



**Updated
Informational Documents Included**



**CITY OF MARINA and
MONTEREY PENINSULA REGIONAL PARK DISTRICT**

SPECIAL JOINT MEETING AGENDA

Date: Tuesday, April 29, 2025

Time: 7:00 p.m. – 9:00 p.m.

**Location: Marina Library Community Room,
190 Seaside Circle, Marina, California**

-
- 1) 7:00 CALL TO ORDER**
 - 2) ROLL CALL**
 - 3) APPROVAL OF AGENDA**
 - 4) DISCUSSION/ACTION ITEM** (*Discussion items generally include a staff presentation or explanation and recommendation before Board discussion and vote. Public speakers are limited to two minutes.*)
 - Locke-Paddon Wetland Community Park** (*A. Hunter/J. Smith*)
 - A. Meeting Purpose and Desired Outcomes for Initial Meeting**
 - B. Park Overview and Background**
 - C. Current Conditions and Need for Coordinated Park Investment and Management**
 - D. Public Comments**
 - E. Council and Board Comments**
 - 5) 9:00 ADJOURNMENT**

No formal action will be taken at this meeting.

Agenda packets, with the exception of Closed Session and non-approved items are available at the Administration Office. Agendas are available at the Garland Park Visitor Center and Big Sur, Carmel, Carmel Valley, CSUMB, Marina, Monterey, Pacific Grove, and Seaside Public Libraries. Materials related to an item on this Agenda submitted after distribution of the Agenda packet are available for public inspection at the Administration Office during normal business hours. The Agendas and Agenda packets may also be viewed on the District website at www.mprpd.org.

AMERICANS WITH DISABILITIES ACT (ADA) NOTICE: If you believe you possess any disability that would require special accommodation in order to attend and participate in this meeting, please contact the Board Clerk at (831) 372-3196 at least 48 hours prior to the scheduled meeting.

Final
MASTER PLAN AND DESIGN
DEVELOPMENT REPORT
LOCKE-PADDON WETLAND PARK



Monterey Peninsula Regional Park District

Prepared by:
purkiss.rose-rsi

August 2005



Table of Contents

	<u>Page Number</u>
Authority	1
Purpose	1
Vicinity Map	2
Background	3
Methodology	4
Site Description	5
Concept Plan	6
Development Concept	7
Possible Environmental Impacts	13
Cost Analysis	15
Opinion of Probable Cost	16
Maintenance Program	17
Appendix	18
Meeting Minutes for 11/4/04	
Sign-In Sheet for 11/4/04	
Meeting Minutes for 1/18/05	
Concept A Drawing	
Concept B Drawing	
Landscape Maintenance Specifications	

Authority

On September 16, 2004, the Monterey Peninsula Regional Park District entered into agreement with Purkiss-Rose-RSI to furnish park planning and landscape architectural services for the enlargement and enhancement of Locke-Paddon Wetland Park in the City of Marina. This service involved the preparation of a Master Plan and a Design Development Report for this park site.

Purpose

The Design Development Report (DDR) is an association of planning functions composed specifically to meet the needs of the public agency in processing the initial design of a park area or special facility. Its purpose is to establish a concept plan that depicts the recommended development of a specific site and/or special facility and to establish a realistic phasing program that fulfills primary needs and is as consistent as possible with financing resources.

The plan is prepared in a graphic form that allows the citizen, administrator, board member and elected official to participate effectively in the decisions on scope, function, priorities, and design concepts. The Design Development Report presents concepts of use; describes functional aspects of the design; investigates methods of implementation; describes potential environmental impacts; and promotes community understanding and support for the program.



Locke-Paddon Park

marina
state
beach



Monterey Peninsula Regional Park District
Locke-Paddon Wetland Park

Vicinity Map
April 2005

purkiss-rose-rsi
Landscape Architecture
Recreation and Park Planning
601 North Main Street
Palo Alto, California 94301
650/325-1000
purkiss.com



Background

The town of Marina was laid out in 1913 by William Locke-Paddon after he purchased 1500 acres from the David Jacks family of Monterey notoriety. Mr. Locke-Paddon was a very successful real estate speculator that specialized in buying small family farms throughout Northern California and then subdividing and marketing them as “Locke-Paddon Colonies.”

The large tract of coastal prairie that he purchased from the Jacks family was subdivided into 300 five acre parcels that sold for \$75 each. To help “sell” Marina, Mr. Locke-Paddon persuaded the Southern Pacific Railroad to put in a “flag-stop” to accommodate travelers, and prospective buyers, from the San Francisco area. The town was incorporated in 1975 and soon after began looking for projects to enhance the City’s character.

The Park District was also recently formed (1972) and was actively seeking cooperative open space projects within peninsula cities. A very noticeable characteristic of the City was its six vernal ponds. In 1986 a partnership was created between the Regional Park District, the City and the Coastal Conservancy to acquire the lands around KIDD pond – so named for the tall towers owned by the station of the same called letters.

Prior to any acquisitions, a pond enhancement plan was adopted which gave direction for the pond’s future development and protection. Once adopted, the District’s first purchase was the 12 acre Walton/KIDD parcel. By 1991 five of the six parcels were publicly owned and the park was dedicated as Locke-Paddon Wetland Community Park in honor of the City’s founder. The City also approved plans for a much needed library in the park. Acquisition of the last remaining private parcel, known as the Isakson Property has recently been completed. This effort which will complete a long 15 year effort that will also begin the final phase of its original goal – its enhancement and restoration as critical coastal wetland habitat.

In 1994 a comprehensive Vernal Pond Management Plan was adopted by the City that reaffirmed the unique wetland nature of the park as wildlife habitat.



Pond south end of project



Newly acquired Isakson property

Methodology

The provision of park and recreation facilities is a people-oriented program and successful implementation requires public support and involvement. Obviously, decisions cannot always meet the specific desires of all segments of the community. The basic nature of public recreation recognizes that people have varied interests and skills involving a wide spectrum of activities. Since the primary purpose of local parks is to accommodate many of these activities, it is incumbent on government to mitigate, as much as possible, all possible impacts on the site.

In an effort to generate public input and to ally the Locke-Paddon Wetland Park community with the overall recreation needs, a number of meetings were held. The first meeting was held on November 8th, 2004, at the Monterey Peninsula Regional Park District office and included representatives of the City, Locke-Paddon Improvement Committee, and other stakeholders. A brief history of the park site was described as well as the recreational needs/deficiencies that face the Park. Based on recommendations identified in the two previously adopted pond plans and input from the meeting, two conceptual Master Plans were developed and prepared.

The second meeting for community input was on January 19th, 2005, at the adjacent Holiday Inn Express conference room. Again, the project background was described with the two conceptual Master Plans proposals. The audience was divided into separate tables where participants expressed their concerns and ideas, which were noted.

The consensus was that conceptual Master Plan B, with some revisions, seemed to best meet community needs. From conceptual Master Plan B a proposed final Master Plan was developed for the Park District's approval.

A draft Master Plan was presented to the Monterey Regional Park District Board at their June 13, 2005, Board Meeting at Marina City Hall. There were some minor adjustments suggested by the Board. The public input expressed by attendees was supportive of the Master Plan. Ongoing maintenance responsibilities were a concern voiced by the public and Board members.

The draft Master Plan and Design Development Report was transmitted to the City of Marina Council members and presented for their information and input at their public meeting on July 19, 2005.

The final Master Plan and Design Development Report was presented to the MPRPD Board of Directors at their August 1, 2005 meeting.

Site Description

Locke-Paddon Wetland Park is located on the northwest corner of Reservation Road and Del Monte Boulevard in the City of Marina. The prominent site has a gradual elevation rise to the north to Seaside Circle. The site is bordered to the east by Del Monte Boulevard and the Southern Pacific Railroad line right-of-way, the south and west by Reservation Road, and the north by Seaside Avenue. The 23-acre park has been recently expanded on its east border by the acquisition of an additional 10 acres along the Southern Pacific Railroad right-of-way.



Isakson Property

There is significant vegetation within the site. Large Monterey Cypress provided a windscreen to the newly acquired property. Existing Park improvements have brought forth new landscape areas, including trees, shrubs and irrigation. A large mitigation area is centrally located in the park. A small constructed amphitheater, concrete picnic benches, trash receptacles are found throughout the park. A restroom facility is located on the northwest corner of the site near the intersection of Seaside Circle and Reservation Road.



Existing Improvements

The major feature of the park is the existing wetland pond at the toe of the gradual grassland slopes, which is freshwater and perennial. Water levels are maintained in winter through inflows of storm and groundwater. The pond is shallow with very little topographic variation, this results in a low diversity of vegetation and wildlife habitat types within and adjacent to the pond. The pond catches run off from the near-by shopping center on Reservation Road, which attributes to the pond's less than desirable water quality.



Homeless camp at Northeast end of site

A major concern within the park includes the control of homeless encampments on the corner of Del Monte Blvd. and Reservation Rd. in the willow understory. The large population of domestic geese and ducks within the pond has concerned the community and visitors with their aggressiveness, foul smell, and negative impact on water quality.



Future Library Site

RECREATION AREA
-VOLLEYBALL
-BOCCE BALL
-HORSESHOES

SMALL HEAD POND WITH
STREAM TO LARGE LAKE

EXISTING PARKING AND RESTROOM
FACILITY TO REMAIN

INTERPRETIVE EDUCATION AREA

PEDESTRIAN FOOT BRIDGES OVER STREAMS

EXISTING AMPHITHEATER TO REMAIN

EXISTING PATHWAY TO REMAIN

EXISTING MITIGATION AREA TO REMAIN

6' WIDE IMPROVED ADA COMPLIANT
FOOT PATH

EXTENT OF RADIO TOWER GROUNDING WIRES
(300' RADIUS)

LAKE OBSERVATION PLATFORM

10' WIDE MEANDERING SHARED
BIKE AND FOOT PATH

EXISTING LAKE WATER LINE

10' WIDE IMPROVED ADA COMPLIANT
BIKE AND FOOT PATH AROUND LAKE
PERIMETER

BENCHES AND TRASH RECEPTACLES
ALONG PATHWAY

LOW PROFILE
LIGHTING FIXTURE

ELEVATED OBSERVATION DECK AND WALK

CLEAN/PRUNE EXISTING WILLOW TREES
PROVIDE MORE VISIBILITY AND
SECURITY TO LAKE FROM INTERSECTION

Monterey Peninsula Regional Park District
Locke-Paddon Wetland Park
Final Master Plan
August 2005

LIBRARY PARKING STALLS FOR
62 CARS AND 8 DISABLED STALLS

LIBRARY BUILDING BY OTHERS

TOTLOT

DROP OFF ACCESS AND TWO
DISABLED STALLS

FUTURE ACCESS TO DIMAGGIO PARK

EXISTING TREE LINE/MASSING TO REMAIN
PRUNE AS NEEDED

BIKE RACK

TOTLOT AND PICNIC AREA

LARGE HEAD POND

GROUP PICNIC SHELTER WITH TABLES AND
BARBECUES

MEANDERING STREAM

PICNIC AREA

RIPARIAN HABITAT ALONG CREEK

LARGE OPEN GREENSWARD

INFORMAL STAGE

LANDSCAPE BERMS

ENHANCED ENTRY MONUMENT SIGN AT CORNER



Parkiss-Rose - rsi
Landscape Architecture
Urban Planning
Recreation and Park Planning
1111 Coast Street, Suite 100
Pacifica, CA 94024
TEL: 650.351.1111
WWW.PARKISS-ROSE.COM

Development Concept

Design Overview

As a community park, Locke-Paddon Wetland Park is intended to serve a variety of recreation and educational needs associated with the greater Marina community. In developing the Master Plan for the park, there were several existing uses and conditions that affected the final design of the Master Plan.

One of the biggest constraints of the Park are the two existing radio towers. Although they can be a very good landmark for locating the park while driving on near-by Highway 1, their subsurface impact on park development is significant. Any improvements within a 300' radius of the towers must be above grade, due to the sub-surface grounding wires of the towers. Proposed improvements, including the library, have stayed clear of the grounding wires.

Existing Park improvements at the corner of Reservation Road and Seaside Avenue will remain as part of the Master Plan design, which include the restroom building and terraced landscape border. The 18-space parking lot will also remain to conveniently accommodate park visitors to the site.

The existing pond is essential to the park and is retained in the Master Plan *as is*. A suggestion would be for the pond to have an aeration system added, which can be implemented with the addition of artificial streams with head ponds. Habitat recommendations include removal of non-indigenous plant species and the thinning of the overgrown willows on the eastern end of the pond to help keep that portion of the park open, and thinning of the overgrowth and encroachment of cattails within the pond.

Library

The future home of the City of Marina Library is adjacent to the park site at the end of Seaside Avenue. Every effort will be made to integrate the development of the library with the surrounding park. Coordination will be vital in the planning for the park and library.



Radio Towers



Existing Improvements



Library and parking

Open Play Areas

The recently acquired 10-acre property provides an opportunity for new open space play areas. It is proposed that the area be bermed to provide a visual and sound buffer from the proposed visitor rail service project planned for the abandoned Union Pacific railroad right-of-way. The berm could also act as an informal amphitheater for an outdoor performance area. Improvements to this area could also include irregular groupings of trees as well as keeping most of the remaining Monterey Cypress trees, which currently form a visual landscape screen and separates the new 10-acre property from the rest of the park. A drop-off area will provide two convenient accessible parking stalls for visitors with special needs and provide a drop-off location for the large picnic shelter area.



Picnic/open play area w/ pavilion

Large Picnic Shelter

A large group picnic shelter is proposed in the open play area. Improvements may include a concrete slab under the shelter to house picnic tables, large barbeque grills and sinks. The large berm around the shelter will act as a wind break. A large informal grouping of trees surrounding the shelter will provide a sense of enclosure from the surrounding play area.

Lake, Pond and Streams

The Lake is recommended to remain “as is”, with some minor clean-up, removal of exotic plant species and thinning of willows and cattails. Two re-circulating streams and head ponds are included in the proposed park design for a number of reasons. They will not only take advantage of the natural grade changes and water collection aspect of the site, but they will add interest and another educational habitat type to the park. They will also provide an aeration system for the pond, which will have a beneficial effect on the currently high bacteria count. The stream sources will begin at the two head ponds as proposed for the recently acquired 10-acre property. They are directed toward the lake via constructed, lined streambeds that meander south along internal pathways into the lake, and allowing for the possibility of riffling cascades. The existing and proposed pedestrian trails will be bridged at the streams crossings. To further enhance the educational and habitat character of the proposed streams, it is suggested that they be bordered with typical riparian trees, shrubs and perennials. Research and related materials would also be found at the library to provide a cooperative educational experience to all park visitors.



Large Head Pond & Stream/Riparian Habitat.

Play Areas

Two passive play areas are proposed on the site; one associated with the group picnic area on the recently acquired 10-acre property; the other overlooking the head pond near the Library building to the north of the site. Both are conveniently located near activity areas and are accessible by walkways, which tie into the overall circulation system of the park. Both play areas are defined by a concrete curb, which contains rubberized surfacing or wood chips and acts as a mow strip for maintenance ease.

Play equipment is recommended to include modern state-of-the-art play structures with slides, ladders, bridges, transitions, lookout platforms, balance beams, climbing apparatuses, and various play panels. Improvements will be designed for ADA compliant access.

Large Informal Amphitheater

The grass slope and berming in the open play area on the east side of the park along the railroad right-of-way is intended to act as a sound and visual buffer and as an informal amphitheater for community events. A stage area is recommended for the foot of the slope and would be back-dropped by the lake.

Trails and foot paths



A 10' wide ADA compliant bike path will replace the existing path along the south-west perimeter of the lake and connect the existing Monterey Bay Coastal Trail along Del Monte Boulevard with the existing parking area on Seaside Avenue. The path will also connect with other existing and proposed trails to provide access around the complete perimeter of the lake. It is also suggested that the trail system be enhanced with benches, trash receptacles, interpretive displays, and exercise stations. Thinning of the willow trees on the southern edge of lake will create an opportunity to provide an observation deck to view the lake. The observation deck could incorporate a seating area and trash receptacles. Two other observational platforms are suggested for the northern part of the lake and could include benches, interpretive panels, and trash receptacles. In addition to concrete walks, there may be opportunities for elevated or floating decks to provide pedestrian access over high water areas or across the lake. In considering these deck systems, there are agency concerns regarding



Tot lot near Library



Informal Amphitheater



Southern Park entry



Trails adjacent to Reservation Road

construction costs, maintenance requirements, habitat impact, as well as safety and liability. These access options will be further considered during design development when more specific topographic and drainage information is available. All other existing and proposed trails are recommended to be ADA compliant with a medium broom finished concrete surface.

Signage

An elevated new park sign is recommended at the corner of Reservation Road and Del Monte Blvd. The new identification signage should incorporate recycled materials. Directional signage and facility identification signs are recommended where necessary to direct park users to the appropriate parking and activity areas. Signs should also identify the restroom facilities and handicapped parking spaces, where applicable. Interpretive kiosks, panel displays, and signage should be placed adjacent to the walkways and at interpretive/education areas for effective use.



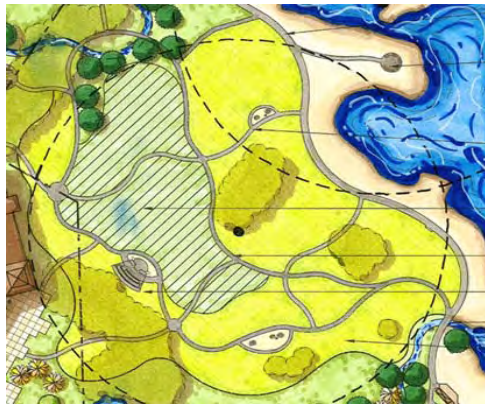
Existing Park Signage



Existing Amphitheater

Interpretive Educational Area

A large portion of the existing park site is recommended as an interpretive education area with a series of ADA compliant trails looping throughout the park. The intent of the interpretive area is to provide environmental education opportunities to park visitors. Each area will be defined by the trail system. These educational areas should primarily consist of plant communities indigenous to the Marina site and, where appropriate and useful for environmental



educational purposes, to Monterey County. The area includes the existing amphitheater with suggested minor aesthetic changes, and the existing Holiday Inn Express mitigation area. The individual picnic tables and trash receptacles scattered along the edge of these trails should be consolidated and



Interpretive turn-out with rock outcropping

located in the passive play area of the recently acquired 10-acre property. Concrete slabs are recommended under tables to minimize maintenance requirements. Turn-out areas with rock features along the trails can provide a resting place as well as a chance for informal interpretive and social interaction without obstructing walkers.



Existing Mitigation Area

Landscaping

Proposed planting is intended to define and buffer the activity areas from each other. Plantings can be used to direct views and circulation through the park site. In proposed turf areas trees should be located at least 20 feet apart to allow efficient mowing with large mowers. Concrete mow strips should be used to delineate between turf and planting areas for maintenance ease. Plant species should be selected to reflect the indigenous plants of the area and to minimize maintenance requirements. Trees are recommended to provide wind deflection in activity areas. To preserve existing trees that are notable specimens, pruning, thinning, and removal should be done under direction of a certified arborist.

It is recommended that the entire site be covered by an automatic sprinkler system designed to provide adequate irrigation for the different types of landscape planting. Low precipitation heads should be used to minimize water runoff, particularly in steep areas.

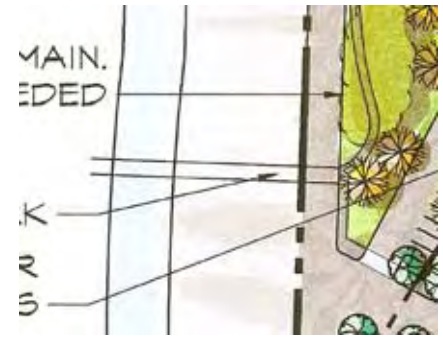
Rotary type sprinklers could be used in the proposed large maintained turf areas. Impact type sprinklers are appropriate in areas where groundcover planting is proposed. Elevated heads should be protected from damage caused by users and maintenance equipment. In addition to low-volume heads, various water conservation methods should be used to maximize efficiency of the irrigation system.

Parking

The parking has been proposed as convenient to activity areas as possible. Access to all parking areas is off of Seaside Avenue only. The parking area located near the group picnic area is for handicapped parking only. A drop-off has been incorporated in that area to provide access for loading and unloading equipment, supplies or visitors as needed. The road can also serve public safety and maintenance vehicle access to the play area. The existing parking area on the northwest can accommodate 17 cars and has a single accessible space. The remaining library parking area can accommodate an additional 62 cars and eight ADA accessible spaces. All parking areas are recommended to be composed of asphalt with striping, tree planting, curb and gutters, and accessible sidewalks and ramps.

Future Park Connections

With the proximity of Locke-Paddon Wetland Park to Vince Dimaggio Park, there was public interest to provide a connection between these two facilities. The Union Pacific Rail line could be a major factor in this design if it is re-activated in the future. Though there is an existing sidewalk along the eastern side of Del Monte Boulevard and a crosswalk at Reservation Road, any future design considerations might include a pedestrian overpass linking the two parks.



Proposed connection to Dimaggio Park

Possible Environmental Impacts

This preliminary evaluation of environmental conditions and possible impacts has been made without the benefit of thorough scientific assessments or testing techniques. These preliminary findings are based on visual inspection of the site; comparison with similar projects; and a working knowledge of the CEQA process. The primary intent is to identify critical impacts early in the design program so that solutions reflect both environmental concerns and functional criteria.

Aesthetics

The transition from vacant land to high quality landscaping recreational amenities not yet present in the community is direct, major and extremely beneficial. The proposed park improvements will contribute to the recreational, social and aesthetic character of the City of Marina area as a whole, and will substantially improve the aesthetic quality of the immediate neighborhood.

