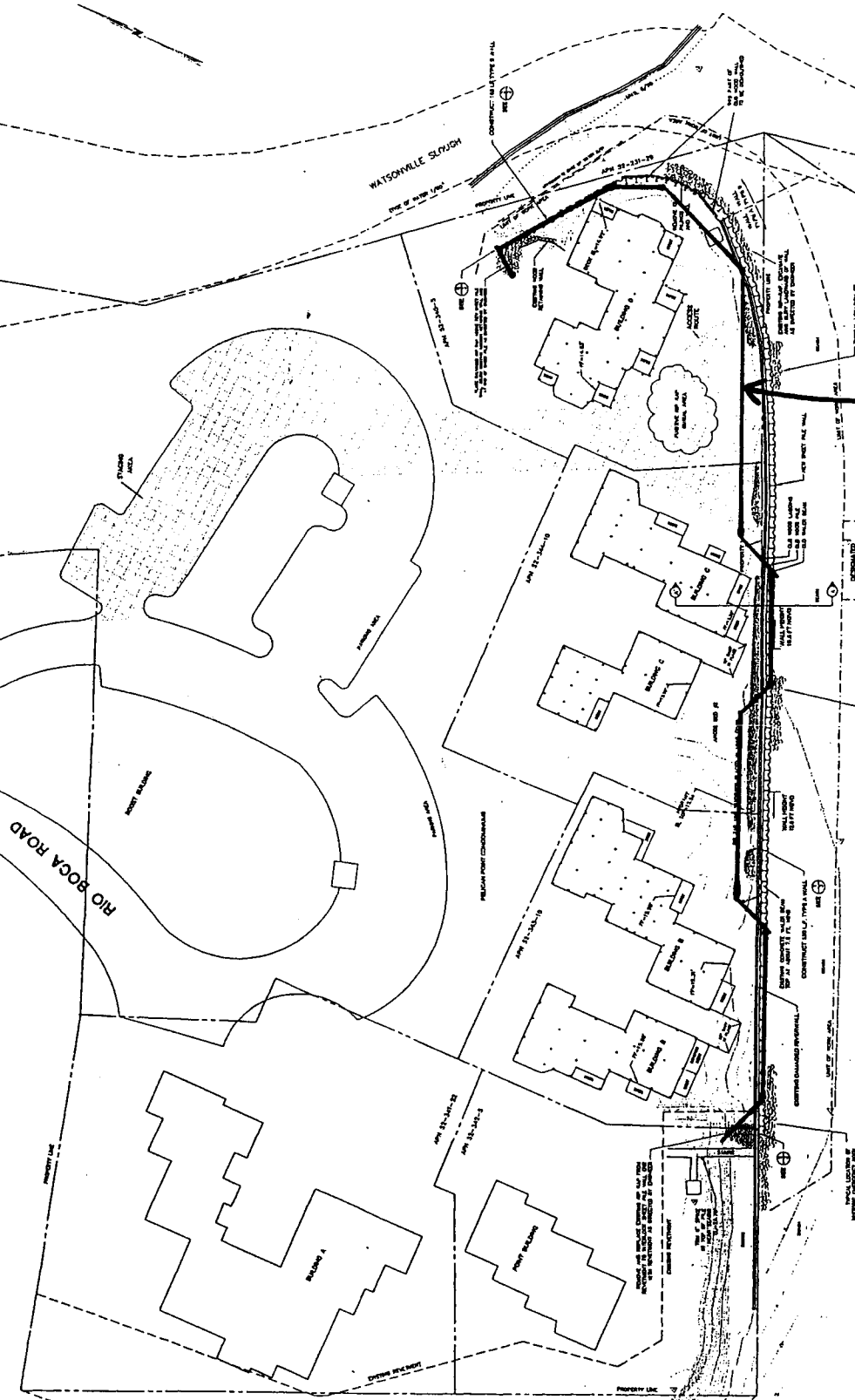
PROJECT NO: SC6137	Pelican Point Riverwall
DATE: 28 Feb 02	Import Quarrystone Estimates
SCALE: 1 inch = 60 feet	Santa Cruz County, CA
DRAWN BY: RP	
HARO, KASUNICH & ASSOCIATES	FIGURE NO. 3