Noise

Negative impacts are minimal. During construction there may be significant, though temporary, increases in noise levels. The new uses and intensities capable for this site based on the proposed new recreation improvements will increase current internal noise levels. However, proposed plantings and berms within the site will significantly buffer new noise impacts by acting as an acoustical shield, particularly when planted. The relatively low impact of the rest of the site should cause no significant noise problems, no more than what is currently on the existing site. Control of construction noise will be by enforcement of construction specifications and inspection. Noise generated from park maintenance equipment can be controlled by adequate muffler devices and work scheduling. Program scheduling will control organized activities and the noise they generate.

Light and glare

Any installed security lighting should be low profile and directed downward with a minimal amount of light spill or glare, and be an energy efficient, high intensity discharge type. The particular types should be selected for color and control of light distribution pattern. Mitigation measures could include:

- (1) shielding the light sources where necessary;
- (2) controlling the lighting systems by timers for limited use; and
- (3) designing security lighting to a minimal level to eliminate dark spots in the park without glare.

Traffic and Parking

The generation of additional traffic (vehicular, bicycle and pedestrian) will be experienced on the northern edge of the site along Seaside Avenue. No vehicular access is allowed anywhere on the site except at the entrances off Seaside Avenue. The amount and intensity of traffic will be primarily a function of the proposed new library and secondarily related to the proposed park improvements but will need to be quantified nonetheless.

Water Usage

The park will be designed to conserve water resources wherever possible. Native indigenous plant species are generally drought tolerant and the proposed turf area can be planted with a drought resistant grass. The irrigation system can be automatically controlled allowing specific water conserving adjustment in various areas (according to the plant species and particular microclimate). Low volume irrigation heads can reduce runoff, particularly on slopes. Rain and moisture sensors can also be used to monitor and control the irrigation system.

Water from the lake will be re-circulated through the proposed stream system and should be considered to supply the irrigation system.

The existing water well on the newly acquired Isakson property will be investigated as a potential source of water for lake replenishment and irrigation.

Cost Analysis

The Design Development Report is a planning product that provides required information to establish a realistic program of implementation. Not only does it determine an accurate scope of proposed development, it must also provide detailed estimates of construction costs.

Construction costs can be projected quite accurately after the establishment of scope and the adoption of reasonable standards of development. Cost projections are based on tested costing information, including comparisons with similar projects or facilities that have been constructed during the past six month period. Estimates do not include future inflation factors and they must be updated according to schedule of accomplishment.

The attached *Opinion of Probable Construction Cost* table identifies typical costs associated with the types of development improvements contemplated in the plan for a park with the size and scope of development proposed for Locke-Paddon Wetland Park. The costs are significant because the plan is ambitious and has as an outcome a park that will be highly attractive, easily accessible, user friendly, diverse in its micro-environments, and educationally provocative. It must also be noted that the park has seen very little improvement or maintenance funding over its nearly 20-years of existence. The proposed recreational, landscape, and habitat improvements will create a high-caliber park that will be much used and appreciated by the community as well as be a source of civic and agency pride as the landscape and uses mature. The investment may seem substantial but is typical of an urban open space park this size.

The costs are anticipated to be phased over time with the initial improvements related to turf and landscape enhancements and recreational amenities to improve the appearance of the park and attract more use by the community. Further phases will address accessibility and habitat enhancements as funds become available. By phasing the construction costs, there is the opportunity for capital campaigns that have specific goals and tangible items. Phasing also helps spread the costs over time and not encumber the Park District's budget or the community's ability to generate cost-sharing funds.

Job Name: Monterey Peninsula Regional Park District
Job Number: Locke-Paddon Wetland Park
 04-158
Date: June 3, 2005

Purkiss Rose-RSI
 801 N. Harbor Blvd.
 Fullerton, CA 92832
 Tel. (714) 871-3638
 Fax (714) 871-1188

OPINION OF PROBABLE CONSTRUCTION COST

NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT COST	ITEM COST	TOTAL
1	255,900	S.F.	Site clearing and grubbing	\$ 0.05	\$ 12,795.00	
2	255,900	S.F.	Rough Grading	\$ 0.30	\$ 76,770.00	
3	255,900	S.F.	Finish Grading	\$ 0.15	\$ 38,385.00	
4	54,745	S.F.	Enhanced Mitigation Area	\$ 0.10	\$ 5,474.50	
5	141,940	S.F.	Interpretive Education Area	\$ 0.15	\$ 21,291.00	
6	174,326	S.F.	Lakeside	\$ 0.25	\$ 43,581.50	
7	62,600	S.F.	Asphalt concrete paving	\$ 2.50	\$ 156,500.00	
8	91,095	S.F.	Reinforced concrete paving	\$ 4.50	\$ 409,927.50	
9	1,020	L.F.	Concrete mowbands	\$ 15.00	\$ 15,300.00	
10	1,315	L.F.	Stream feature	\$ 100.00	\$ 131,500.00	
11	1	L.S.	Lakes/Ponds w/ liners & pump	\$ 125,000.00	\$ 125,000.00	
12	7,820	S.F.	Rubberized surfacing at Tot lot	\$ 14.00	\$ 109,480.00	
13	1	L.S.	Totlot w/ shade shelter	\$ 100,000.00	\$ 100,000.00	
14	1	L.S.	Large pavilion/shade shelter	\$ 45,000.00	\$ 45,000.00	
15	1	L.S.	Outdoor stage	\$ 15,000.00	\$ 15,000.00	
16	1	L.S.	Site Amenities (Picnic tables, BBQ's, Benches, Bike Rack, Trash Receptacles, etc)	\$ 50,000.00	\$ 50,000.00	
17	5	EA.	Foot bridges	\$ 7,000.00	\$ 35,000.00	
18	418,550	S.F.	Turf	\$ 0.50	\$ 209,275.00	
19	165	EA.	Trees	\$ 300.00	\$ 49,500.00	
20	560,490	S.F.	Irrigation	\$ 0.15	\$ 84,073.50	
21	1	L.S.	Park wayfinding signage	\$ 10,000.00	\$ 10,000.00	
22	1	L.S.	Entry Monument signage	\$ 10,000.00	\$ 10,000.00	
23	1	L.S.	Large Pond Aeration system	\$ 45,000.00	\$ 45,000.00	
			SUB-TOTAL			\$ 1,798,853.00
			10% CONTINGENCY			\$ 179,885.30
			TOTAL			\$ 1,978,738.30

Purkiss Rose-RSI has no control over the cost of labor, materials, equipment or the contractor's methods of determining costs. These opinions of probable costs represent our best judgement as design professionals familiar with the construction industry and public works contracts. Purkiss Rose-RSI cannot and does not guarantee that proposals, bids or construction costs will not vary from our opinion of probable construction costs. Opinion of Probable Cost shall not be used as a bid form or for any bidding purposes.

Maintenance Program

The intent for the majority of this park is to maintain a more naturalistic character that fits and compliments the existing pond, existing vegetation and existing park amenities. The majority of the site is open space and is intended to be covered with drought tolerant and/or native plant materials that require minimal maintenance and moderate supplemental water. Maintenance in the more naturalistic areas will involve periodic checking and adjustment of the irrigation system to insure adequate coverage with the automatically controlled system; control of weeds and eradication of invasive exotic species such as Kikuya and Bermuda grass and Castor Bean; and litter removal as necessary.

Tree trimming should be limited to removal of deadwood and thinning as necessary to promote a strong and balanced limb structure that can withstand the prevailing winds. Similarly, shrub pruning will be minimal, with species selected that have low profiles and require little supplemental care.

The expansion area is intended to provide an open maintained turf area for more active informal play or gatherings associated with the library and group picnic shelter. The turf will be fescue type and will require regular weekly mowing, daily irrigation and supplemental periodic feeding.

The existing main pond will require litter removal as necessary and an annual removal of encroaching cat tails and willows to maintain open water and a definitive shoreline. Some removal of algae may be necessary depending on the success of the improved circulation and aeration enhancements that may be implemented.

The aeration and pumping system associated with the ponds water quality improvement program will require a regular maintenance inspection to insure that the system is properly working. We would expect that this would be every two weeks or monthly as the particular site circumstances warrant.

Maintenance of the restroom, play area, picnic facilities, parking areas, trash receptacles and paths would be on a weekly basis similar to the maintenance schedule for any community park.

A sample maintenance specification has been included in the Appendix with detailed descriptions of maintenance services to be performed.

Appendix

DATE **November 8th, 2004**

MEETING MINUTES:

PROJECT: Locke-Paddon Wetland Park, City of Marina

DATE OF
MEETING: November 4th, 2004

LOCATION: Monterey Peninsula Regional Park District Office

PRESENT: See attached sign-in sheet

DISTRIBUTION: Tim Jenson, MPRPD

PURPOSE: Concerns and Constraints Meeting

JOB STATUS: Preliminary

Notes

- **Library**
 - 28,000 sq. ft.- waiting for finalization agreement between County and City....almost enough money.
 - Bus to route along street for drop off to Library
 - Parking at Library could be below City of Marina standards. Possibility?
 - Mitigation of Library to be address later?
- **Connection to Dimaggio Park**
 - City would like to see a thought put into connecting Dimaggio Park and Locke-Paddon, possible pedestrian bridge over street and railroad tracks.
- **Radio towers**
 - Water level to not exceed height of concrete platforms
 - No cutting near towers, ground wires. (See plans for radii around tower) Filling OK
- **Pond**
 - Clay bottom of lake to not be penetrated. No drainage/percolation on pond.
 - Water/ drainage from adjacent streets (north) run into pond. No outlet in pond.
 - South end of pond typically floods out. 1" of rain could yield 6"-12" more elevation in pond.

- Pond needs aeration - high bacteria count! No fountains or spraying. Possible solar pumps?
- Environment of pond!! Main focus. Trimming of Tule, aeration of pond.
- According to Dept. of Fish and Game, fishing is legal on site. Possible catch and release program.
- Ducks a large problem of pollutants in pond. Discouragement of feeding of ducks.
- **Stream**
 - Possible Stream from Library site to pond. Interpretive education? Stream habitat? Plant communities?
 - Possible route from Library to existing “duck pond” to main pond
 - environmental studies on site by school kids, groups, or classes. Then head to library for study, materials, reports, and information.
- **Amphitheater**
 - Needs podium/stage to be more viable resource for park
 - Currently only seats 60 people (maximum) & hardly ever used.
 - Possible integration of stream into Amphitheater area
 - Use it for library lectures/outdoor education
- **Misc.**
 - Cutting of willows may have environmental impact on pond
 - Clear access from pond to Marina State Beach. (Signage?)
 - Group picnic area/s on site
 - “Pier like” over looks on site for viewing of lake over water.
 - Site is cold and windy. Wind from the south. (State beach area)
 - Possible “green area” or open green space for large events and passive recreation
 - Public access from parking area for library. (School kids to north migrate in that direction to north of site.
 - Indiscrete lighting at north end of pond.
 - Public access at north end of pond
 - Public access on Street is very bad (current condition)
 - Possible trail loop around pond
 - Could be future light rail train on tracks

LOCKE-PADDON WETLAND PARK

11/4/04

	Name	Agency/Company	Phone Number
1	Robert Echavarria	Purkiss-Rose-RSI	(714)871-3638
2	Steve Lang	Purkiss-Rose-RSI	(714)871-3638
3	Gary Wilmot	Locke-Paddon Improvement Committee	(831)384-3361
4	Gary Cramblett	City of Marina	(831)884-1242
5	Charles Johnson	City of Marina	(831)884-1218
6	Lenore Masterson	Library Commission	(831)883-3968
7	Joe Donofrio	MPRPD	(831)372-3196 x4
8	Tim Jenson	Monterey Co. Planng.	(831)372-3196 x2
9	Bart Bruno	MPD/MHIE	(831)384-4081

DATE **January 26th , 2005**

MEETING MINUTES:

PROJECT: Locke-Paddon Wetland Park

**DATE OF
MEETING:** January 18th, 2005

LOCATION: Holiday Inn Express - City of Marina - Monterey Peninsula Regional Park
District

PRESENT: See attached sign-in sheet

DISTRIBUTION: Joe Donofrio, MPRPD
Tim Jenson, MPRPD

PURPOSE: Community Input Meeting

JOB STATUS: Preliminary

Notes -

1.0 - Table 1 Input notes

1.1 - Marina Arts Council has initiated contact with the Monterey Bay Aquarium to plan for interpretive nature trails.

1.2 - Bikes on trails especially those near or connecting to existing bike paths.

1.3 - Placement of benches along trails. Possible "Memory Benches"

1.4 - Places to lock bikes, where they could be locked, if they are denied certain trail access, or at library entrance, etc.

1.5 - Ensure long term plan to avoid contamination of pond/lake/stream/nature areas from runoff of library and parking lots.

1.6 - Stage coach history - interpretive sites

1.7 - Long term funding for all facilities and nature areas

1.8 - Insectarium (only 1 in N. America) educate people to role of insects

1.9 - "Revolving"/changing exhibit areas

1.10 - Open Sky/Air Convention center - joint hotel use

1.11 - Support for litter pick-up & coordination with Marina Public Safety for homeless camp removal

1.12 - Sculpture garden, art in the park

1.13 - Bronze plaque interpretive signage for plants & animals, links to Native American cultural history.

2.0 - Table 2 Input notes

2.1 - Park & library both used at same time - could be conflict for parking. Look at Marina Landing shopping center for shared parking.

2.2 - Is the Holiday Inn mitigation being “maintained”? Why is it brown and property unsightly?

2.3 - Loop trail good idea with fitness course links

2.4 - Pier style walkways going over some areas of the pond tying in to walkways but the boardwalk over the pond can be in smaller areas then currently designed.

2.5 - Like idea of aeration of pond - needs to be sustainable.

2.6 - Foul Fowls - look at study done by CSUMB student. Stop feeding ducks - use Lake El Estero as example.

2.7 - Water level/table needs to be studied to establish path elevations and location of observation platforms.

2.8 - Long term stability of pathways relative to water levels & erosion

2.9 - ADA compliance to allow handicap accessibility

2.10 - Need to reduce intrusive aquatic plant material - look at indigenous plant communities in Moss Landing

2.11 - Consider link to Vince Dimaggio Park

2.12 - Build on interpretive plant identification by consideration of botanical garden/arboretum

2.13 - Expand trail loop to east side of railroad tracks linked to Tree Commissions tree planting.

2.14 - Wind - for outdoor use can be harsh

2.15 - Build on amphitheater/outdoor performance area in adjacent new land where there are no limits to the number of people

2.16 - Build on international/multi-cultural heritage of Marina using different languages in interpretive signage.

3.0 - Table 3 Input notes

3.1 - Negotiate to remove the towers - offer the tower leasees alternate options; see what it would cost to break the lease.

3.2 - Minimal invasiveness in wetland (ie. Not “army corps of engineers)

3.3 - Repair and maintain wider path along Reservation Road and or ask City to have property owners across the street build sidewalks for large amount of pedestrian traffic.

3.4 - Replace unattractive and uncomfortable concrete picnic tables with wood.

3.5 - What can be done with the “weeds” and ugly rope fence around “mitigation” area? Get rid of fence, plant other native plants!

4.0 - Table 4 Input notes

4.1 - Parking and lighting near picnic

4.2 - Native botanical garden

4.3 - Replace existing bridge

4.4 - Need parking (not at library)

4.5 - Enhanced corner at Del Monte and Reservation Road

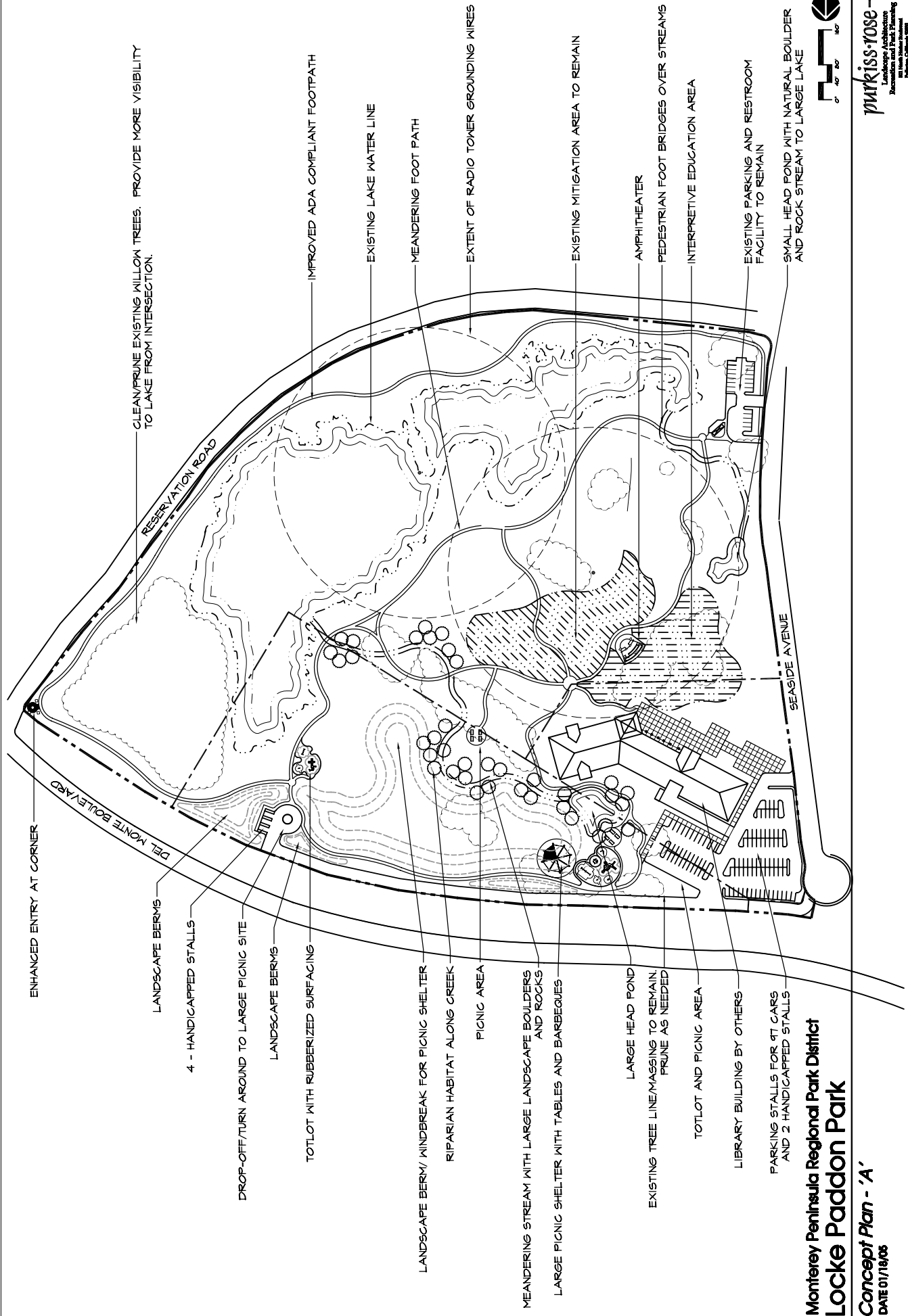
4.6 - Need some paved bicycle paths, loop trail around lake

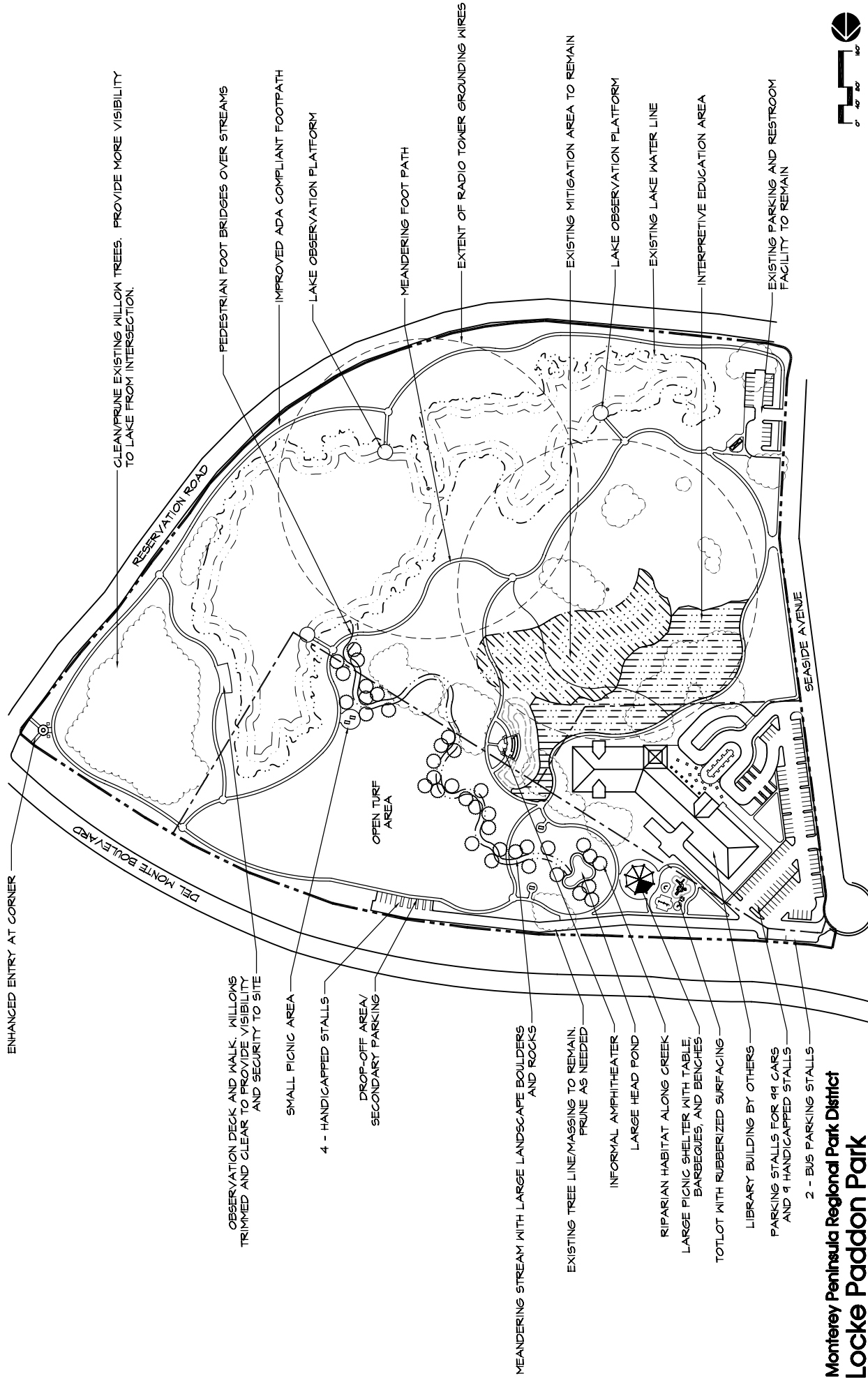
4.7 - Stream good idea

- 4.8 - Fishing? From overlooks and/or bridges
- 4.9 - Dog clean up bags
- 4.10 - Bus services
- 4.11 - A sense of place
- 4.12 - Dislike Library, cement in mitigation area, willows in lake, turf,
- 4.13 - more restrooms closer to amenities
- 4.14 - Maintenance building?
- 4.15 - Nighttime security lighting?

5.0 - Table 5 Input notes

- 5.1 - Cover existing amphitheater area
- 5.2 - Cut 8,000 sq. ft. off of library
- 5.3 - Combine interpretive center within the library
- 5.4 - Allow for Café type lease area on corner or within library - apply ½ cent sales tax for Master Plan area to provide funding for maintenance and/or library staffing.
- 5.5 - Make trails in Master Plan that would provide for and facilitate linkage of Locke Paddon Park trail to future pedestrian infrastructure outside the park
- 5.6 - add bicycle racks
- 5.7 - Lessen the structural emphasis (less Sq. Ft.) in library - Focus on park/open space as much as possible.
- 5.8 - Durability of improvements
- 5.9 - Explore shared parking agreements with nearby properties (i.e. courthouse)
- 5.10 - How much water is available? Long term costs and supply for irrigation and stream (quantity, pump costs, etc.)
- 5.11 - Short/long term impacts of improved areas onto wetlands. (nitrates, invasive, foot traffic)
- 5.12 - Exercise stations along path
- 5.13 - Be mindful of graffiti
- 5.14 - Limit lighting - don't make this Wal-mart -will too much lighting make it unfriendly for wildlife.
- 5.15 - Clear entrance to access points





SECTION 02449

LANDSCAPE MAINTENANCE SPECIFICATIONS

SECTION 02449 – LANDSCAPE MAINTENANCE

I. GENERAL

A. Scope of Work:

Notwithstanding the requirements of these specifications, it is the intent of this document to ensure that the landscape, plant life, irrigation system and site be maintained in a healthy vigorous growth and well-groomed state at all times.

Contractor performance shall present a professional image, a high standard of quality and technical competence. The Contractor's prime responsibility will be to integrate innovative and progressive elements of high landscape maintenance standards and the objectives as set forth in the specification. The requirements and specifications of this document do not supersede any other applicable standards for public works contracts. Where there are differences, the more stringent shall apply, and the City shall be notified of any necessary changes to the specific operations and materials.

II. MATERIALS

All materials and subsequent change orders used shall conform to the specifications, or as approved in writing by the City. The original job specifications are available at the City.

III. SUBMITTALS

- A.** As required by Law, the Contractor must submit to the County Agricultural Commissioner's office, a monthly record of all Disease Control, Insecticides, Rodenticides and Herbicides used on the project.
- B.** Soils test shall be performed on an as needed basis. All soil sampling locations shall be approved by the City's Representative, with results submitted to the City. Soils testing shall be done by an approved soils agronomic testing firm at the Contractor's expense.
- C.** Any substituted products or equipment being used which do not conform to the original contract area working drawings, job specification or as specified herein shall be approved by the City in writing prior to use or installation.

IV. GENERAL MAINTENANCE CARE AND PROCEDURES

- A.** All necessary licenses, permits and/or approvals shall be obtained by the contractor from the City.
- B.** The Contractor shall furnish all labor, materials, equipment, tools, office with telephone, equipment storage and service facilities.
- C.** The Contractor shall refer to the Special Conditions contained herein for Weekly Maintenance Review procedures and Yearly Maintenance Scheduled Work Notification requirements.

V. Safety

All work performed under this contract shall be performed in such a manner as to provide maximum safety to the public and comply with all safety standards required by CAL-OSHA. The City reserves the right to issue restraint or cease and desist orders to the Contractor when unsafe or harmful acts are observed or reported relative to the performance of the work under this contract.

A. Reporting Safety Hazards, Damage or Malfunction:

It shall be the Contractor's responsibility to inspect daily all contract areas and identify any conditions(s) that renders any areas within this contract unsafe, as well as unsafe practices occurring thereon and report any deficiencies immediately to the City Representative.

1. Notify the City immediately of any unusual and hazardous conditions in the contract area including, but not limited to, restroom plumbing, sewer backups, fallen branches, or any item that creates a hazard or prevents the public's use of the parks/facilities.
2. Notify City within one (1) hour of malfunctioning facilities or conditions that may break, malfunction or interrupt the public's use of the parks/facilities.
3. All playground and sports equipment shall be inspected for vandalism, safety and serviceability daily.
4. Inspect all hardscape playing surface areas for safety hazards, including tripping hazards, holes, or other conditions daily.
5. Contractor shall be responsible to report any unsafe conditions observed for all structures and fixtures, including but not limited to:
 - a. Light standards and fixtures
 - b. Walls, fences, gates
 - c. Trash dumpsters
 - d. Signage
 - e. Graffiti
 - f. Buildings
 - g. Water Features
 - h. Play Areas
 - i. Volleyball nets and posts

B. Walks, Stairways, and Hardscape Areas:

Care shall be taken so that maintenance does not inhibit or endanger pedestrians utilizing walks, stairways, and hardscape areas. This work should be scheduled to coincide with mowing or other landscape work in the area. Adequate safety procedures should be followed including signing and roping off areas as necessary. Should work be disrupting to the public or regular traffic flow, it shall be rescheduled to a more convenient time.

C. Work Site:

The Contractor shall maintain all contract areas free of hazards to persons and/or property resulting from their operations.

D. Street Closures, Detours, Barricades:

If work is to be conducted in the public right-of-way, the Contractor shall adhere to all safety rules, using cones, signboards, or other required safety equipment, and obtain all necessary permits and approvals per Work Area Traffic Control Handbook requirements (WATCH book).

If the Contractor fails to provide and install any of the signs or traffic control devices required hereby or ordered by the City staff, staff may cause such signs or traffic control devices to be placed by others, charge the costs therefore against the Contractor, and deduct the same from the next progress payment.

E. Safety Equipment:

All required and recommended safety devices for all power equipment shall be maintained at all times. Failure to maintain safety devices will result in the temporary interruption of work as directed by the City.

VI. PESTICIDE USE AND SAFETY

All materials shall be in strict accordance and applied within the EPA regulations and the California Food and Agricultural Code.

A. General Requirements

The application of pesticides and other chemicals used on the contract areas shall be recorded and submitted monthly to the County Agricultural Commissioner's Office and City. Contractor shall be responsible for accurately maintaining all pesticide application records.

1. There shall be no application of a pesticide without approval by the City.
2. Application of all pesticides shall be only by a properly State Licensed Pest Control Operator.
3. Non-restricted chemicals shall be used whenever possible to perform pesticide control in landscape areas.
4. All restricted pesticides and/or chemicals to be used for pest control shall be approved by the City's Representative prior to use. A written recommendation of the proposed restricted chemicals to be used shall be prepared by a licensed California Pest Control Advisor, and accompanied with a Notice of intent Form to apply restricted/non-restricted materials. A written recommendation shall contain all specified information required for the application of restricted pesticides. The Contractor shall pay for and obtain all recommendations.

B. Application of Pesticides

1. **Timing:** Pesticides shall be applied at times which limit the possibility of contamination from climatic or other factors and the proper life cycle of the pests. Early morning application shall be used when possible to avoid contamination from drift. Applicator shall monitor forecast weather conditions to avoid making application prior to inclement weather to eliminate potential runoff of treated areas.

Irrigation water applied after treatment shall be reduced to eliminate runoff. When water is required to increase pesticide efficiency, it shall be applied in quantities in which each area is capable of receiving without excessive runoff.

2. **Handling of Pesticides:** Care shall be taken in transferring and mixing pesticides to prevent contaminating areas outside the target area. Application methods shall be used which ensure that materials are confined to the target area. Spray tanks containing leftover materials shall not be drained on the site to prevent any contamination. Disposal of pesticides and tank rinsing materials shall be within the guidelines established in the California Food and Agricultural Code or EPA Regulations.
3. **Equipment and Methods:** Spray equipment shall be in good operating condition, quality and designed to efficiently apply materials to the target area. Drift will

be minimized by avoiding high pressure applications and using water soluble drift agents.

4. **Selection of Materials:** Pesticides shall be selected from those materials which characteristically have the lowest residual persistence. Use of emulsifiable concentrates shall be used when possible to limit windblown particles. The use of adjuvants will be to increase pesticide efficiency, thereby reducing the total amount of technical material required to gain control.
5. **Substitutions:** Wherever a specific type of material is specified, no substitutions shall be allowed without the written consent of the City's Representative.
6. **Certification of Materials:** All materials shall be delivered on the site in original unopened containers. Materials shall be subject to inspection prior to mixing by the City's Representative.

VII. WEED CONTROL

The Contractor shall be responsible for providing a continuous weeding program for all contract areas. Weeding shall be on a weekly basis and shall include "any undesirable or misplaced plant".

A. Turf:

The use of any chemicals for weed control shall be done by a State Licensed Pest Control Operator who shall follow all guidelines governing his license.

1. A continual chemical program shall be adopted for control of broadleaf and noxious weeds.
2. All chemicals shall be applied in accordance with regulations of State Agricultural Department.
3. Use extreme caution when using selective weed killers not to damage other plants.
4. During the months of March and September a broadleaf grass pre-emergent shall be applied to all turf areas (cool season grasses only).
5. City approval must be obtained prior to spraying any herbicide and all spraying shall be done at a time when there is no wind. At first indication of Crabgrass infestation, spray affected areas with an approved spray. Apply Crabgrass killer only on cool days when lawns are in a moist condition. Removal of all weeds shall be a continuous program. Noxious weeds shall not be permitted to grow within the areas assigned as part of this contract, and shall be completely removed and bare turf areas re-sodded. Crabgrass shall not be allowed to become established in any landscape areas maintained by Contractor. Contractor shall apply a Crabgrass pre-emergence herbicide to all turf areas between January 15th and February 15th.

B. Ground Cover:

Weeds shall be removed completely on a weekly basis, chemically or manually. Weeds may be controlled with pre-emergent herbicides, preferably, but may also be controlled with post-emergent herbicides, and/or by hand pulling.

All ground cover shall be inspected weekly for weed growth. Weeds shall not be allowed to remain growing for longer than one (1) week without complete removal to include roots, rhizomes and stolons. Bermudagrass or other noxious weeds shall not be allowed to become established in any ground cover areas. Cultivating of ground cover areas shall be held to

minimum and cultivated only as necessary to remove weeds. Excessive cultivation may result in root damage to ground covers and shrubs.

C. Trees:

All trees in ground cover areas shall have open soil maintained immediately around the base of the trunk. Keep this area free of weeds and avoid frequent soil cultivation which destroys shallow roots. Tree wells shall be free of weeds at all times.

D. Shrubs:

Weeds shall be removed from beds weekly, chemically or manually. Bermudagrass and other noxious weeds shall not be allowed to become established.

E. Walkways, Paved Surfaces and Hardscape Areas:

Contractor shall be responsible for controlling weeds by mechanical or chemical means, growing in cracks, curb and gutter, or expansion joints and areas contiguous to the contract areas as required.

VIII. TURF CARE

Lawns shall be maintained to be in the healthiest growing condition possible. Supply the necessary services as follows:

A. Maintenance Schedules:

Scheduling of mowing and turf care maintenance time shall be submitted to the City for approval. Work schedules for mowing, aeration and dethatching operations shall be changed as determined by the City's Representative to accommodate public use by various user groups and recreations activities.

B. Mowing:

Turf in this contract shall be mowed with power propelled mowers equipped to mow all collect clippings in one operation. Rotary movers shall be used to mow tall fescue or other cool-season turf areas. Reel mowers equipped with rollers will be required to mow Bermudagrass areas. The City's Representative may in some instances allow mowing without the attached collection device, providing the machine is equipped with approved safety features.

Labor and materials shall be provided by the Contractor for re-seeding or re-sodding to any failing turf areas as becomes necessary due to contractor neglect.

Care shall be exercised during the mowing operation to prevent damage to trees and other physical obstacles located within the turf areas. Do not mow wet areas. Alternate mowing patterns whenever possible to prevent wheel ruts. If ruts are made, Contractor will make repairs at his own expense.

All trash, litter and debris shall be removed from the landscape prior to mowing.

The Contractor shall not interfere with the public use of the premises and shall conduct its operations as to offer the least possible obstruction and inconvenience to the public or disruption to the peace and quiet of the areas within which the services are performed.

1. **Cool Season Grass:** Turf shall be mowed (maintained) with rotary type mowers at a height of three inches (3") during Spring, Summer and Fall. In the Winter turf areas shall be mowed at a height of two inches (2"). All turf areas shall be cut

at a regular weekly intervals. The turf should never be cut more than one-third (1/3) of the top growth or approximately three-quarter inch (3/4") at any one mowing. Avoid Scalping.

2. **Open Turf Fields:** Mow turf areas 52 weeks per year on a regular schedule to be approved by the City. The schedule shall provide that all turf areas will be mowed once per week. Mowing of turf at each park facility, shall be completed in one operation. Care should be given to mow without compactions of turf.

C. Edging and Trimming:

Turf edges adjacent to walks, curbs, paving mow strips, walls, fences, poles, valve boxes, buildings, shrub areas and other physical obstructions shall be trimmed weekly in the Spring, Summer and Fall seasons and as needed for a neat appearance during the Winter months.

1. Grass shall be neatly trimmed away from sprinkler heads to ensure proper coverage and operation. Trim turf immediately adjacent to sprinkler heads, as directed by the City's representative and under no circumstances remove an area larger than the head diameter. Trimming around sprinkler heads or cutouts in the turf area with an edger will not be permitted. Weed or turf killer shall not be used.
2. "Weed Eaters" or similar equipment shall not be used around trees or shrubs. All trimming or edging around trees and shrubs shall be accomplished by spraying an eight inch (8") minimum width not to exceed twelve inches (12") maximum width area around the plant with an herbicide per manufacturer's application rate.

D. Equipment Cleaning:

To help prevent contamination of turf areas, thoroughly "wash off" all equipment that was used at another site prior to mowing or edging any areas on the site.

E. Equipment Condition:

Machinery and equipment used by the Contractor shall be clean and well maintained at all times to ensure proper operation under this Agreement.

All mowing and trimming equipment shall be in proper adjusted and blades shall be maintained in a sharp manner. The reel blade adjustment shall provide a uniform level cut without ridges or depressions. Mowers shall be maintained to provide a smooth even cut without tearing of the leaf blade. Always keep mowers and edgers sharp, so as to cut the tips not tear them off. Torn grass blades which have a brown "haze appearance" are not acceptable. All equipment shall be subject to inspection and approval by the City's Representative.

F. Clipping Disposal:

All grass clippings shall be collected and removed from turf areas at the site(s) and disposed off site in an approved manner prior to the completion of the day's mowing operations or the end of the day, whichever occurs first. Curbs, gutters, sidewalks, etc., shall be cleaned after each edging by blowers, vacuum or other approved methods. Refer to Section XVII "Walks and Hardscape Care", of this specification.

G. Watering Turf:

Water shall be applied as frequently as needed (as weather conditions require) to maintain proper growth and replenish soil moisture below the root zone. All applications of water

should be in the evening or early morning hours, so as not to interfere with public use of the contract areas. If an area appears stressed during the day, a light application of water should be applied at that time. It is the Contractor's responsibility to apply the water evenly. In the event of automatic irrigation disruption or operation of manual irrigation systems, the Contractor shall hand water lawn and ground cover areas a minimum of twice per week in the Winter and four(4) times per week in the Summer. Water runoff across pavement surfaces and into gutters shall be avoided. All turf areas requiring irrigation shall be accomplished no later than 6:00 a.m.

H. Fertilization:

Lawns shall be fertilized four (4) times annually. Fertilize one (1) time per year during the month of January using an ammonium nitrate fertilizer, 33-0-0, at the rate of five pounds (5 lbs.) per 1,000 square feet, or approved equivalent program. A "complete fertilizer" with an analysis of 16-6-8, at the rate of six pounds (6 lbs.) per 1,000 square feet shall be used three (3) times per year, during the months of April, July and October, or approved equivalent program.

1. All fertilization shall be included with the landscape maintenance of each contract area. The Contractor shall supply and transport all required fertilizers as a part of his cost included in the bid to the City.

I. Aeration:

All turf areas shall be aerated by removing half inch (1/2") diameter by three inches (3") deep cores with an aerator machine at not more than six inch (6") spacing. Aerate compacted or stressed areas as required to increase water penetration and reduce runoff. Contractor shall flag all irrigation sprinkler components prior to commencement of work. Cores shall be removed and dumped in an approved manner after completion of aeration. In addition, the tops of all mounds and localized compacted dry spots shall again be aerated between the intervals above as necessary. All damaged areas larger than four inches (4"x4") shall be seeded on an as needed basis at no additional cost to the City.

1. **Parks:** Aerify park sites turf once (1) per year between the months of February and March.

J. Dethatch:

1. All turf areas shall be dethatched once per year between September and October.
2. Dethatching shall be accomplished by use of a "vertical cut type" dethatch machine approved by the City's Representative.
3. Contractor shall flag all sprinkler components prior to dethatching.
4. All thatch and debris shall be immediately removed upon completion.

K. Insect, Disease and Pest Control:

The Contractor shall regularly inspect all landscape areas for presence of disease, insect or rodent infestation. The Contractor shall advise the City within four (4) days if disease, insect or rodent infestation is found; a State Licensed Agricultural Pest Control Advisor shall identify the disease, insect or rodent and specify control measures to be taken using legally approved materials and methods, and upon written approval of the City, the Contractor shall implement the approved control measures. The use of chemicals for insect and disease control shall be done by a State Licensed Pest Control Operator who shall follow all guidelines governing his license.

1. The Contractor shall provide complete and continuous control of all plant pests or diseases. The Contractor shall select and supply proper materials and personnel to comply with all City, County, State and Federal Regulations or Laws.
2. Contractor will assume responsibility for use of all chemical controls. Pests and diseases to include, but not be limited to all insects, mites, other invertebrates, pathogens, nematodes, and vertebrates. Chemical controls to include necessary use of herbicides and plant growth regulations. Pests may be controlled by mechanical means as well as chemical.
3. Extreme caution shall be used when spraying insecticides and fungicides. Only spray when there is no wind. City approval must be obtained prior to spraying any insecticides or fungicides, 48 hours in advance.
4. Approved control measures shall be continued until the disease, insect or rodent is controlled to the satisfaction of the City. The Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of the Contractor.

L. Rodent Control:

When rodent infestation becomes evident, the Contractor shall at once proceed to exterminate and destroy the rodents by poisoning, gassing, trapping or other appropriate means.

1. **Poisoning:** To poison rodents, use a grain treated with an anticoagulant substance placed in bait stations. Bait must be checked daily and made available at all times. Six (6) or seven (7) consecutive feedings are usually necessary. All dead rodents shall be properly disposed off-site.
2. **Trapping:** May be done in any season by the use of an approved rodent trap. All dead rodents shall be properly disposed off-site.
3. **Fumigation:** There are several types of toxic gasses available some of which require a special permit from the Orange County Agriculture Commissioner. Fumigation is most effective in the Spring or when soil moisture is high. Fumigation is not effective during periods of hibernation or aestivation since the burrows are plugged with soil.

Rodent control (poisoning or fumigation) as noted above, shall be done per the specifications of a State Licensed Agricultural Pest Control Advisor and shall be done under the direct supervision of a State Licensed Pest Control Operator who shall follow guidelines governing his license.

IX. GROUND COVER CARE

Ground cover beds shall be maintained in an attractive condition at all times. All ground cover shall be inspected weekly and all debris including leaves branches, paper, bottles, etc. shall be removed daily. Supply the necessary services as follows:

A. Edging and Trimming:

"Weed Eaters" shall not be used to edge ground cover unless approved by the City's Representative. All ground covers shall be pruned, sheared or thinned neatly away from shrubs, trees, walks, curbs, header boards, etc. Ground covers shall not be trimmed vertically unless approved by the City and shall be thinned out, as needed, to avoid matting and to achieve an overall even appearance. Keep ground cover trimmed back from all

controller units, valve boxes, quick couplers or other appurtenances. Ground cover shall be trimmed six inches (6") back from the buildings, walls, fixtures, signs, shrubs, etc.