REVISIONS	BY	DATE
10/19/01	HKA	
01/25/02	HKA	

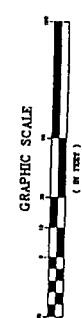
PLAN PELICAN RIVERWALL REPAIR

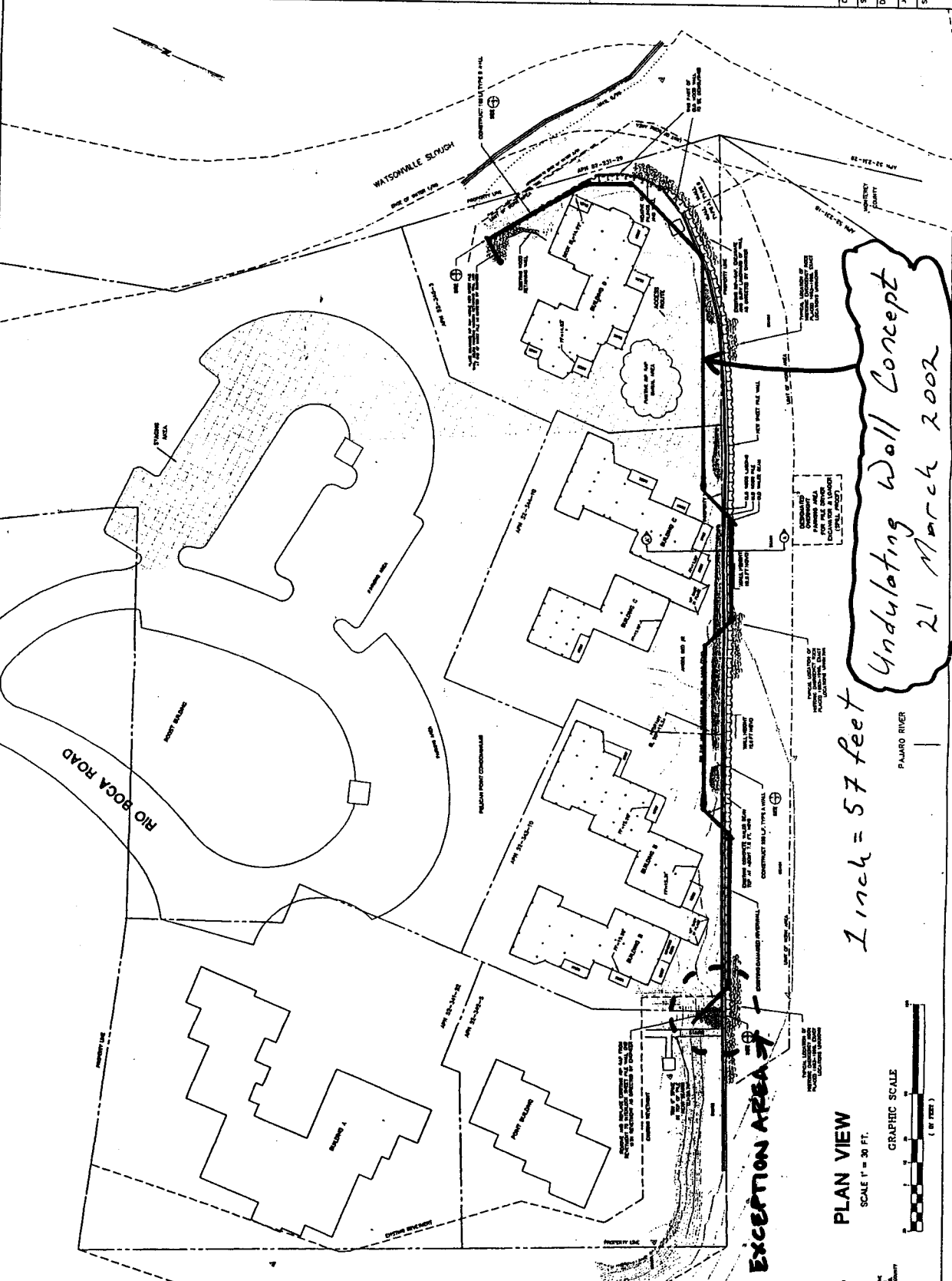
HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
115 EAST LAKE AVE., WATSONVILLE, CA 95076 (408) 722-4175

Date: 4/17/01
Scale: NCVS
Drawn: MC
Job: SC 8137
Sheet: 2 of 1 Sheets



PLAN VIEW
SCALE 1" = 57 FT.





Undulating Wall Concept
 21 March 2002

PLAN VIEW
 SCALE 1" = 57 FT.