Remove ground cover from all above ground structures unless the City directs the allowance of ground cover growth over wall tops, curbs, etc. to prevent graffiti or for aesthetic reasons.

Ground covers are to be neatly trimmed away from sprinkler heads to ensure proper coverage and operation. Trim ground covers away from sprinkler heads by tapering away from head. Holes shall not be cut into ground cover areas. As ground covers grow in height, risers may need to be extended to properly clear top of ground covers.

B. Watering:

Be cautious not to over water shrub and ground cove areas. Water enough to ensure moisture penetrations throughout the root zone to a depth of proximately eight inches (8"). Program irrigation systems to maintain a precipitation of one-half inch (1/2") per week during the growing season. During prolonged rainy periods discontinue irrigation sequences. Ponding of water will not be allowed and should be avoided at all times.

C. Fertilization:

Vigorous growth and good color must be maintained at all times. Any non-native ground cover beds shall be fertilized two (2) times per year, or as directed. Fertilize during the months of April and October using a "complete fertilizer" with an analysis of 16-6-8 at the rate of six pounds (6 lbs.) per 1,000 square feet, or approved equivalent program. When soils tests indicate deficiency, the soil laboratory's recommendations shall be followed. Also refer to the Yearly Landscape Maintenance Schedule.

D. Pest and Rodent Control:

1. **Snails and Slugs:** Treat for snails and slugs as needed. Treatment shall be as approved by the City and may vary from one project areas to another. In general, broadcast and approved granule, pellet or meal at the recommended rate of three (3) times a year minimum; Spring, late Summer and Winter and/or spray an approved insecticide as needed for complete snail and slug control based upon a program designed by a State Licensed Pest Control Operator.
2. **Rodent and Pest Control:** Refer to Section VIII, "Rodent Control", of this specification for approved methods of spray control.
3. **Insecticide and Fungus Control:** Refer to Section VIII, "Insect, Disease and Pest Control", of this specification for approved methods of spray control.

E. Plant Material Replacement:

Following acceptance of contract areas, it shall be the Contractor's responsibility to maintain all plant material in a satisfactory manner and to replace, at Contractor's expense, dead or severely damaged plant material with equal size and quality materials at City's direction. The Contractor, after notification of City's authorization, shall remove and replace, at no cost to the City, any tree, shrub, turf or ground cover which is damaged or lost due to Contractor or his employees' negligence through improper use of horticultural practices, pesticides, watering, failure to control rodents and insects or improper use of equipment.

Any ground cover, tree and/or shrub that appears to have more than one-half (1/2) of its foliage in a declining state shall be brought to the City's attention immediately. Check plant for root over-watering or drainage problems and repair the problem prior to

replacement. Replacement plants shall be of a size condition and variety acceptable to the City. The Contractor shall pay for all replacement plants, including materials, transportation and labor unless the City determines that the plant was lost due to an "Acts of God", damaged by others, or as a result of an event without control or negligence by the Contractor.

X. TREE CARE

All trees shall be checked monthly for any damage, special water needs, etc. and treated as necessary. Undesirable conditions shall be eliminated per accepted landscape maintenance practices. The Contractor shall maintain all trees, whether specifically mentioned or not, in a healthy condition at all times.

The Contractor is responsible for maintenance pruning of trees to a height of fourteen feet (14') above the ground. All trees will be trimmed at least once a year and palms will be trimmed as needed throughout the year.

A. Pruning:

Pruning shall be performed as an on-going operation by the Contractor, and shall be done under the direction of the City's Representative. Prune trees to select and develop permanent branches that have a smaller diameter than the trunk or branch to which they are attached. Remove all dead, diseased or damaged growth; eliminate narrow V-shaped branch forks. Reduce topping and wind damage by removing crossover branching and by thinning out crowns. Prune to control growth within the trees' space limitation, to maintain a natural form and to allow head clearance. Prune two sample trees of each genus and species under the direction of the City's Representative for approval and control purposes, prior to proceeding with balance of tree pruning work.

1. **Young Tree Pruning:** Lower branches shall remain in a "tipped back" or pinched condition, leaving as much foliage as possible to promote caliper trunk growth. Stripping of lower branches will not be allowed. Lower branches shall be cut flush with the trunk only when the tree is able to stand without support.
2. **Evergreen Tree Pruning:** Evergreen trees (trees that are not deciduous) can be pruned or thinned at any time when necessary. Prune for appearance and safety and remove dead or broken branches. Prune especially during the months of September and October to prepare the trees for the windy season. For safety reasons remove any part that may become a hazard by falling.
 - a. **Pines:** Pines shall not be pruned except as corrective or preventative maintenance. Removal of lower branches for turf maintenance is allowable, but in no case shall branches be removed to expose more than 2' of the trunk.
3. **Deciduous Tree Pruning:** The pruning of deciduous trees shall be done during the dormant season, December, January and February except for blooming trees which will be pruned after blooming. However, if a tree becomes damaged or constitutes a health or safety hazard, it shall be pruned at any time as required. All pruning cuts shall be made flush with the trunk, lateral branches or buds. "Stubbing" of branches will not be allowed.

B. Staking and Guying:

Tree stakes, ties and guys shall be checked at least monthly and adjusted as needed. Tree ties shall be inspected to prevent bark wounds caused by abrasion and ties shall be adjusted to prevent girdling. Before any stakes are removed, remove tree ties and allow the tree to remain without support for a period of time to observe structural stability of

the tree. The tree must retain its upright position and this position must be held regardless of moisture content of the soil. Remove tree stakes only when tree has proven to be structurally stable. Any restaking shall be done with originally specified materials. Stakes shall not be placed closer than eight inches (8") from trunk of tree. Guying will, over time, stretch or loosen. Adjust as needed to retain a taut position, until such time when guying is removed. Any tree that is damaged due to improper staking or tying shall be replaced at the Contractor's expense. Replace broken stakes and damaged guys as required. Damaged trees shall be staked within twenty-four (24) hours of identification of damage by Contractor, City or the public's notification to Contractor. Replacement stakes or new staking shall be completed within five (5) days. (Labor only, materials will be paid for by the City as "Extra Work" materials.)

C. Tree Guards:

Newly planted trees in turf areas shall be inspected at the base of the trunk for tree guards weekly. Contractor shall report any missing tree guards to the City immediately. Tree guards shall only be removed as directed by the City's Representative.

D. Watering Basins:

Watering basins shall be properly maintained on all trees, shrubs, and vines to ensure adequate water penetration. Failure of the irrigation systems to provide enough deep moisture will not alleviate the Contractor from providing adequate moisture to any material. Rake out water basins only as directed by the City's Representative.

E. Fertilization:

All trees shall be deep-fed or vertical mulched as needed or determined by the City's Representative by means of one inch (1") diameter holes drilled two feet (2') deep at six foot (6') intervals around the drip line and filled with 12-12-6 commercial fertilizer, or approved equivalent program.

F. Pest Control:

All trees should be inspected regularly for disease, fungus or insect infestation and sprayed accordingly as needed. Upon notification by City, Contractor shall provide labor, equipment and materials to spray pesticides in the manner specified by a State Licensed Pest Control Advisor and the City.

G. Clearance and Visibility:

Prune trees to allow necessary clearance for the safety of pedestrian traffic, vehicle circulation and signage, etc. Prune trees along sidewalks to allow ten feet (10') clearance for pedestrians and fourteen feet (14') above curb and gutters for vehicular traffic, and two feet (2') from all walls and structures or as directed by the City's Representative.

H. Plant Replacement:

Refer to Section IX, "Plant Material Replacement", of this Specification.

XI. SHRUB AND VINE CARE

All shrubbery shall be checked weekly for any breakage or damage, special watering needs, etc., and treated as necessary. All undesirable conditions shall be eliminated per accepted landscape maintenance practices. All shrubs shall be maintained in a healthy vigorous condition. Remove all spent flowers, flower spikes, all leaves and debris, soot and accumulated dirt from plant areas.

A. Pruning:

Pruning shall be performed as an on-going operation, and shall be done under the direction of the City's Representative, not allowing plants to develop stray, undesirable growth. Trimming, pruning, thinning and training are functions to be done as needed to maintain a pleasing appearance. Any shrub under stress should be trimmed to reduce evaporation. All pruning shall be done to a naturalistic shape, not hedged into geometric forms. The design intent is to have naturalistic shrub masses not individual shrub forms or standards. Accomplish pruning by selectively removing woody stems from inside shrubs on an as needed basis as directed by the City's Representative. Excessive pruning or stubbing back will not be permitted. Top shrubs only when necessary for appearance and after interior selective branch pruning has been completed or as directed by the City's Representative. Shrubs shall be pruned and thinned using hand-held shrub pruners. Hedge shears and clippers shall only be used if approved, in writing, by City's Representative.

B. Watering:

Refer to Section IX, "Watering", of this specification for watering in ground cover and shrub areas. Maintain a watering basin around all shrubs and vines on slope areas to insure adequate water penetration. Rake out basins only as directed by the City's Representative.

C. Fertilization:

Shrubs located in ground cover areas will not require additional fertilizing. See Section IX, "Fertilization", for fertilization application in ground cover areas.

D. Pest Control:

Check all plant material in landscaped areas weekly and apply pesticides at the first sign of infestation.

E. Clearance and Visibility:

Where shrubs occur in close proximity to sidewalks, curbs, roadways and parked cars, prune to allow movement without interference from branches and foliage. Prune shrubbery to allow necessary clearance for the safety of pedestrian traffic, vehicle circulation, signage, etc., and a minimum of two feet (2') from walls and structures or as directed by the City's Representative.

F. Plant Replacement:

Refer to Section IX, "Plant Material Replacement", of this specification.

XII. IRRIGATION SYSTEMS CARE

The Contractor will receive all irrigation systems in a sound working order at the beginning of contract. If any system is found to be otherwise at the start of work, the City shall be notified immediately and necessary repairs will be at no cost to the Contractor. At the close of the contract period, all irrigation systems will be checked by the City's Representative, and all irrigation systems shall be returned to the City in a satisfactory condition. Any faulty portion shall be repaired or replaced by the Contractor at not cost to the City.

A. Irrigation Repair and Operation:

1. Irrigation system components damaged as a result of Contractor's neglect shall be repaired or replaced by the Contractor at no cost to the City. Normal wear and tear of systems, vandalism, accidental breakage by others, or so-called "Acts of

God", are conditions under which the Contractor is not directly responsible and repairs shall be paid for by the City. The Contractor shall notify the City's Representative the same day of discovery of damage to irrigation system components caused by vandalism, "Acts of God", vehicular damage, theft or mysterious damages that do not result from the performance of the work by the Contractor. Upon receipt of the City's written authorization, repair of said damage as soon as possible after discovery, billing the City for the cost of such repair on the subsequent monthly billing statement. Failure to report any damages will constitute Contractor making repairs at his own expense. Any replacement of irrigation system component under this sub-paragraph A shall be original equipment types where known. Any substitutions for replacement equipment shall be approved, in writing, from the City's Representative prior to doing work.

2. Irrigation shall be done by the use of automatic sprinkler systems, where available and operable; however, failure of the existing irrigation system to provide full and proper coverage shall not relieve the Contractor of the responsibility to provide adequate irrigation with full and proper coverage to all areas in the work site.
3. Any damages to public or private property resulting from excessive irrigation water or runoff shall be charged against the contract payment unless immediate repairs are made by the Contractor to the satisfaction of the City.
4. The Contractor shall keep controller and valve boxes clear of solids and debris and maintain the irrigation system including the replacement, repair, adjustment, raise or lower, straighten, and any other operation required for the continued proper operation of the system from the water meter throughout the work site. Repair or replacement includes, but is not limited to: sprinkler system laterals (piping), sprinkler mains (pressure lines), sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids, including electrical pull boxes and lids, valve sleeves, quick coupler valves and hose bibs, etc.
5. All irrigation repairs shall be made within 24 hours or prior to the next irrigation cycle. All repairs shall be made in accordance with City of Orange Standard Irrigation Specifications.
6. Contractor shall maintain an adequate stock of medium and high usage items for repair of all irrigation systems.

B. Monitoring Systems:

1. The Contractor shall inspect the irrigation systems for broken and clogged heads, malfunctioning or leaking valves, or any other condition which hampers the correct operation of the system. Authorization must be obtained from the City before proceeding with work not covered under normal maintenance work and the malfunctioning sprinkler system area shall be irrigated by a portable irrigation method until all authorized repairs have been completed to the City's satisfaction. Each irrigation controller(s) and system shall be checked weekly for proper water scheduling and coverage. The Contractor shall clean and adjust sprinkler heads as needed for proper coverage. Each system shall be manually operated at the irrigation controller and observed on a monthly basis. Make all necessary adjustments to heads which throw onto roadways, walks, windows, park facilities or out of intended area of coverage.
2. The Contractor shall turn off irrigation systems during periods of rainfall and times when suspension of irrigation is desirable to conserve while remaining within guidelines to good horticulturally acceptable maintenance practices.

3. One man shall have responsibility of operating and knowing the irrigation system and his duties shall be to adjust controllers, observe the effectiveness of the irrigation systems and make minor adjustments and repairs to systems.

C. Coverage/Application Rate:

Generally, watering shall be done at night, between the hours of 11:00 p.m. and 6:00 a.m., unless otherwise directed by the City. The Contractor shall operate systems and irrigation heads as seasonal conditions require. During extremely hot weather, over-extended holiday periods and during or following breakdown of systems, the Contractor shall provide adequate personnel and materials as required to adequately water all landscaped areas. When breakdowns or malfunctions exist, the Contractor shall water manually by whatever means necessary to maintain all plant material in a healthy condition. Dry conditions shall not be permitted to develop.

D. Tests:

The Contractor shall test the soil in turf and ground cover areas and around trees and shrubs monthly or as necessary with soil probes to determine that the proper amount of water is being applied at all times. This information shall be used to adjust watering times on the controller and supplemental hand or deep watering as necessary. The Contractor shall make the soil probe available at all monthly walk-through inspections.

E. Systems Maintenance:

Once a year during the month of March, the Contractor shall clean valve boxes, remove intruding soil and replace gravel as originally specified. Once a month, the Contractor shall wipe down the equipment in the controller cabinet to remove all dirt and dust. All covered electrical connections shall be sprayed with compressed air (i.e., inside controller). All exposed electrical connections shall be sprayed with silicone (i.e., terminal strips).

F. Maintenance Work Not Included:

Testing, certification and service of the backflow prevention device(s) shall be done by others. However, it shall be the Maintenance Contractor's responsibility to notify the City should a malfunction occur.

XIII. SURFACE DRAINAGE FACILITIES

- A. All surface drainage devices such as concrete 'V' ditches, bench drains, swales, inlets, and other surface drains shall be inspected monthly or more often as necessary and kept free of all algae, debris, vegetation, soil, etc., which would preclude their proper, intended function.
- B. All landscape drainage devices shall be routinely inspected and flushed of all foreign matter in order to maintain their proper, intended functioning.

XIV. SECURITY LIGHTING FACILITIES

- A. The lamp surfaces of all security lights shall be routinely wiped clean of silt, dust and residue which diminishes their intended illumination. All replacement of lamps or equipment, repairs or adjustments shall be in accordance with City approved plans and specifications.
- B. Once a month during the first week of the month, a night inspection shall be performed on all non-functioning light identified for repair and/or bulb replacement.

XV. GROUNDS MAINTENANCE CARE

A. General Maintenance:

The Contractor shall provide grounds maintenance.

1. All areas shall be inspected daily and maintained in a neat, clean, and safe condition at all times.
2. All broken glass and sharp objects shall be removed daily.
3. All animal feces or other materials detrimental to human health shall be removed from the park areas daily.
4. Decomposed granite areas shall be kept level at grade at all times, free of weeds, trash and debris.

B. Barbecue Grills:

All barbecue grills shall be emptied of all ashes twice weekly, every Monday and Friday.

C. Drinking Fountains:

All drinking fountains shall be kept clean and operational at all times.

D. Park Amenities:

Benches, picnic tables and play equipment shall be cleaned weekly or more often as needed.

E. Trash/Litter Collection and Disposal:

The Contractor shall inspect all parks prior to 11:00 a.m. at least two (2) times per week, removing all litter from turf, planters, sandlots, walkways, parking lots, receptacles and dumpster enclosures.

1. Trash, litter, and other debris from the park site as well as trash and litter blown by the wind or deposited by persons passing by or visiting the Contract Areas shall be collected. All paper, trash, cans, bottles, etc., shall not be dumped on-site in trash dumpsters at contract areas, but should be disposed of in a legal manner at the Contractor's expense off site.
2. The Contractor shall respond within an hour during regular working hours to the City's direction regarding litter pick-up. If refuse or litter is not removed during daily site visit, said litter or debris will be considered an emergency and removed immediately upon notification by the City. Failure of said removal may result in deduction of payment for that date or week.
3. Leaves, grass clippings, branches, weeds and any other landscape debris accumulated from the landscape areas shall be disposed of off-site the same day the debris is accumulated.

F. Trash Containers:

Trash containers provided by the City shall be inspected two (2) times per week and emptied as often as required and washed after emptying (when necessary) to be determined by the City's Representative. Contractor shall provide approved plastic liners (40" x 48" x .74

minimum or approved equivalent) for all trash containers at Contractor's own expense. Trash liners shall be changed two (2) times per week or more often as required.

G. Tree Wells:

Trash, leaves and debris shall be removed from tree wells weekly.

H. Greenwaste/Land Diversion Program:

The Contractor shall comply with any adopted City programs for waste reduction/recycling effective during the period of the Contract.

XVI. WALKS AND HARDSCAPE CARE

A. General:

During each site visit all concrete and asphalt playing surfaces, driveways, parking lots, sidewalks, and picnic slab areas shall be checked and cleaned. Work shall be scheduled so as to not interfere with normal playing activity.

1. All contract areas shall be inspected daily and maintained in a neat, clean, and safe condition at all times. Leaves, branches and other debris shall be collected and removed from contract areas.
2. All contract areas shall be swept weekly or more often as required to remove all deposits of silt and/or sand and glass.
3. Expansion joints and cracks shall be kept free of weeds at all times.

B. Sweeping, Vacuuming and Blowing Off Walks and Stairways:

All walks and stairways shall be kept clean at all times; they shall be swept or vacuumed weekly or more often if necessary.

1. All walk and stairways shall be kept free of debris, leaves and other debris from the landscape Areas as well as trash and litter blown by the wind or deposited by persons passing by or visiting the site. Debris shall be collected two (2) times per week. All paper, trash, etc. should be dumped off site in a legal manner at the Contractor's expense.
2. All walks and stairways shall be kept free of dirt, leaves and other debris from the maintenance operations as well as trash and litter blown by the wind or deposited by persons passing by or visiting the site. Debris shall be collected two (2) times per week. All paper, trash, etc., shall be dumped off site in a legal manner by the Contractor.
3. Work shall be coordinated with mowing or other maintenance work on the area. All gutters within the maintenance area shall be kept clean of grass clippings and miscellaneous trash. All grass clippings shall be removed (not scattered) from gutters the same day mowing and edging take place.

C. Dog Droppings:

Shall be removed when found during maintenance operations. Walks shall be hosed off after droppings are removed.

D. Hosing Off Walks and Stairways:

In general, all walkways and stairways shall be hosed off as required by the City in place of sweeping concrete as described above. Care shall be taken so that this does not inhibit or endanger pedestrians utilizing walks and stairways. This work should be scheduled to coincide with mowing or other maintenance work in the area.

E. Street Clean-Up:

Street sweeping is maintained under a separate contract and is not a part of this maintenance work. The Contractor shall, however, remove and disposed of off site, at an approved dump site, all grass clippings and miscellaneous debris or trash blown into the parking lot and streets by the wind or deposited by persons passing by or visiting the site. Grass clippings shall be cleaned from gutters the same day mowing takes place.

XVII. SAND COURT CARE

A. General:

These areas shall include tot lots, play areas, volleyball courts, horseshoe pits, etc.

1. All tot lot areas shall be raked to remove leaves and debris two (2) times per week.
2. Sand in play areas must be kept clean and maintained for safe playing. Each sandlot shall have trash and glass removed and depressions filled in weekly and rototilled quarterly.

All sand areas shall be rototilled to the maximum depth that will allow complete loosening of the sand but will not cause lower base materials to be mixed in with the sand. After rototilling, all areas shall be raked level.

3. Sand around the edge of sand lots shall be swept, using a hand broom, and the sand shall be put back in the sand lot. Use of blowers will not be allowed.
4. On Monday and Friday of each week all sand areas shall be raked level and kept free of any foreign debris.
5. All sand areas shall be maintained weed free.
6. Sand shall be replenished as necessary to maintain optimum level in each area, generally six inches (6") below the top of the concrete curbing but dependent upon play equipment footing and final level shall be determined by the City's Representative. Replacement sand shall be washed plaster sand or approved equivalent at no extra cost to the City.
7. In the event of inclement weather if at anytime the sand court areas become flooded and there is standing water, it will be the Contractor's responsibility to remove water immediately.

XVIII. DRESS CODE AND APPEARANCE

The Contractor shall be required to provide company uniforms, with company name, approved by the City for personnel assigned to the contract areas. Sufficient changes shall be provided to present a neat and clean appearance of landscape personnel at all times.

The proper uniform includes:

A. Safety Equipment:

All employees, when operating power equipment, shall have the proper safety devices in place such as face shields, ear protectors, eye goggles, dust masks, etc.

B. Shoes:

Safety leather boots, or shoes, in good condition. No sandals or tennis shoes shall be worn on the job. In the event that tennis shoes or sandals are worn, the City's Representative may suspend work for that day.