CCC Exhibit **E**
 (page 1 of 3 pages)

MONTEREY BAY

APPROVED UNDULATING WALL ALTERNATIVE

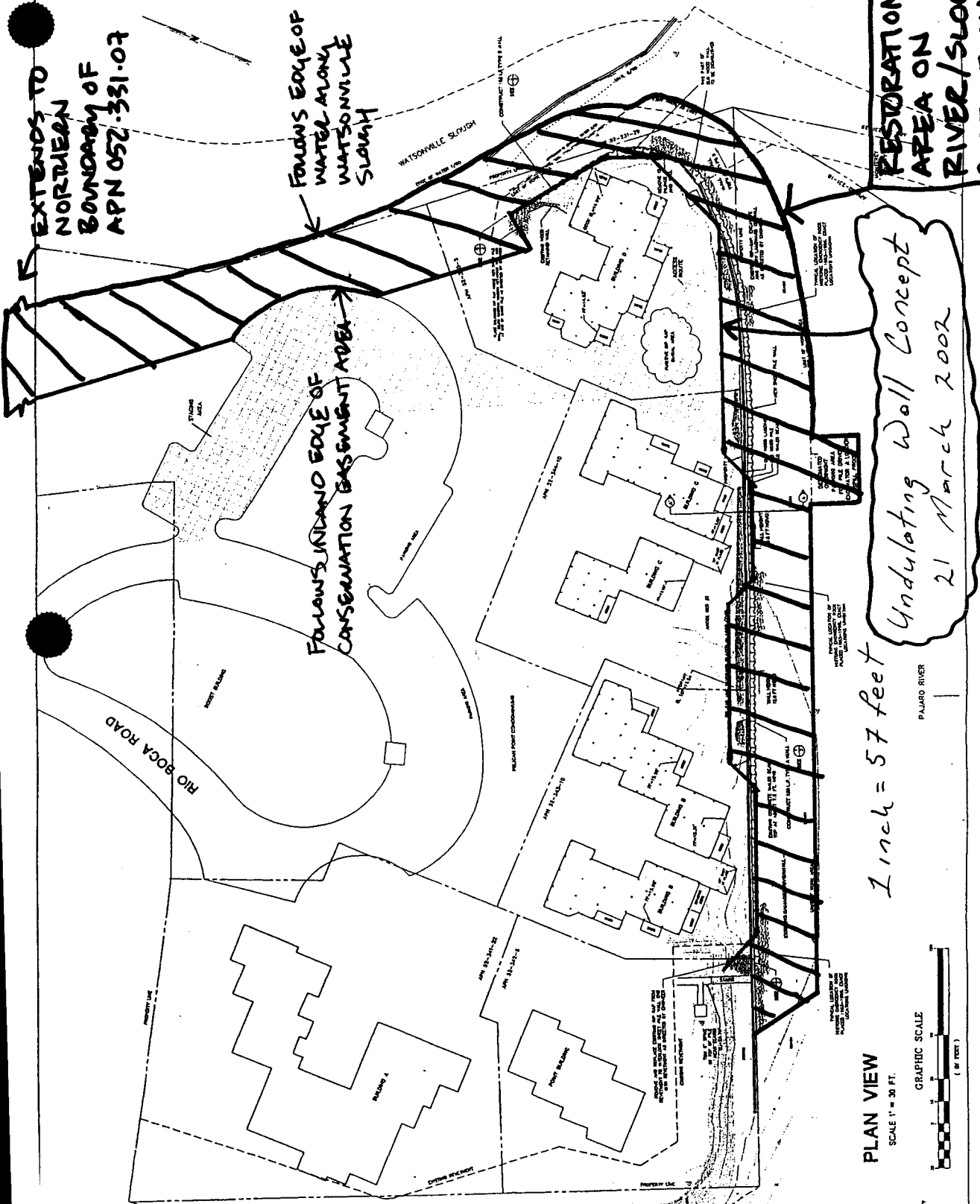
REVISIONS BY	DATE	DESCRIPTION
10/13/01	HKA	
01/05/02	HKA	

PLAN PELICAN RIVERWALL REPAIR

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
111 EAST LAKE AVE., WATSONVILLE, CA 95076 (408) 722-1175

DATE	4/17/02
NO.	
Drawn	MP
App	SC 0137
Sheet	2

RESTORATION
AREA ON
RIVER/SLOUGH
SIDE OF WALL
AND CONDOS



PLAN VIEW

SCALE 1" = 30 FT.