C. Company Shirts:

Shall be worn by Contractor's personnel at all times.

XIX. EXTRA WORK

The City may, from time to time, need additional landscape maintenance services which shall only be authorized by the City's Representative as stipulated in the contract and upon execution of the contract documents. Extra work shall be performed by the Contractor or by competitive bid option at the discretion of the City.

A. In the event the Contractor is required by the City and agrees to perform extra work, the following procedure shall govern such work:

1. When required by the City, an estimate of cost will be submitted to the Department of Community Services for approval prior to work being done. The Contractor shall maintain records sufficient to distinguish the direct cost of other operations. He shall furnish reports of extra work on forms furnished by the Contractor, itemizing all costs for labor, materials and equipment rental. The report shall include hours worked. The following procedure will govern such extra work.
2. Work will be executed under the direction of the City's Representative on a time and materials basis or an agreed lump sum price depending on the nature of the work.
3. City will issue a work request for such extra work to be performed.
4. Extra work will not be initiated without written authorization, except in emergency call-out situations. Contractor agrees that any services performed which are not authorized by the delegated City's Representative, as stipulated in the contract, may result in non-payment by the City.

B. Extra work may include, but not be limited to, the following:

1. Replacement of plant materials due to failures beyond the Contractor's control.
2. Replacement of worn out damaged sprinkler heads, valves, quick couplers, etc.
3. Additional treatment required for planting or soil as not set forth specifically in this Specification.
4. Remedial landscaping.
5. Repairs or replacements due to vandalism or "Acts of God".

C. Labor costs shall be based on the proposed wage scale for each type of workman.

D. The City's Representative is limited to issuance of orders, directions, notices and instructions, pursuant to the scope of landscape maintenance. The City shall not be

obligated to pay for extra services which are not supported, in writing, by a Field Change Order Form.

- E. Contractor shall submit invoices for Extra Work separate from regular monthly maintenance billing and shall detail: 1) site location, 2) services performed, 3) amount, 4) City's Representative which ordered or authorized services.

XX. WEEKLY MAINTENANCE REVIEW

- A. The City shall inspect the work every week to ensure adequacy of maintenance and methods of performing the work are in compliance with the contract. However, such inspection or failure of City to inspect shall not relieve the Contractor of the duty to provide continuous inspection of the work area.
- B. The Contractor shall meet bi-weekly with the City's Representative to review the Contractor's schedules and performance, resolve problems and perform field inspections as required. Should such inspections find deficient performance or service failure, the liquidated damage clauses of this contract will be enacted.
- C. Bi-weekly maintenance site review meetings followed by a satisfactory completion of any or all punch list items generated thereof is a required prerequisite for payment of monthly invoices.

XXI. REPORTS, SCHEDULES AND FORMS

The Contractor, as part of this agreement, will submit reports and schedules as requested. Failure to submit reports and schedules in a timely manner may result in a delay of monthly payments. Such reports must be detailed, thorough and may include, but not be limited to, the following:

A. Weekly Maintenance Schedule(s):

- 1. Contractor shall provide a weekly maintenance schedule(s) to the City. The schedule(s) shall indicate the frequency of time and days of the week services are to be performed.
- 2. Notification of change in scheduled work must be received by the City at least 48 hours prior to the scheduled time for the work.
- 3. Contractor shall adjust his work schedule to compensate for all special events, holidays and inclement weather.

B. Pesticide Use Reports

C. Hazards Reports

D. Cost information to perform extra work for upgrading specific areas.

E. Suggestions for improving problem areas.

F. All forms and schedule(s) shall be of a format supplied by or approved by the City.

XXII. Unit Price Information

All bidders are required to provide the following unit cost figures. The figures shall be used by the City for adding to or deleting payment deductions due to performance failure from the contracting work. All unit prices shall include labor and material complete installation where required.

A. Labor and Equipment Hourly Rates and Unit Costs

- | | | |
|----|----------------------------------|-------------------|
| 1. | Landscape Maintenance Labor | \$ _____ per hour |
| 2. | Landscape Maintenance Leadworker | \$ _____ per hour |
| 3. | Landscape Maintenance Supervisor | \$ _____ per hour |
| 4. | Irrigation Technician | \$ _____ per hour |
| 5. | Pest Control Applicator | \$ _____ per hour |
| 6. | Tree Trimmer | \$ _____ per hour |
| 7. | Equipment Operator | \$ _____ per hour |

B. Turf Care

Unit Cost

- | | | |
|----|--------------------|--------------------|
| 1. | Mowing | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 2. | Edge & Trim | \$ _____/1000 l.f. |
| 3. | Weed Eat Turf | \$ _____/1000 l.f. |
| 4. | Chemical Edge 6" | \$ _____/1000 l.f. |
| 5. | Fertilization | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 6. | Aerification | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 7. | Renovation | |
| | Dethatch | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| | Dethatch/ Overseed | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 8. | Weed Control | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| | | \$ _____/Hour |

C. Ground Cover Care

Unit Cost

- | | | |
|----|---------------|--------------------|
| 1. | Edge & Trim | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 2. | Mow/Cut back | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 3. | Fertilization | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| 4. | Weed Control | \$ _____/1000 s.f. |
| | | \$ _____/Acre |
| | | \$ _____/Hour |
| 5. | Pest Control | \$ _____/1000 s.f. |

\$ _____/Acre
\$ _____/Hour

D. Shrub and Vine Care

Pruning

Unit Cost

- | | | |
|----|------------------------------|---------------|
| 1. | 1-5 feet | \$ _____/Each |
| | 6 plus feet | \$ _____/Each |
| 2. | Fertilization | |
| | a. Dry formulation placement | \$ _____/Each |
| | b. Foliar application | \$ _____/Each |
| | c. Soil injection | \$ _____/Each |
| 3. | Pest Control | \$ _____/Each |
| | | \$ _____/Hour |

E. Tree Care

Pruning

Unit Cost

- | | | |
|----|------------------------------|---------------|
| 1. | 1-14 feet | \$ _____/Each |
| 2. | Fertilization | |
| | a. Dry formulation placement | \$ _____/Each |
| | b. Foliar application | \$ _____/Each |
| | c. Soil injection | \$ _____/Each |
| | d. Vertical mulching | \$ _____/Each |
| 3. | Pest Control | \$ _____/Each |
| | | \$ _____/Hour |
| 4. | Tree Staking | \$ _____/Each |
| | Tree Guying | \$ _____/Each |

F. Plant Material and Installation: (Including all Labor and Equipment for Removal, Replacement and Disposal)

Unit Cost

- | | | |
|----|-----------------------------|---------------|
| 1. | Annual Color (4" Container) | \$ _____/Each |
| 2. | Ground Cover | \$ _____/Flat |
| 3. | One (1) Gallon | |
| | Shrub | \$ _____/Each |
| | Tree | \$ _____/Each |
| 4. | Five (5) Gallon | |
| | Shrub | \$ _____/Each |
| | Tree | \$ _____/Each |
| 5. | Fifteen (15) Gallon | |
| | Shrub | \$ _____/Each |
| | Tree | \$ _____/Each |
| 6. | 24" Box Tree | \$ _____/Each |

- | | | |
|-----|-----------------------|-------------------------------------|
| 7. | 36" Box Tree | \$ _____/Each |
| 8. | Seeded Turf/Top Dress | \$ _____/s.f.
\$ _____/1000 s.f. |
| 9. | Sodded Turf | \$ _____/s.f.
\$ _____/1000 s.f. |
| 10. | Stolonized Turf | \$ _____/s.f.
\$ _____/1000 s.f. |
| 11. | Bark Mulch | \$ _____/s.f.
\$ _____/1000 s.f. |

G. Weed Abatement (Labor, equipment, materials)

Unit Cost

- | | | |
|----|---|-------------------------------------|
| 1. | Tractor Drawn Disc | \$ _____/1000 s.f.
\$ _____/Acre |
| 2. | Hand Work | \$ _____/1000 s.f.
\$ _____/Acre |
| 3. | Flail Mowing | \$ _____/1000 s.f.
\$ _____/Acre |
| 4. | Pre-emergent Herbicide (Broad spectrum) | \$ _____/1000 s.f.
\$ _____/Acre |
| 5. | Post-emergent Herbicide (Systemic) | \$ _____/1000 s.f.
\$ _____/Acre |

H. Irrigation Repairs (Including all labor and equipment for removal and disposal)

Unit Cost

- | | | |
|----|--|-------------------------|
| 1. | Remote control valve R & R Rainbird
EFB-CP-Series | |
| | 3/4" | \$ _____/Each |
| | 1" | \$ _____/Each |
| | 1 1/4" | \$ _____/Each |
| | 1 1/2" | \$ _____/Each |
| | 2" | \$ _____/Each |
| | 2 1/2" | \$ _____/Each |
| | 3" | \$ _____/Each |
| 2. | Repair lateral PVC lines each | <u>Unit Cost</u> |
| | 1/2" | \$ _____/LF |
| | 3/4" | \$ _____/LF |

	1"	\$ _____/LF
	1 1/4"	\$ _____/LF
	1 1/2"	\$ _____/LF
	2"	\$ _____/LF
	2 1/2"	\$ _____/LF
	3"	\$ _____/LF
	4"	\$ _____/LF
3.	Repair pressure main PVC lines each	<u>Unit Cost</u>
	1/2" (Schedule 40)	\$ _____/LF
	3/4" (Schedule 40)	\$ _____/LF
	1" (Schedule 40)	\$ _____/LF
	1 1/4" (Schedule 40)	\$ _____/LF
	1 1/2" (Schedule 40)	\$ _____/LF
	2" (Class 315)	\$ _____/LF
	2 1/2" (Class 315)	\$ _____/LF
	1 1/2" (Class 315), ring tite	\$ _____/LF
	3" (Class 315)	\$ _____/LF
	3" (Class 315), ring tite	\$ _____/LF
	4" (Class 315)	\$ _____/LF
	4" (Class 315), ring tite	\$ _____/LF
4.	Raise valve boxes, fill soil to grade top and seed	\$ _____/Each
5.	Replace valve box, standard Square 11" x 17"	\$ _____/Each
6.	Replace valve box, round, 9"	\$ _____/Each
7.	Replace sprinklers and required PVC parts	\$ _____/Each
	Hunter I-25	\$ _____/Each
	Hunter I-44	\$ _____/Each
	Rainbird 1806 SAM PRS	\$ _____/Each

Rainbird 1812 SAM PRS	\$_____/Each
Rainbird 41A Rotor	\$_____/Each
Rainbird 47A Rotor	\$_____/Each
Toro 570C-6P	\$_____/Each
Toro 570C-12P	\$_____/Each
Toro 640 Series	\$_____/Each

I. Grounds Maintenance (All extra work and payment deductions due to performance failure shall include labor and material.)

	<u>Description</u>	<u>Unit Cost</u>
1.	Trash Pick Up	\$_____/Hour
2.	Trash Can Liner Replacement	\$_____/Can
3.	Tot/Sandlots	
	Clean/Rake Sand	\$_____/1000 s.f.
	Rototill	\$_____/1000 s.f.
	Add Sand	\$_____/Cubic Yard
4.	Horseshoe Pits	
	Clean/Rake	\$_____/Pit
5.	Picnic Areas	
	Sweep/Blow	\$_____/Picnic Area
	Wash	\$_____/Picnic Area
6.	Picnic Tables/Benches/Bleachers	
	Wash/Clean	\$_____/Each
7.	B.B.Q's	
	Empty/Clean	\$_____/Each

End of Section



California Department of Fish and Game
CENTRAL COAST REGION
California Endangered Species Act
Incidental Take Permit No. 2081-2001-011-3
B. T. DEVELOPMENT COMPANY L.L.C.
HOLIDAY INN EXPRESS, MARINA, CA

Authority: This California Endangered Species Act ("CESA") Incidental Take Permit ("permit") is issued by the Department of Fish and Game ("Department") pursuant to Fish and Game Code section 2081(b) and section 2081(c), and California Code of Regulations, title 14, subdivision 3, chapter 6, article 1, commencing with section 783. CESA prohibits the take¹ of any species of wildlife that is included in the list of endangered species, the list of threatened species, or the list of candidate species². However, the Department may authorize, by permit, the take of such species if the conditions set forth in section 2081(b) and section 2081(c) are met.

Permittee: B.T. Development Company L.L.C.
P.O Box 2317
Monterey, CA 93942

Name and title of principal officer: Bart Bruno

Contact person: Bart Bruno

Agent for service of process: Bart Bruno

Project location: 189 Seaside Avenue, Marina, CA at the northeast corner of Reservation Road and Seaside Avenue; the mitigation site is located to the south of the BT Development property across Seaside Avenue at Locke-Paddon Park.

Project description: B. T. Development proposes to build an eighty unit Holiday Inn

¹Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

²"Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Express Hotel at the northeast corner of Reservation Road and Seaside Avenue in Marina, CA (APN 331-111-007) on 1.78 acres.

Covered species:

This permit covers the following species:

Name	Status³
<u>Plants</u>	
1. <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	Threatened

This species and only this species is hereinafter referred to as "Covered Species."

Effective date and expiration date of permit:

This permit shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by applicant (see below) and returned to the Department. Unless renewed by the Department, this permit's authorization to take the Covered Species shall expire on December 31, 2007.

Incidental take authorization:

The Department authorizes the permittee, its employees, contractors and agents to take Covered Species incidentally to carrying out the project, subject to the limitations described in this section and the conditions of approval identified below. This permit does not authorize any intentional take of Covered Species, take of Covered Species from activities outside the scope of the project as described above, or take of Covered Species resulting from a permit violation.

Conditions of Approval:

The Department's issuance of this permit and Permittee's authorization to take the Covered Species is subject to Permittee's compliance with and implementation of the following conditions of approval:

1. Permittee shall comply with all applicable state, federal and local laws in

³Refers to status under CESA. Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are "unlisted."

existence on the effective date of this permit or adopted thereafter.

2. Permittee shall fully implement and adhere to the conditions in Attachment 1, Final Restoration and Mitigation Plan for BT Development Comapny LLC, Holiday Inn Express Project, dated November 12, 2001.
3. To ensure that impact minimization and mitigation requirements are implemented, Permittee shall:
 - a. Immediately notify the Department in writing if it determines that it is not in compliance with any condition of approval of this permit, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in Attachment 2, the Mitigation Monitoring and Reporting Program (MMRP).
 - b. Beginning with issuance of the Permit and continuing for the life of the project, Permittee shall provide the Department an annual Status Report no later than September 15 of every year. Each Status Report shall include, at a minimum: 1) a general description of the status of the project, including actual or projected completion dates, if known; 2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; 3) identification of performance standards and success criteria, analysis of data related to meeting performance standards and success criteria, and remedial measures to be undertaken in the event that performance standards or success criteria have not been met; and 4) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for project impacts. Status Reports shall be sent to Department of Fish and Game, Post Office Box 47, Yountville, CA 94599 and shall reference permit number 2081-2001-011-3.
 - c. No later than 45 days after completion of the project, including completion of all mitigation measures and successfully meeting all final success criteria, Permittee shall provide the Department with a Final Mitigation Report. The Final Mitigation Report shall be prepared by a knowledgeable, experienced biologist and shall include, at a minimum: 1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was

Incidental Take Permit
No. 2081-2001-011-3
B. T. Development Company L.L.C.
Holiday Inn Express, Marina, CA

implemented; 2) all available information about project-related incidental take of species named in the Permit; 3) information about other project impacts on the species named in the Permit; 4) construction dates; 5) identification of performance standards and success criteria, and analysis of data related to meeting performance standards and success criteria; 6) an assessment of the effectiveness of the permit's conditions of approval in minimizing and compensating for project impacts; 7) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the species; and 8) any other pertinent information.

- d. Permittee shall provide Department representatives with reasonable access to the project site and mitigation lands under its control, and shall otherwise fully cooperate with Department efforts to verify compliance with or effectiveness of mitigation measures.
 - e. Notwithstanding any expiration date on this permit's take authorization, Permittee's obligations under this permit do not end until the Department accepts the Final Mitigation Report as complete.
4. Permittee may proceed with ground-disturbing project activities before completing all of the required mitigation, monitoring, and reporting activities only if Permittee ensures funding to complete those activities by providing the Department an irrevocable letter of credit, a pledged savings account, an escrow account, or another form of security approved by the Legal Office ("Security"). Permittee shall obtain Department Legal Office approval for the Security and provide the fully funded Security to the Department no more than 30 days after the Effective Date. The Security shall be in the amount of \$35,500 to implement the permit's mitigation, monitoring and reporting requirements.
5. Permittee shall implement provisions of the Final Restoration and Mitigation Plan on 3.55 acres permanently preserved at Locke-Paddon Park, owned and managed by the Monterey Peninsula Regional Park District; applicant shall provide evidence of action by the Park District Board within one year that demonstrates the 3.55-acre habitat area at Locke-Paddon Park will be protected in perpetuity, and will be managed for the perpetuation of the native dune habitats protected therein. Protection and management shall be accomplished in a manner

substantially consistent with the letter dated November 15, 2001 from Monterey Peninsula Regional Park District to the Department (Attachment 3), which includes extinguishment of all legal parcels so as to create a single parcel, rezone the parcel to open space, dedicate the park as open space, record a deed restriction on the parcel identifying it as a mitigation site in perpetuity, and signing and posting the mitigation area.

6. This permit may be amended without the concurrence of the permittee if the Department determines that continued implementation of the project under existing permit conditions would jeopardize the continued existence of a Covered Species or that changed biological conditions necessitate a permit amendment to ensure that impacts to the Covered Species are minimized and fully mitigated.
7. The Department may issue permittee a written stop work order to suspend any activity covered by this permit for an initial period of up to 25 days to prevent a violation of this permit or the illegal take of an endangered, threatened or candidate species. Permittee shall comply with the stop work order immediately upon receipt thereof. The Department may extend a stop work order under this provision for a period not to exceed 25 additional days, upon written notice to the permittee. The Department shall commence the formal suspension process pursuant to California Code of Regulations, title 14, section 783.7 within five working days of issuing a stop work order.

Compliance with Other Laws

This permit contains the Department's requirements for the project pursuant to CESA. This permit does not necessarily create an entitlement to proceed with the project. The permittee is responsible for complying with all other applicable state, federal, and local laws.

Notices

Written notices, reports and other communications relating to this permit shall be delivered to the Department by first class mail at the following addresses, or at addresses the Department may subsequently provide the Permittee:

Original to: Regional Manager

Incidental Take Permit
No. 2081-2001-011-3
B. T. Development Company L.L.C.
Holiday Inn Express, Marina, CA

Central Coast Region
P.O. Box 47
Yountville, CA 94599

Copy to: General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

CESA Findings

With respect to CESA, the Department finds that based on the Administrative Record all of the following conditions are met:

- (1) Take of Covered Species as defined in the Permit will be incidental to the otherwise lawful activities covered under the Permit;
- (2) The impacts of the take will be minimized and fully mitigated through the project's Final Restoration and Mitigation Plan dated November 12, 2001;
- (3) The conservation and mitigation measures required pursuant to the HCP's Operating Conservation Program are roughly proportional in extent to the impact of B.T. Development LLC's take;
- (4) Where various measures are available to meet the mitigation requirement under CESA, the measures required will maintain B.T. Development LLC's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) The Permit is consistent with any regulations adopted pursuant to Sections 2112 and 2114 of the Fish and Game Code;
- (7) B.T. Development LLC has ensured adequate funding to implement the measures required by the Permit, and for monitoring compliance with, and the effectiveness of, those measures for each project; and
- (8) Issuance of the Permit will not jeopardize the continued existence of the Covered Species based on the best scientific and other information that is reasonably available, and includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known

Incidental Take Permit
No. 2081-2001-011-3
B. T. Development Company L.L.C.
Holiday Inn Express, Marina, CA

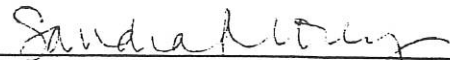
population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. The Department's finding is based, in part, on the Department's express authority to amend the terms and conditions of the Permit as necessary to avoid jeopardy.

Attachments:

ATTACHMENT 1	Final Restoration and Mitigation Plan for BT Development Company LLC, Holiday Inn Express Project, November 12, 2001
ATTACHMENT 2	Mitigation Monitoring and Reporting Program
ATTACHMENT 3	Letter dated November 15, 2001 from Monterey Peninsula Regional Park District to the Department
ATTACHMENT 4	CEQA Findings

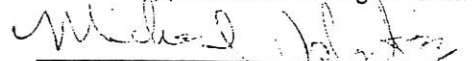
ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

on January 15, 2002.



Sandra Morey, Chief
Habitat Conservation Planning Branch

Approved as to Legal Form:



Michael Valentine, General Counsel

ACKNOWLEDGMENT

The undersigned applicant acknowledges receipt of this permit and, by signing, accepts and agrees to comply with all terms and conditions of the permit.

By: 

Date: Jan 16, 2002

Name: Bart J. Bruno

Title: Managing Member

Incidental Take Permit
No. 2081-2001-011-3
B. T. Development Company L.L.C.
Holiday Inn Express, Marina, CA

**Final Restoration and Mitigation Plan
for
BT Development Company L.L.C.
Holiday Inn Express Project
(2081-2001-011-03)**

Prepared for:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942

Prepared by
Paul Kephart and Dale Hameister
Rana Creek Habitat Restoration
November 12, 2001



I. EXECUTIVE SUMMARY

B.T. Development Company L.L.C. proposes to build an eighty (80) unit Holiday Inn Express Hotel at the northeast corner of Reservation Road and Seaside Circle in Marina, CA (APN 331-111- 007). The property to be developed is degraded and dominated by Hottetot fig (*Carpobrotus edulis*) but also contains Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). Through consultation with the California Department of Fish and Game (CDFG), it has been determined that the sensitive habitat within the area to be developed is 1.52 acres. To fully mitigate for this loss of habitat, this restoration plan has been prepared to establish 3.55 acres of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke-Paddon Park of the Monterey Peninsula Regional Parks District (MPRPD) directly across the street from the area to be developed. The mitigation plan includes provisions for removal of the top (approximately 6 inches to 1 foot) of sand at the property proposed for development and the relocation of this topsoil to the mitigation area. This will preserve the total existing seed bank of Monterey spineflower and sand gilia of the area to be developed and relocated it to the restoration area.