GRAPHIC SCALE

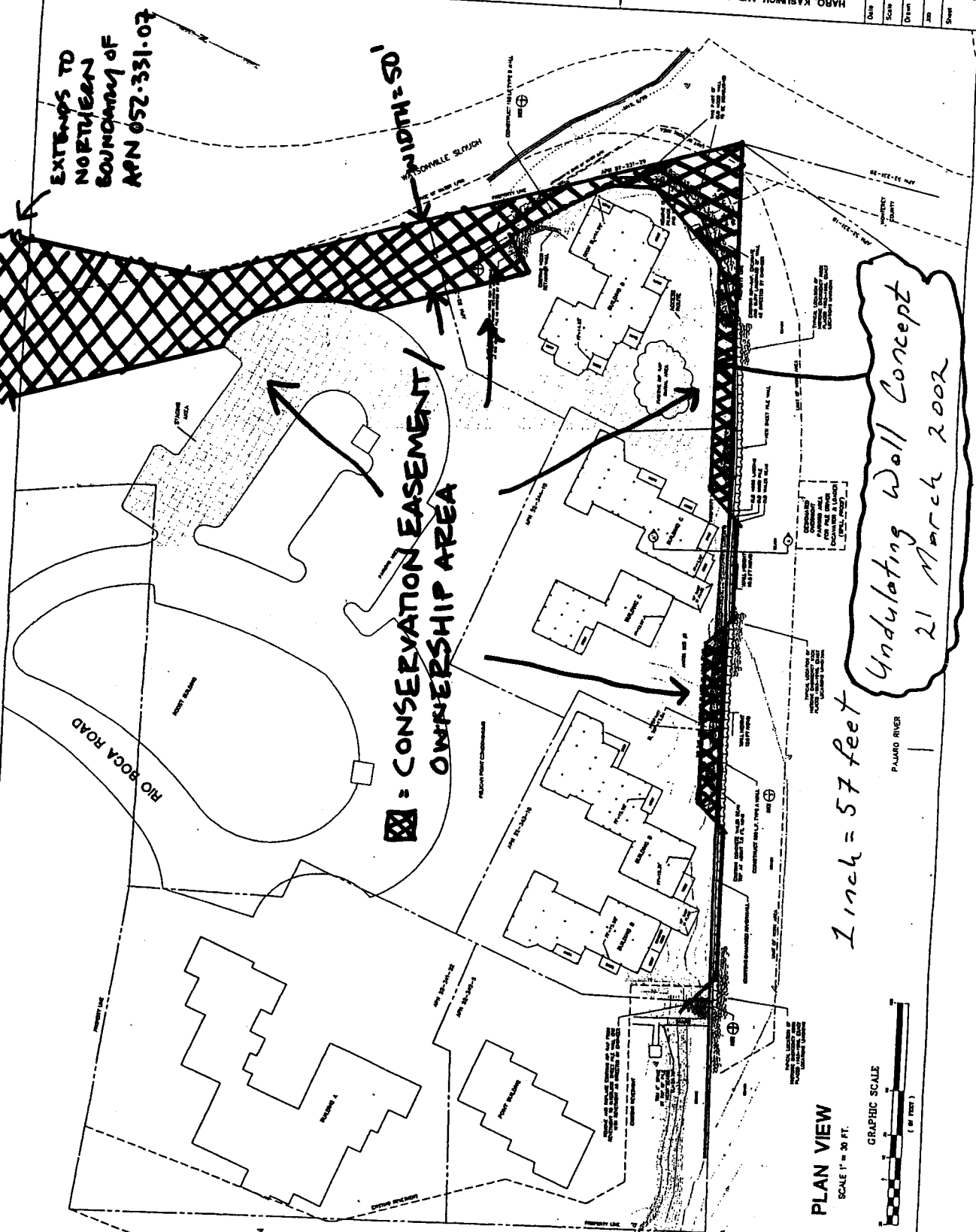


REVISIONS	BY
10/13/01	HKA
01/25/02	HKA

PLAN PELICAN RIVERWALL REPAIR

HARD, KASUNICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
116 EAST LAKE AVE., WATSONVILLE, CA 95076 (408) 722-4119

Date	4/17/01
Scale	NONE
Drawn	MF
App	SC 8137
Sheet	2



Undulating Wall Concept
21 March 2002

LEGAL INSTRUMENT DETAIL