A. Owner and Location of Project

1. Applicant: B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942
2. Location: The project is located at 189 Seaside Ave in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue. The project is bounded by the K-mart shopping center to the north, Seaside Circle to the south, a residential property to the east, and Reservation Road to the west. The mitigation site is located to the south of the BT Development property across Seaside Ave at Locke-Paddon Park.
3. CDFG case number: 2081-2001-011-03
4. Assessor's Parcel Number: APN 331-111- 007

B. Introduction

This Restoration Plan has been prepared to mitigate for the loss of upland dune habitat as a result of the proposed Holiday Inn Express Project at the corner of Reservation Road and Seaside Circle in Marina, CA. The property is degraded and dominated by Hottetot fig (*Carpobrotus edulis*) but also contains Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). State Listing is pursuant to Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered and Threatened species of plants and animals. Federal listing is pursuant to the Federal Endangered Species Act of 1973. This plan has been prepared to fully mitigate as required by the City of Marina General Plan, California Environmental Quality Act (CEQA), California Endangered Species Act, and the Federal Endangered Species Act.

Impacts Assessment

The project involves the development of a Holiday Inn Express. The total area to be developed is, according to the parcel maps, 1.78 acres (77,684 ft²) including road and grading easements. Through consultation with the California Department of Fish and Game (CDFG), it has been determined that the sensitive habitat within the area to be developed is 1.52 acres (measured with GIS). In 1998, Kathleen Lyons of Harvey & Stanley Associates prepared a "Rare Plant Survey Report" (appendix 8) and found 448 sand gilia plants within four separate areas on the project site totaling 0.14 acres (566 m²). Kevin Merk of Zander Associates surveyed the project site in 1999, and reported 805 sand gilia (*Gilia tenuiflora* ssp. *arenaria*) found within two areas totaling 0.38 acres (1,538 m²). In 2001 Dale Hameister of Rana Creek Habitat Restoration found 42 sand gilia plants within one area of 0.005 acres (20.9961 m²). Also in 2001, Monterey spineflower was found by Dale Hameister in fragmented areas totaling approximately 2,500 ft² (232 m²) within the 1.52 acre sensitive habitat area (size of distributions were measured with GPS). Appendix 1, Map 4, Oct 19, 2001 shows the rare species distribution on the site from each survey. The sensitive species occur in patches of open sand between areas dominated by non-native Hottentot fig. The remaining area of the project (referred to as the panhandle) contains Eucalyptus trees, Hottentot fig, and other non-native invasive species, and is not used in the calculations to determine mitigation amounts.

Species Wide Range

In the 1988 *Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly*, The U.S. Fish and Wildlife Service summarize that *Chorizanthe pungens* var. *pungens* is known from seven occurrences with as many as 1.2 million individuals, the apparent majority of them at Fort Ord (USFW 1998). The same report also summarizes that as of 1998, *Gilia tenuiflora* ssp. *arenaria* is known from 15 extant occurrences with 110,400 individuals. The tables of occurrences are included in appendices 2 and 3.

Mitigation

Mitigation will entail establishment and management of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke-Paddon Park of the Monterey Peninsula Regional Parks District (MPRPD) directly across the street from the property to be developed. An agreement with MPRPD for this use can be found in Appendix 10. The area available for restoration at the park is 3.55 acres (see Appendix 1, Map 3).

This plan describes the methods and techniques to restore, protect, propagate, and monitor native plant components of upland dune scrub habitat including Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) on MPRPD property which, when success criteria are met, fully mitigates for the loss of habitat on the site to be developed.

Environmental Review

The City of Marina has accepted the previously approved 1988 Marina Landing Shopping Center EIR as adequate Environmental Review for the property.

Based on the October 12th, 2000 City of Marina staff report, the recommendation was made to "Make environmental determinations that the proposed project is consistent with the scope of the 1988 Marina Landing Shopping Center FEIR, and that the FEIR constitutes adequate environmental review according to CEQA."

The following are the rulings of the City of Marina pertinent to the biological issues of the project:

1. All Environmental Mitigation listed in the 1988 Marina Landing Shopping Center FEIR or substitute environmental mitigations described elsewhere in this document, will be made conditions of approval of all information in and referred to as attachments and exhibits to the project as they may be applicable.
2. In connection with consideration of the approval actions and environmental review regarding the proposed project, the Planning Commission has taken and considered testimony, and reviewed and considered all information in and referred to as attachments and exhibits to the project Staff Report for the October 12, 2000 meeting on these matters.
3. The Marina Landing EIR as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15168.
4. None of the conditions triggering subsequent or supplemental environmental review under section 21166 of CEQA have occurred since the certification of the Final EIR. Specifically, the current project in combination with any additional mitigation measures and conditions of approval will not increase significant impacts or lead to the occurrence of new significant impacts, and the Planning Commission finds that a supplemental or subsequent EIR is not required as a result of this approval.
5. That if the project is developed in accordance with the environmental mitigations contained or referenced herein, there is no evidence that the project will either individually or cumulatively have any potential adverse impact on fish or wildlife resources.

The 1988 Marina Landing Shopping Center FEIR Table 2.1 Summary of Impacts and Mitigation Measures states:

"Any type of clearing or grading which might be proposed in the future should be undertaken only after a mitigation plan has been prepared in cooperation with the Department of Fish and Game to protect the existing sand gilia plants or to provide for their reestablishment in a suitable area."

This restoration and mitigation plan has been prepared to satisfy this requirement of the 1988 Marina Landing Shopping Center FEIR.

Marina General Plan regarding Biological Resources

Start text from City of Marina General Plan

4.111 As used in this General Plan, "sensitive species" refers to the following categories of species and "sensitive habitat" refers to habitat identified as supporting one or more of the following: federally proposed and listed threatened and endangered species; species that are candidates federal listings as threatened or endangered;

state-listed threatened or endangered species; and California Native Plant Society list 1B species with extensive portions (i.e. greater than 10 percent) of their known range within the Marina Planning Area.

4.112 Within areas identified as supporting sensitive habitat(s), the following requirements shall apply:

1. With the expectations of areas where an approved Habitat Management Program (HCP) allows development without restrictions, and for structures erected to maintain, restore or enhance sensitive habitat and species, require discretionary approval for all new structural and road development proposed within sensitive habitat areas or on sites supporting sensitive species and habitat.

2. Site and design those new structures or roads which may be allowed within designated Habitat Reserves or other sensitive habitat areas as to minimize adverse impacts upon habitat areas. They may entail site plan modification and/or the inclusion of appropriate mitigation measures developed by biologists, soil engineers, or hydrologists (e.g. erosion and storm drainage controls, wildlife culverts, and grading imitations.) Specific requirements shall govern the design and construction of California Avenue where it passes through the UC Natural Reserve System.

4.113 Within areas for which there is an approved (HMP) or (HCP) and where avoidance of significant impacts is not feasible as determined through discretionary review, a seasonal avoidance and/or salvage/relocation program for certain species and habitat areas should be established or undertaken, as appropriate, prior to site development.

4.114 Where new development may remove all or a portion of identified sensitive habitat in an area not subject to an approved HCP, and where no less environmentally damaging alternative can be feasibly implemented, comparable habitat should be restored either on-site or off-site on a two-to-one basis (e.g. two acres of habitat shall be restored for every acre of habitat removed).

4.115 Except where possible "take" of sensitive species is allowed (and may be mitigated in compliance with state and federal laws, regulations, and other applicable legal mechanisms such as approved HCP or HMP), the city shall designate all areas identified as supporting sensitive habitat as "Habitat Reserve," and, where occurring on private property, it shall ensure protection through easements, dedications, or other appropriate legal means.

End text from City of Marina General Plan

These provisions of the Marina General Plan pertain to both the Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). The existing population this year (2001) was surveyed using GPS equipment and integrated into a GIS based map (Appendix 1 – Map 4). The area of rare plant habitat on the property is 1.52 acres. Per section 4.114 of the Marina General Plan, the Restoration Area, which totals 3.55 acres, is adequate to mitigate for the proposed development.

The Marina General Plan does not designate California black legless lizard (*Anniella pulchra nigra*) as a sensitive species. California black legless lizard is a California Species of Concern, and must be afforded protection under CEQA. Surveys were conducted to determine the presence of legless lizards on the site. None were found. See sections II, B; IV, D; and Appendix 9 herein for details of the lizards surveys and plans for extensive searching for potentially occurring lizards prior to construction.

Fish and Game Code

2052.1. The Legislature further finds and declares that if any provision of this chapter requires a person to provide mitigation measures or alternatives to address a particular impact on a candidate species, threatened

species, or endangered species, the measures or alternatives required shall be roughly proportional in extent to any impact on those species that is caused by that person. Where various measures or alternatives are available to meet this obligation, the measures or alternatives required shall maintain the person's objectives to the greatest extent possible consistent with this section. All required measures or alternatives shall be capable of successful implementation. This section governs the full extent of mitigation measures or alternatives that may be imposed on a person pursuant to this chapter.

2081. The department may authorize acts that are otherwise prohibited pursuant to Section 2080, as follows:

(b) The department may authorize, by permit, the take of endangered species, threatened species, and candidate species if all of the following conditions are met:

- (1) The take is incidental to an otherwise lawful activity.
- (2) The impacts of the authorized take shall be minimized and fully mitigated. The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation. For purposes of this section only, impacts of taking include all impacts on the species that result from any act that would cause the proposed taking.

This plan provides methods to fully mitigate the take of listed species on the development site, and to create/enhance habitat in the restoration area that is more diverse in native species and has higher ecological function than the site to be developed.

This plan will be included as supporting documentation for required California Fish and Game Incidental Take Permit §2081. The permit will enable the project proponent to collect, propagate, and transplant the listed species.

C. Summary of Project

The project includes the development of a Holiday Inn Express, parking area, and driveway as approved by the Marina City Council and certified by the City of Marina Project Approval Certificate dated April 16, 2001.

The existing habitat to be developed is comprised of remnant inland dunes mostly invaded by non-native annual grasses and Hottetot fig. The habitat is surrounded by urban growth and bounded by streets and development. Removal of the sand gilia and spine flower would occur for construction of a proposed Holiday Inn Express on the BT Development project site. Onsite mitigation is not feasible given the limited size and location of the property. There would be little ecological value in preserving or enhancing habitat on site. CDFG concurs with this finding during a site visit and consultation with the applicant. Therefore, offsite mitigation is proposed. An appropriate offsite mitigation area was identified in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is historical hind dune scrub habitat in Locke-Paddon Park, which is located on the south side of Seaside Ave, across the street from the property to be developed (see Appendix 1 – Map 3). The mitigation site will have extensive invasive species control, and be planted with native dune scrub species including Monterey spineflower and sand gilia. The project will also include environmental education in the form of informative signage within the park, and a brochure available to visitors of the hotel. The site is appropriate because it currently contains remnant colonies of Monterey spineflower.

D. Regulatory Jurisdiction

Lead Agency
City of Marina Planning Department
211 Hillcrest Avenue
Marina, CA 93933

California Coastal Commission
Central Coast Area Office
725 Front Street, Suite 300
Santa Cruz, CA 93960

Application for §2081 permit submitted to:
Robert Floerke
California Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Deborah Hillyard
California Department of Fish and Game
P.O. Box 1388
Morro Bay, CA 93422

E. Short term schedule

Restoration work shall proceed upon approval of the plan and issuance of a §2081 permit. Exotic species control will occur during the fall and winter of 2001, with restoration implementation scheduled to begin the winter of 2002.

II. EXISTING CONDITIONS

A. Vegetation/Habitat Description

The California Native Plant Society Inventory of Rare Vascular Plants of California (2001) and The California Department of Fish and Game California Natural Diversity Database was utilized for identification of known populations of State and Federal listed rare, threatened and endangered plant species on or in the vicinity of the project site. Plant identification was validated utilizing The Jepson Manual (Hickman 1993). Cultivar species were identified utilizing the Sunset Western Garden Book.

The site to be developed is highly degraded remnant upland dune scrub. Hottetot fig (*Carpobrotus edulis*), an invasive iceplant from South Africa, dominates the BT Development property. There are a few scattered silver bush lupines (*Lupinus chamissonis*), California sagebrush (*Artemisia californica*), and mock heather (*Ericameria ericoides*) shrubs on the property. Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) occur in some of the open patches of sand between areas of Hottetot fig. The restoration receiver site is located on upland habitat on the adjacent Locke-Paddon Park. Non-native grasses and forbs that will be controlled prior to planting of

the native dune plants dominate the park site. There are a few scattered coyote brush and mock heather shrubs in the restoration area, as well as areas of native dune swale vegetation and Monterey spineflower that are to remain. These areas are to be protected during exotic species control and during operation of heavy machinery. Further biological information can be found in the Appendices 4-8.

Table 1. - Vascular plant list of the BT Development Property Observed by Dale Hameister on January 10, 2001, and on further visits in March 2001.

Scientific Name	Common Name
<i>Acacia melanoxylon</i> *	blackwood acacia
<i>Anaphalis margaritacea</i>	pearly everlasting
<i>Anthemis cotula</i> *	mayweed (dog fennel)
<i>Artemisia californica</i>	coast sagebrush
<i>Avena fatua</i> *	slender wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Bromus diandrus</i> *	ripgut brome
<i>Camissonia cheiranthifolia</i>	beach primrose
<i>Cardionema ramosissimum</i>	Sandmat
<i>Carpobrotus edulis</i> *	hottentot fig (ice plant)
<i>Ceanothus</i> 'Julia Phelps' **	Julia Phelps' ceanothus cultivar
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower
<i>Conicosia pugioniformis</i> *	Conicosia
<i>Conyza canadensis</i> *	Horseweed
<i>Cortaderia jubata</i> *	Pampas grass
<i>Croton californicus</i>	Croton
<i>Cupressus macrocarpa</i> **	Monterey cypress
<i>Eriogonum giganteum</i> var. <i>giganteum</i> *	Santa Catalina Island buckwheat
<i>Erodium cicutarium</i> *	red-stemmed filaree
<i>Eschscholzia californica</i>	California poppy
<i>Eucalyptus globulus</i> *	blue gum
<i>Fremontodendron californicum</i> X**	flannelbush cultivar
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	sand gilia
<i>Hirschfeldia incana</i> *	summer mustard (<i>Brassica geniculata</i> *)
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	barnyard foxtail
<i>Lessingia filaginifolia</i>	common beach aster
<i>Limonium bonduellii</i> *	statice
<i>Lotus scoparius</i> var. <i>scoparius</i>	deer weed
<i>Lupinus chamissonis</i>	silver beach lupine
<i>Pennisetum clandestinum</i> *	Kikuyu grass
<i>Pinus radiata</i> **	Monterey pine
<i>Plantago cornopus</i> *	cut-leaved plantain
<i>Rumex acetosella</i> *	sheep sorrel
<i>Sonchus asper</i> *	spiny sowthistle
<i>Vulpia bromoides</i> *	six-week fescue
<i>Vulpia microstachys</i> *	Nuttall's fescue

* Introduced Non-native Species

** Introduced Native California Species



Figure 1. The property to be developed, dominated by Hottentot fig (iceplant) and sheep sorrel.

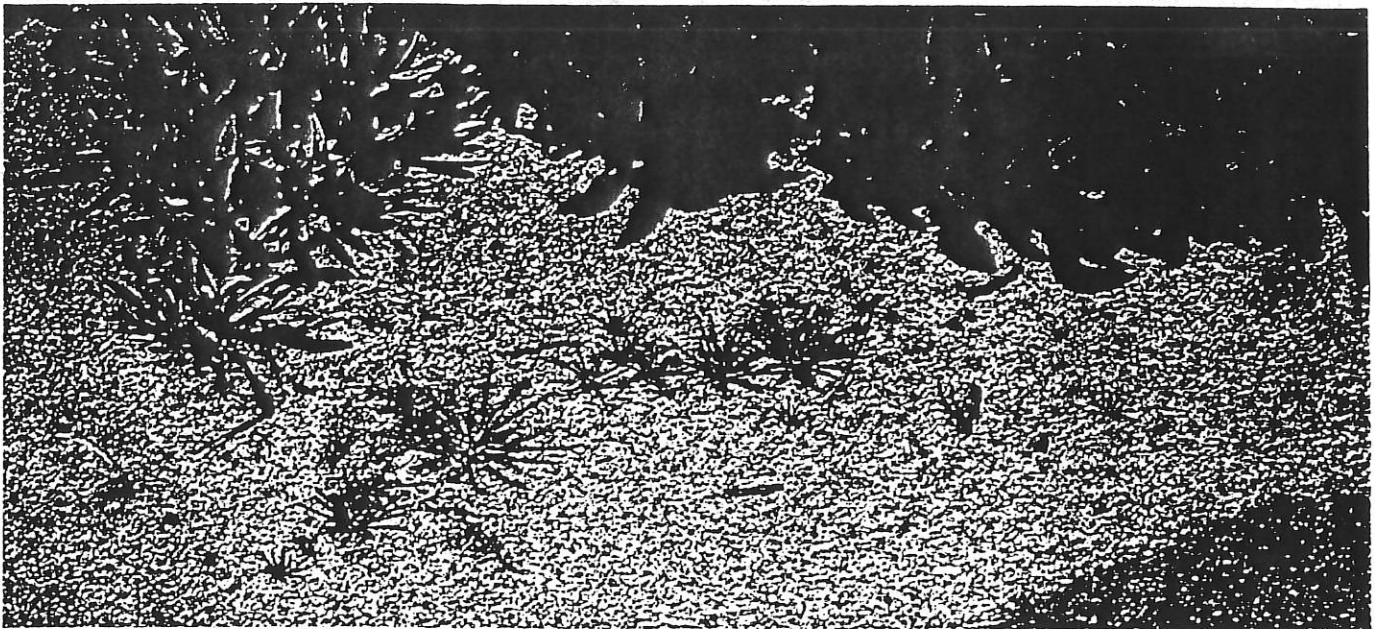


Figure 2. Sand gilia amongst invasive Hottentot fig and native beach aster.



Figure 3. A single silver beach lupine amongst the Hottentot fig.

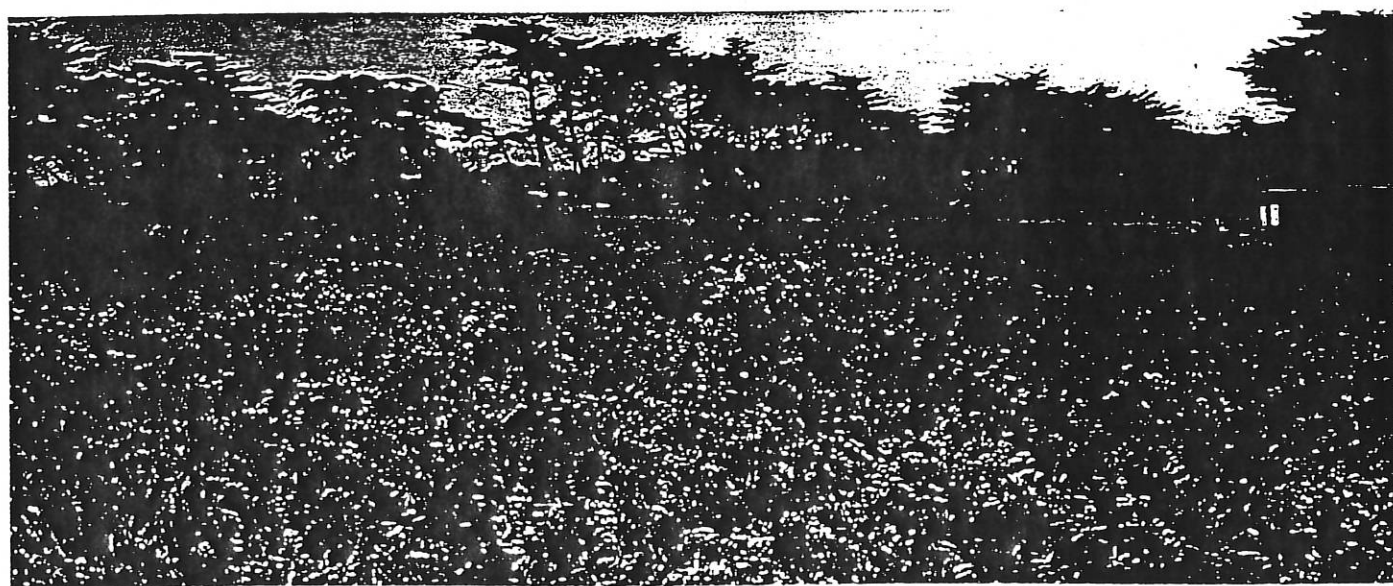


Figure 4. The restoration site in Locke-Paddon Park.

B. Rare, Threatened, or Endangered Species

Federally Threatened Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*) exist on the site to be developed. State Listing is pursuant to Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered and Threatened species of plants and animals. Federal listing is pursuant to the Federal Endangered Species Act of 1973.

Detailed survey for the California black legless lizard (*Anniella pulchra nigra*), a California Species of Concern, were conducted on the property by Linda Kuhn of ABA Consultants. Ms. Kuhn is one of the local experts on California legless lizards and is permitted to handle them by the California Department of Fish and Game. No lizards were found in the surveys. The lizard survey report is appended (Appendix 9).

C. Level of Existing Disturbance

The native habitats of The City of Marina have historically been impacted by the construction and grading for houses and roads, and exotic species invasions. Habitat on site to be developed is constrained by roads and residential development and dominated by exotic species.

D. Enhancement/Restoration Potential

Restoration will occur on an area of Locke-Paddon Park (MPRPD) that is currently dominated by European annual grasses and forbs. MPRPD staff has approved the location of the restoration area. The topsoil sand of the area to be developed is to be salvaged and applied in a thin layer over the restoration area in order to preserve the existing seed bank of the rare species. After the restoration implementation, the resulting dune scrub area will have a much higher habitat value than the BT Development property that is being mitigated for. The primary benefit of the restoration will be to establish a reproducing, self-sustaining population of each of the listed plant species, which have declined in recent years; gene pool preservation is a required element, and can be accomplished in the course of implementing this project through salvage of topsoil from the hotel site. The secondary benefit will be the creation of upland dune scrub habitat as mitigation for the area to be developed in an area of a public park that is currently dominated by exotics.

III. GOALS

A. Revegetation/Restoration Goals

1. Mitigate impacts to areas containing sensitive plants
2. Eradicate and control exotic non-native pest plants
3. Plant the dominant species represented in the plant community found in the Marina Dunes Area. The plants will be established throughout the Restoration Area.

4. Establish a self-sustaining population of Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) which if successful would fully mitigate the loss of these species as a result of the proposed hotel development.
5. Monitor and report on the efficacy of the restoration program.
6. Provide environmental education through signage and brochures to enhance the public awareness and sensitivity to the values of preserving dune environments and rare species.

IV. IMPLEMENTATION PLAN AND SPECIFICATIONS

A. Responsible Parties

Party responsible for implementation, monitoring and maintenance:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942
(831) 384-4081

B. Project Constraints

The primary constraints pertaining to native species revegetation are: collection of limited quantities of site-specific listed plant materials, establishment of slow growing, long-lived native species, and large populations of exotic pest plants. Given the understanding of these constraints, the Restoration Contractor will conduct appropriate site preparation and revegetation activities to mitigate for potential constraints.

C. Schedule

The seed collection of listed species and restoration program shall be conducted starting with the issuance of CDFG §2081 permit, Coastal Development Permits, and approval of the Restoration Plan from the City of Marina. Exotic species control will occur throughout the restoration implementation process, with restoration implementation scheduled for the fall of 2001/winter 2002. Additional planting will be done the following fall if needed to reach success criteria.

D. Legless lizards

Patricia Anderson of the California Department of Fish and Game, visited the site to be developed and reviewed the protocol for the searching and, if found, the capturing and relocation of legless lizards.

1. Lizard Protocol Accepted by the City of Marina

The City of Marina City Council has approved the following protocol regarding legless lizards:

Option 3

Prior to grading and site preparation, a survey for potentially occurring legless lizards shall be conducted. The survey method will entail a team of qualified individuals lightly dragging a plastic rake through the duff under shrubs. Method of transport includes the following protocol.

- a. Place each captured lizard in a small (e.g., 12" x 6" x 5" plastic container (with a lid; e.g., Tupperware) that has been filled with sand collected from the site. Place one lizard per container. The lid of the container shall be punctured with small air holes.
- b. Do not place the container in direct sunlight.
- c. Release all lizards in an adjacent receiver site at the base of mature shrubs such as lupine and/or mock heather.
- d. Release lizards onto receiver sites no more than three hours after capture.

2. Additional Lizard Protocol Agreed to by BT Development

Through consultation with Linda Kuhn and herpetologist Dr. Steven Ruth of the Ventana chapter of the Sierra Club, BT Development has agreed to the following additional actions regarding legless lizards.

The protocol to capture and relocate any potentially occurring black legless lizards from the site to be developed prior to construction will be:

A team of eight (8) experienced people, led by Dale Hameister of Rana Creek Habitat Restoration (CDFG Scientific Collecting Permit 801148-03), will clear and extensively search lightly raking with potato rakes and hand searching areas of woody shrubs including silver bush lupines (*Lupinus chamissonis*), California sagebrush (*Artemisia californica*), mock heather (*Ericameria ericoides*), and non-native Santa Catalina buckwheat (*Eriogonium giganteum*). The team will also search selected areas of iceplant. An experienced lizard monitor will also be present during initial grading to recover any potentially occurring legless lizards in areas not search by the eight member team.

If no lizards are found, we recommend proceeding with the construction of the Holiday Inn Express project.

If 1-25 legless lizards are recovered, they will be held by a qualified and experienced personnel in temporarily housing legless lizards, until a suitable release site is approved. The site will be selected based on factors contributing to viable habitat including sand type, organic content of sand, insect fauna, proximity to the project site, and the ability to obtain permission of the property owner. A

survey will not be done to determine the population of lizards at the relocation site. A relocation plan will be prepared and approved by California Department of Fish and Game, and the City of Marina.

If 25- 50 lizards are found a survey will be done in the proposed relocation site to determine if there is potential for exceeding the carrying capacity of legless lizards at the site prior to preparing a relocation plan.

If 50 or more lizards are found, the same protocol as 25-50 will be followed with the addition of a pit tagging program to track the lizards in their new environment.

If any lizards are found, the method of transport include the following protocol:

1. Place each captured lizard in a small (e.g., 12" x 6" x 5" plastic container (with a lid;) that has been filled with sand collected from the site. Place one lizard per container. The lid of the container shall be punctured with small air holes.
2. Do not place the container in direct sunlight.
3. Release all lizards in the approved receiver site at the base of mature dune plants such as lupine and/or mock heather. Lizards are to be released in locations that provide sufficient cover of duff and insect fauna. Lizards are not to be released in groups. Individual lizards are to be released spaced throughout the release site. The reason for this is to avoid over crowding and also the concentration of a single sex of lizard in one site can result in potential breeding problems as they have a small home range.

E. Salvaging, Stockpiling

1. Plants - Non-listed native plants occurring on-site with a high feasibility of successful will be harvested and propagated at a qualified native plant nursery, and/or on-site under the care of a qualified horticulturist and reintroduced to the mitigation site.
2. Soils / Sand – There is the opportunity to relocate some of the sand from the construction site to the mitigation site. The top soil (approximately 6 inches to 1 foot) of sand of the property to be developed is to be removed, stockpiled, and retained. Additional sub-soil sand that is to be removed to provide for the proper grade for the proposed hotel could then be moved to the mitigation site, and placed within the restoration area to increase the mounding typical of natural dunes. The topsoil from the construction site will then be spread over the top of the relocated sub-soil in the restoration area. It is hoped that this will help with the anticipated weed problem. This will also preserve the existing seed bank of Monterey spineflower and sand gilia of the area to be developed and relocated it to the restoration area. As specified in this plan, a qualified biologist will be present during the initial grading and sand removal to recover any potentially occurring black legless lizards.

F. Fencing and Limiting Pedestrian Access to the Restoration Area

Fencing shall be installed around the perimeter of the restoration area and along both sides of the existing paved trails, which go through the restoration area. The fencing shall be approximately 3 feet tall and consist of a single rope or plastic coated cable suspended between 4x4 wood posts at 8 foot centers similar to the fencing used at the dune restoration sites at Marina State Beach and Spanish Bay. Signage indicating to pedestrians to keep out of the sensitive restoration area and that dune scrub restoration is in progress shall be installed at highly visible location on the perimeter of the restoration area and along the trails within the restoration area. Educational signage informing the public about rare species being preserved and the dune scrub habitat will also be installed. A mockup and/or draft design of the signage and fencing shall be approved by The Monterey Peninsula Regional Parks District prior to installation. The existing picnic tables within the restoration area shall be moved to the area just north of the restoration area near Seaside Circle per consultation with MPRPD. There shall be no pedestrian traffic within the restoration area except on existing paved trails.

G. Weed Eradication

Weed control is the most important process for successful establishment of native plants, and will often result in natural regeneration of native plant populations. There are several introduced exotic pest plants that occur in the mitigation site and threaten native plant recruitment. They include slender wild oats (*Avena fatua*), ripgut brome (*Bromus rigidus*), ice plant (*Carpobrotus edulis*), and sheep sorrel (*Rumex acetosella*). The non-native species within the Restoration Area shall not be allowed to seed. This will ensure a continual decline of the non-native species in the Restoration Area, and an eventual depletion of the seed bank of non-native plants.

No spraying shall be done in areas that contain sand gilia, and Monterey spineflower during the growth and flowering period between March and the beginning of June of each year, depending on when all the seed has matured. In areas of sand gilia, and Monterey spineflower, hand pulling will be done to control non-native species.

The specified spray mix is as follows:

Herbicide: active ingredient *glyphosate* (Round-up®, or equal)

Water: clean and free of particulate matter (*glyphosate* adsorbs on clay particles)

Surfactant: Triton Ag 98 or equal

Dye: Blazon agricultural dye

Ingredient rates as specified by manufacturer.

Personnel providing spray services shall be fully trained in such operations, and shall wear all required protective clothing. The spray contractor shall carry all licenses and insurance required by the State of California and all other governmental agencies having jurisdiction. The spray contractor shall also be responsible for notification of all parties regarding application of chemical herbicide, as is required by law.

H. Protection of Native Plant Species within the Restoration Area

1. Protection during herbicide application activities

Prior to the application of herbicide, the spray contractor shall become thoroughly familiar with native plant species that are growing in exotic weed colonies within the restoration area, which are to be protected. The areas of particular concern are the native dune swale areas near the paved trail in the southeastern corner of the restoration area and the area containing Monterey spineflower along the eastern edge of the restoration area. (Appendix1 - Map 3, Oct 19, 2001) The monitoring biologist is required to provide familiarity training using photographs, on-site identification, marking with pin flags or flagging tape, and any other techniques necessary to convey specific identification. The contractor shall thereafter provide any and all appropriate measures necessary to protect identified native plants, such as shielding of plants with rolled plastic sheeting, while adhering to all applicable health and safety codes for worker protection. The biological monitor shall be on-site during spray operations. No spraying shall be done in areas with sand gilia or Monterey spineflower between March and the beginning of June of each year.

2. Protection during heavy equipment operation

Prior to the application of topsoil from the property to be developed to the restoration area as referenced in section IV. E on page 13, the construction contractor shall become thoroughly familiar with native plant species that are growing in exotic weed colonies within the restoration area, which are to be protected. The areas of particular concern are the native dune swale areas near the paved trail in the southeastern corner of the restoration area and the area containing Monterey spineflower along the eastern edge of the restoration area. (Appendix1 - Map 3, Oct 19, 2001) No sand shall be deposited on these areas. These areas are to be fenced with 4 foot green plastic temporary construction fencing prior to heavy equipment operation within the restoration area. The fencing may be removed prior to planting after all the sand is placed and there is no more need for the use of heavy machinery within the restoration area.

3. Protection from feral ducks and geese

The success of the sand gilia establishment is dependent upon the plant's ability to produce seed. Many of the sand gilia of the property to be developed had been grazed during the flowering period by ducks or geese that live and/or visit the pond at Locke-Paddon Park. Because of this, as new sand gilia sprout, wire mesh cages could be used to protect the plants from grazing during the flowering and seeding stages. Cages will be used if the project biologist determines a need to protect the sand gilia from the geese and ducks. The cages could also protect the sand gilia from rabbits and ground squirrels. The cages shall be constructed from fine mesh chicken wire and anchored with u-shaped pins/staples.

I. Plant Materials

All plant material requirements are provided in the following tables. Plant species, application rates, and estimated quantities are provided. Plants shall be propagated from site-specific collection and local ecotypes.

The rare species sand gilia and Monterey spineflower will not be included in the hydroseeding. The entire seed bank of both annual species will be moved to the restoration area. This will be combined with minimal seedling planting of both species in areas of the Restoration Area that are not heavily covered with the topsoil of the site to be developed. Seed for these seedlings will be collected sparingly from local areas.

Table 2 - Plant Materials

Scientific Name	Common Name	Size	Plant Spacing	Quantity	Quantity plus 10% to allow for mortality
<i>Armeria maritima</i>	Sea thrift	6" cone	14" spacing in colonies	200	220
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower	plug	20" spacing in colonies	500	550
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	Sand gilia	plug	20" spacing in colonies	200	220
<i>Leymus mollis</i>	American dunegrass	6" cone	14" spacing in colonies	500	550
<i>Poa douglasii</i>	Dune bluegrass	6" cone	14" spacing in colonies	500	550

Table 3 - Seed

Scientific Name	Common Name	Application Rate (lbs. per acre)	Quantity (lbs.)	Quantity plus 10% to allow for mortality (lbs.)
<i>Achillea millefolium</i>	Common yarrow	1.2	4.3	4.7
<i>Artemisia californica</i>	California sagebrush	4.0	14.2	15.6
<i>Artemisia pycnocephala</i>	Beach sagewort	4.0	14.2	15.6
<i>Cammissonia cheiranthifolia</i>	Beach primrose	3.5	12.4	13.7
<i>Croton californicus</i>	Croton	1.5	5.3	5.9
<i>Ericameria ericoides</i>	Mock heather	5.0	17.8	19.5
<i>Erigeron glaucus</i>	Seaside daisy	5.0	17.8	19.5
<i>Eriogonum parvifolium</i>	Dune buckwheat	5.0	17.8	19.5
<i>Eschscholzia californica</i> var. <i>maritima</i>	Beach poppy	2.0	7.1	7.8
<i>Lessingia filaginifolia</i>	Beach aster	1.5	5.3	5.9
<i>Lotus scoparius</i> var. <i>scoparius</i>	Coast deer weed	1.5	5.3	5.9
<i>Lupinus chamissonis</i>	Silver bush lupine	2.0	7.1	7.8

J. Plant Handling

Plants salvaged from the project site shall be excavated with the entire root structure intact. Plants shall be placed in nursery containers and propagated until transplanted to the revegetation receiver sites.

K. Direct Planting

Nursery grown plants and transplants shall be planted into areas where weed control has been implemented. The plants shall be placed in excavated basins and backfilled. The soils shall be firmly compressed at the base of the plant to preserve moisture. Each plant shall be watered after planting to a soil moisture depth of 14 inches.

L. Hydroseeding

The majority of the planting will be done from seed with a hydroseeder. This is for economic reasons, as the plants will not have to be grown in a nursery. Seed shall be uniformly mixed placing seed, water, mulch, fertilizer, and tackifier into the mix tank. Seed shall be applied in a slurry of seed, mulch, fertilizer and a plantago based tackifier. Mixing time shall not exceed 45 minutes from the time the seed contacts the water until the entire batch is discharged onto the prepared soil. Mix specified seed with 150 pounds per acre "Gro-Power" 12-8-8 slow release fertilizer, if deemed necessary by the restoration contractor, 2,000 lbs./acre wood fiber mulch, and 100 lbs./acre "M" binder tackifier. Fertilizer may not be needed, and often only encourages weeds, as the native dune plants do not need additional nutrients to grow in sandy soil.

V. SITE MAINTENANCE

A. Irrigation

No irrigation shall be used for the establishment and management of vegetation.

B. Inspection During Implementation, Frequency

Inspection shall occur during all phases of the revegetation program. The inspections shall: 1) ensure protection of extant habitat, 2) verify total sq. footage revegetated, 3) determine and report on plant salvage operations, and 4) evaluate the effectiveness of revegetation plan implementation.

C. Fencing Maintenance

Inspections shall include both temporary fencing during restoration implementation, and the permanent fencing along the walking paths after implementation. If there is any damage to the fencing, it shall be reported and repaired.

D. Evaluation and Reporting of Maintenance Activities

Maintenance activities shall be monitored and a report prepared describing the results of the restoration program. These observations will be incorporated into the required monitoring reports.

VI. MONITORING

A. Introduction

The monitoring procedures and performance criteria are based on the goal of fully mitigating the loss of threatened and endangered species as a result of the proposed development. Monitoring shall be done by a qualified biologist to monitor and report on the efficacy of the restoration program and to ensure performance standards and success criteria are met.

Monitoring reports shall include both quantitative and qualitative evaluation. At the least, quantitative measurements shall record a census of listed plants, native plant cover percentages, and exotic plant cover percentages. If the report should identify a failure to meet the performance standards, the report shall include appropriate recommendations for achieving these standards.

All restoration measures shall be implemented within one (1) year of the Coastal Commission's action on the application request, and the issuance of CDFG §2081 permit, or by such other date as is specified. Monitoring is to begin one year after the planting/seeding of the Restoration Area, and continue for at least 5 years after that point. Project monitoring and reporting shall continue until all success criteria have been met. If after 5 years of monitoring, success criteria cannot be met, then the Coastal Commission and DFG should be consulted to reevaluate the reasons for non- success, recommend remedial measures, and/or consider redefining the success criteria.

The objective of the restoration and enhancement is to provide information how to best manage and establish dune scrub vegetation. Monitoring the results will help determine if alternative vegetation establishment and management are needed based on the success or failure of planting and care. Adaptive management will focus on implementation costs, efficacy of exotic plant control, and levels of success or failure of the prescribed management. If prescribed planting or weed control programs fail to achieve anticipated trends or thresholds of success, alternative management will be prescribed.

B. Reporting Results

1. The restoration areas will be monitored by a qualified biologist.
2. The biologist will monitor on a quarterly basis the site conditions and exotic weed coverage.
3. The biologist will monitor the presence and numbers of the listed species in the spring annually.
4. The biologist will monitor the coverage and density of the planted non-listed species annually in the spring.
5. Reports submitted annually by September 15 will include both quantitative evaluation and photo-documentation.
6. If the report should identify a failure to meet any of the stated performance standards or success criteria, or failure to meet any other standards consistent with current professional dune

restoration standards, the report shall include appropriate recommendations for initiating the remedial measures to achieve the standards.

7. All reports shall be signed and dated.

C. Agencies to Receive Reports

All reports specified in this plan shall be submitted for the review and approval of the City of Marina, California Department of Fish and Game, United States Fish and Wildlife Service, and the Coastal Commission.

D. Development of Performance Standards and Success Criteria

Intermediate performance standards and long-term success criteria have been provided in order to achieve listed and non-listed species on site that would allow for the continuance of the habitat.

Areas of the rear dunes of the Marina dunes, both restored and native stands, containing good dune scrub habitat attributes including high species richness (of at least 10), low non-native plant cover (lower than 10%), and high native cover (at least 40%) will be used as a reference.

Sand gilia

The performance standards and success criteria for sand gilia herein are based on the number of plants referred to in the *Sand Gilia Mitigation Plan* (Zander Associates 1999). The Zander Associates plan describes mitigation for removal of 805 sand gilia (*Gilia tenuiflora* ssp. *arenaria*) found within two areas totaling 0.38 acres (1,538 m²). In 1998, Harvey & Stanley Associates found 448 sand gilia plants within four separate areas on the project site totaling 0.14 acres (566 m²). In 2001 Dale Hameister of Rana Creek Habitat Restoration found only 42 sand gilia plants within one area of 0.005 acres (20.9961 m²). The areas mapped during the three sand gilia surveys can be seen on Map 4. This fluctuation of populations may be due to a combination of factors including the variability of the species, impacts from herbivores especially the feral ducks and geese of the pond across the street, and an increase in cover of non-native Hottentot fig on the property.

The success criteria for the sand gilia are based on the density of plants that would result in calculating the highest numbers recorded by Zander (805) divided into the potential sensitive habitat area (1.52 acres or 66,211 ft²) which gives a target plant density of one plant per 82 ft². A plant density of one plant per 82 ft² would result in 1,885 plants for the total restoration area (3.55 acres or 154,638 ft²). This will result in more than doubling the highest recorded sand gilia population of the property to be developed thus fully mitigating that loss if the restoration is successful.

Monterey Spineflower

Zander reported that there were 1,821 m² of Monterey spineflower habitat with a density of 10-20 plants per m². This could be more than 18,000 plants. As the spineflower on the site tends to grow only in the open sandy patches between the Hottentot fig, it is unlikely there were that many individuals. During the 2001 surveys, the Monterey spineflower on the property to be developed was surveyed using GPS equipment. Within the 1.52 acre (66,211 ft²) sensitive plant area, 2,500 ft² contained Monterey spineflower.

The success criteria for the Monterey spineflower are based on the density info from Zander and the available habitat estimated (2,500 ft² or 235 m²). This would result in a baseline of 2,350-4,700 plants, or an average of 3,525 (density times available habitat) for the 1.52 acres. The resulting density would be about 1 plant per 19 ft² (3,525 plants within the 66,211 ft² sensitive habitat area). Multiplied out for the 3.55 acres Restoration Area (154,638 ft²) would result in success criteria of 8,232 plants.

E. Performance Standards

During the first year the seeded and planted native plants will compete with a large seedbank of exotic species. Therefore, performance standards target survivorship of total numbers of plants planted and effective maintenance. In addition, these standards act as thresholds that trigger remedial measures.

1. During the first and second years of restoration, the planting shall result in an average plant density of one (1) Sand gilia per 123 ft² averaged over the entire planting area, which equals approximately 3.55 acres. This is two thirds of the target density. Calculating this target density for the whole 3.55 acre restoration area, intermediate success shall be determined when the population equals 1,257 in size.
2. During the first and second years of restoration, the planting shall result in an average plant density of one (1) Monterey spineflower per 28 ft² averaged over the entire planting area, which equals approximately 3.55 acres. This is two thirds of the highest density of the site to be developed. Calculating this target density for the whole 3.55 acre restoration area, intermediate success shall be determined when the population equals 5,488 plants in size. The plants currently in the restoration area will be included in this calculation.
3. During the first year of restoration the percent cover of non-listed native plants will be no lower than 20%.
4. During the second year of restoration the percent cover of non-listed native plants will be no lower than 30%.
5. During the first and second years of restoration, exotic weed control shall show less than 5% cover.

F. Success Criteria

Vegetation is not constant. Over time, climatic conditions and variable plant reproductively will affect the ecological outcome. Our goal is to establish self-sustaining vegetation and reproductive populations of the listed species. Given that natural populations are highly variable, success criteria will target minimum population size and minimum vegetation cover; these standards also act as thresholds that trigger remedial measures.

1. Beginning the third year of restoration and continuing until success criteria have been met in three consecutive years without the need for replanting, a minimum sustainable population size of 1,885 sand gilia will be established and self perpetuating. Evidence of sand gilia reproduction and natural recruitment shall be present.
2. Beginning the third year of restoration, and continuing until success criteria have been met in three consecutive years without the need for replanting, a minimum sustainable population size of 8,232 Monterey spineflower will be maintained. Evidence of natural recruitment shall be present.
3. Overall native cover shall be at least 40% after 3 years.
4. Beginning in the third year of restoration cover of non-native plants shall not exceed 1% of restoration area; this standard must be met for three consecutive years. Non-native plants shall not be allowed to flower/set seed.
5. Individuals of sand gilia shall be permanently protected from herbivores until such time as a population of 1,885 individuals is sustained without protecting individual plants from effects of grazing by rabbits and/or geese from the nearby pond.
6. Erosion and trampling are not apparent.
7. Fences and signs are in good condition.

G. Monitoring Methodology

The goal of monitoring the dune scrub vegetation is to determine if success criteria are being met. All monitoring shall be done by a qualified biologist.

Monitoring Procedures

1. To measure vegetative cover, point-intercept line transect data shall be collected from at least 10 transects of 50 meters each, with 50 points on each transect. A long tape (150-200 meters) shall be placed across the Restoration Area. At a random interval, 50-meter transects will be placed perpendicular to the 150-meter tape. A random number table can be used to determine (1) the point on the 150-meter tape at which each 50-meter transect intercepts the tape; and (2) the point on the 50-meter tape at which it crosses the 150-meter tape. No placement shall be done such that the transect extends beyond the Restoration Area. For each 50-meter transect, a

pin shall be dropped each meter, and each species encountered by the pin shall be recorded. For each pin drop which does not encounter vegetation, the point will be recorded as a "hit" on either litter or sand.

The data will be summarized to include: the number of hits on each native plant species (by species); the number of hits total which encountered native plant species (this would equal the sum of all the hits by species); the number of hits on each non-native plant species (by species). In addition, the number of hits (total) which encountered one or more species of native plants; the number of hits on litter; the number hits on bare sand. The sum of the last three (the number of hits which encountered one or more species of native plants, the number of hits on litter, the number of hits on bare sand) should total 50.

a. Sample size determination

After 10 transects have been sampled, the mean cover of native non-listed plant species will be calculated (the number of pin drops which resulted in hitting one or more species of native plants); and the standard deviation calculated. Those values will be used to determine the number of samples needed to estimate the mean cover of native non-listed species with 95% confidence intervals that are within 10 % of the estimated true value, using the formula:

$$n = \frac{(Z_{\alpha})^2 (s)^2}{(B)^2}$$

where: n = the uncorrected sample size

Z_{α} = standard normal coefficient for 95% confidence level (1.96)

s = standard deviation

B = desired precision level (10% of the sample mean)

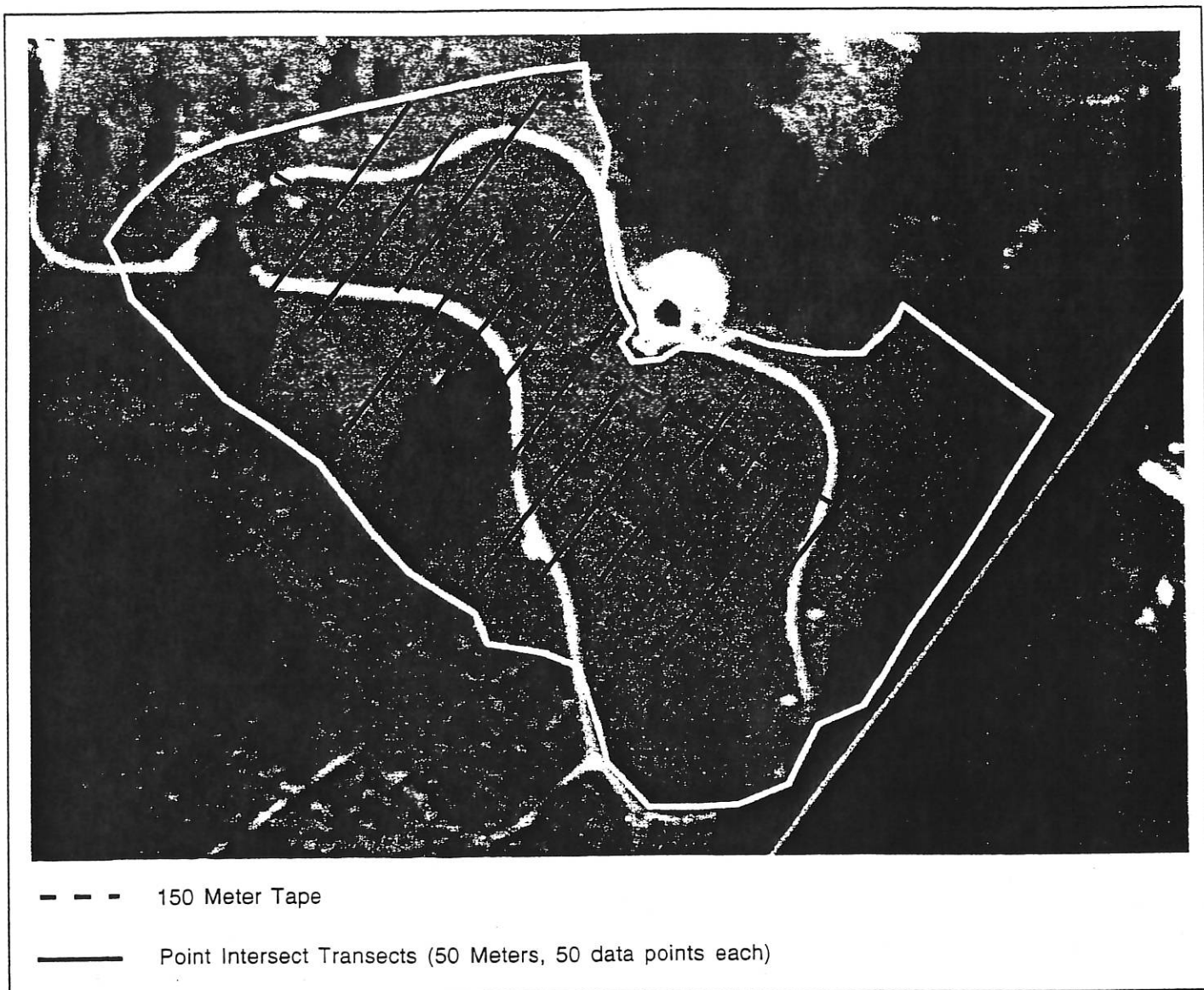


Figure 5. Potential sampling pattern, with 50m intercept transects taken randomly along the 150 -200 meter tape.

2. A census of the two listed species shall be conducted. This will include counting each individual plant within the Restoration Area during the spring flowering/seeding time.
3. Damage from natural causes (i.e. erosion or herbivores) and humans (i.e. trampling) shall be described and appropriate remedies suggested.
4. Photo points shall be established and photo shall be taken at each monitoring visit.
5. The conditions of the cages, fences, and signs shall be monitored.
6. Any erosion, both from wind and rain will be assessed.

Listed Species

The goal of monitoring the listed species is to determine if success criteria regarding numbers of individuals of the listed species are being met. Counting the individuals of both listed species will take place annually beginning one year after the planting; all individuals within the restoration area will be counted. Visual inspection of protective cages will occur quarterly. As both of these species are annuals, the numbers are expected to fluctuate from year to year.

Site Integrity

The site will be inspected quarterly to determine that impacts to the restoration area are not occurring, and protective measures are intact.

H. Analysis of Monitoring Data

The data gathered from the point intercept method will be used to determine the percent cover of native vs. non-native species, and bare sand or litter.

Once data from transects has been summarized, an estimate of the mean cover of native non-listed species and mean cover of non-native species will be calculated; and 95% confidence intervals will be calculated for each mean. Mean cover of native non-listed species is the number of pin drops per transect which resulted in hitting one or more native non-listed plant species. Mean cover of non-native plant species is the number of pin drops per transect which resulted in hitting one or more non-native plant species.

Performance standards have been met when mean cover by native non-listed species is greater than 20% in the first year and greater than 30% in the second year; and when mean cover by non-native species is less than 5% in the first or second year. Success criteria have been met when the estimated mean cover by native non-listed species is greater than 40% for three consecutive years; and the estimated mean cover of non-native species is less than 1% for three consecutive years.

I. Remedial Measures as they relate to Performance Standards

1. During the first and second years of restoration, if the planting does not result in an average plant density of one (1) sand gilia per 123 ft² averaged over the entire planting area and if the population drops below 1,257 in size, then remedial seed collection, propagation, and planting shall take place.
2. During the first and second years of restoration, if the planting does not result in an average plant density of one (1) Monterey spine flower per 28 ft² averaged over the entire planting area and the population drops below 5,488 in size, then remedial seed collection, propagation, and planting shall take place.
3. During the first second year of restoration, if the planting does not result in 20% cover of non-listed native plants, or 30% during the second year, then remedial seed collection, propagation, and planting shall take place.

4. If during the first and second years of restoration, exotic weed control shows more than 5% cover, then immediate weed control activities shall take place.
5. If at any time during construction and restoration the restoration site is impacted by construction, unauthorized access, trespass, or other unauthorized activities, the applicant shall take all steps necessary to remedy the impacts including but not limited to: installation of permanent fencing, notification to MPRPD, and CDFG if trespass or impacts occur, and increasing the monitoring of the site.

J. Remedial Measures as they relate to Success Criteria

1. If by the third year, a minimum sustainable population of 1,885 sand gilia are not established and reproducing and there is no evidence of sand gilia seedlings from planted seeds, then collection, propagation, and planting shall be repeated until this success criterion is met. If by the fifth year, the success criteria cannot be achieved, the applicant shall consult with CDFG.
2. If by the third of year, a minimum sustainable population of 8,232 Monterey spine flower are not established and reproducing and there is no evidence of spine flower seedlings from planted plants, then collection, propagation, and planting shall be repeated until this success criterion is met. If by the fifth year, the success criteria cannot be achieved, the applicant shall consult with CDFG.
3. If after 3 years, overall native cover does not equal at least 40% for three consecutive years, then remedial collection, propagation, and planting shall occur.
4. If after the third year of restoration, if cover of non-native plants exceed 1% of restoration area, then the non-native plants shall be completely removed. Non-native plants identified shall not be allowed to flower and produce seed.
5. If the restoration site is impacted by construction, unauthorized access, trespass, or other unauthorized activities, the applicant shall take all steps necessary to remedy the impacts including but not limited to; installation of permanent fencing, notification to CDFG if trespass or impacts occurred, and increasing the monitoring of the site.
6. If protective cages fail to protect individuals of sand gilia from grazing, additional protection or repair of cages shall be conducted.
7. If fences or signs are damaged or failing, they will be repaired.

V. ASSURANCES

A. Funding Source

This project, including propagation, monitoring, and maintenance program will be bonded to the estimated costs for all restoration activities until such time as the activities are completed to the

satisfaction of The City of Marina, Monterey Regional Parks District, CDFG, and The Coastal Commission. Typically the owner will submit a Certificate of Deposit or other type of surety in a form subject to approval of the City of Marina at least three weeks prior to final inspection. The amount of deposit will be equal to the estimated cost of maintenance and monitoring of the mitigation project over the term of the project. If the owner does not meet the obligation in a timely fashion, the City shall have the Authority to use the surety to implement this mitigation plan.

B. Performance Agreement

A restoration and maintenance agreement shall be developed between the person and organization implementing the restoration and monitoring program and the owner/agent. The agreement shall contain the terms and conditions as set forth in the specifications herein, and an annual budget. A copy of the agreement shall be submitted to City of Marina, California Department of Fish and Game, and the Coastal Commission.

C. Long-term Measures and Responsibility

The party responsible for protection measures and for the 5 years of monitoring is B.T. Development Company L.L.C. After the success criteria are met, Monterey Peninsula Regional Parks District will be responsible for the maintenance of the restoration area.

D. Financial Surety

This project, including propagation, restoration, monitoring and maintenance program, will be bonded to the estimated costs for all restoration activities until such time as the activities are completed to the satisfaction of City of Marina, California Department of Fish and Game, and the Coastal Commission's Executive Director. The owner will submit a Certificate of Deposit or other type of surety in a form subject to approval of the City of Marina. The amount of deposit will be equal to the estimated cost of maintenance and monitoring of the mitigation project over the five-year term of the project. If the owner does not meet the obligation in a timely fashion, the City shall have the authority to use the surety to implement this mitigation plan.

References

- California Department of Fish and Game. *Natural Diversity Database, Special Animals*. January 2001.
- California Department of Fish and Game. *Natural Diversity Database, Special Vascular Plants and Bryophytes, and Lichens List*. January 2001.
- California Department of Fish and Game. *California Endangered Species Act*. 1984.
- The California Native Plant Society Inventory of Rare Vascular Plants of California. 2000.
- City of Marina. *Project Approval Certificate*. April 16, 2001.
- City of Marina. *Staff Report*. October 12, 2000.
- Earth Metrics Incorporated. Environmental Impact Report for the Proposed Marina Landing Shopping Center Project. 1988.
- Elizinga, Caryl L. Ph.D., Dniel W. Salzer, and John Willoughby. Measuring & Monitoring Plant Populations. Bureau of Land Management. Denver, CO. 1998
- Firma. *The Dune Habitat Restoration Plan for the Marina Dunes Resort Hotel*. 2000.
- Harvey and Stanely Associates, Inc, *Rare Plant Survey Report*. 1988.
- Hickman, James C. ed. 1996. The Jepson Manual. Higher Plants of California. University of California Press, Berkeley.
- Hillyard, Deborah. California Department of Fish and Game. *Personal Communication*. 2001
- U.S. Fish & Wildlife Service, *Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly*. 1998.
- Zander and Associates, *Biological Resource Assessment*. 1999.
- Zander and Associates, *Sand Gilia Mitigation Plan*. 1999.

Appendix 1 - Maps

Map 1 – Vicinity Map

Map 2 – Property Map

Map 3 – Dune Scrub Restoration Plan

Map 4 – Rare Species Map

Map 5 – Legless Lizard Survey Map

**Pacific
Ocean**



Legend

-  BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
-  Dune Scrub Restoration Area (3.55 acres)
-  Locke-Paddon Park

Aerial Photo - December 199

Map 1 - Vicinity Map
November 12, 2001

2000 0 2000 4000 Feet



RANA CREEK
HABITAT RESTORATION

Holiday Inn Express Project



700 0 700 1400 Feet

Aerial Photograph - June 2000

Legend

-  City of Marina Parcel Lines
-  BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
-  Dune Scrub Restoration Area (3.55 acres)
-  Locke-Paddon Park



Map 2 - Property Map
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District

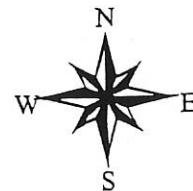


200 0 200 400 600 800 1000 Feet

Aerial Photograph - June 2000

Legend

-  Sensitive Habitat on the BT Development Company L.L.C. Property and Easements - 1.52 acres
-  BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
-  Dune Scrub Restoration Area - 3.55 acres
-  Locke-Paddon Park
-  Monterey Spineflower (*Chorizanthe pungens* var. *pungens*) within restoration area to be protected from heavy equipment
-  Carex dominated native swale to be protected from heavy equipment



Map 3 - Dune Scrub Restoration Plan
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District

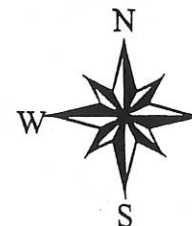


Aerial Photo - December 1995

100 0 100 200 Feet

Legend

-  Monterey Spineflower (*Chorizanthe pungens* var. *pungens*) Rana Creek Habitat Restoration 2001
-  Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Rana Creek Habitat Restoration 2001
-  Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Zander Associates, 1999
-  Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Harvey and Stanley Associates, 1988
-  Sensitive Habitat on the BT Development Company L.L.C. Property and Easements - 1.52 acres
-  BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres



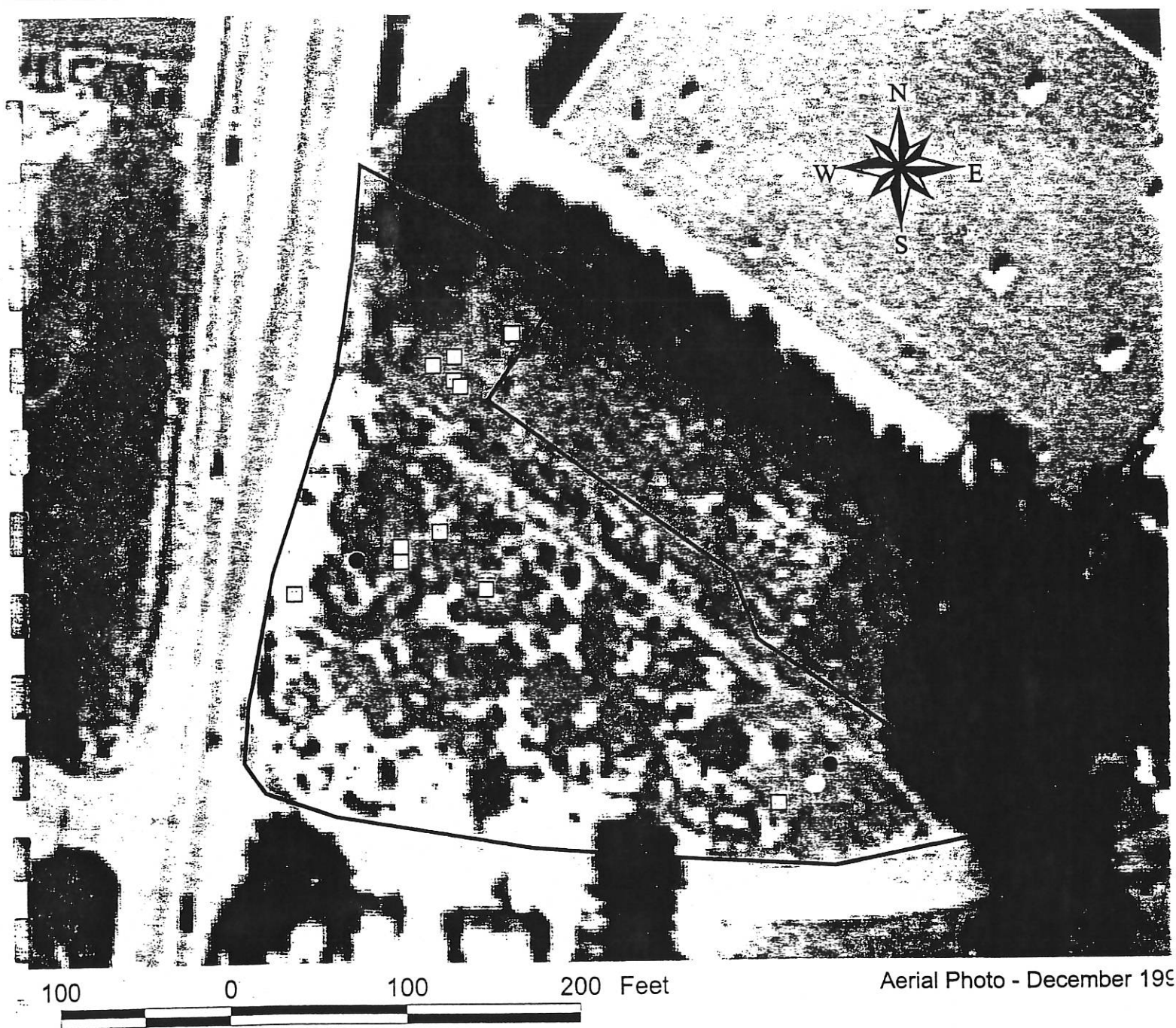
Map 4 - Rare Species Map
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District



Legend

- BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
- Lizard Survey 1
- Lizard Survey 2
- Lizard Survey 3
- Lizard Rake Locations

**No Legless Lizards
Were Found.**

Map 5 - Legless Lizard Survey Map
November 12, 2001

Holiday Inn Express Project



**RANA CREEK
HABITAT RESTORATION**

Locke-Paddon Park
Monterey Peninsula Regional Parks District

Appendix 2

Chorizantho pungens var. *pungens* Occurrence Table

From The U.S. Fish and Wildlife Service
*Recovery Plan for Seven Coastal Plants and the
Myrtle's Silverspot Butterfly, 1998*

Table 3. Summary of Occurrence Data for *Chorizanthe pungens* var. *pungens*

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDB No. 3 (NDDB Nos. 11,22, 23) Ft. Ord, Monterey County	—	Herbarium sheets (1919, 1988[2])	to transfer from DOD
NDDB No. 4 Point Pinos, Monterey County	62.3 hectares (153.9 acres)	Herbarium sheet (no date)	Unknown
NDDB No. 5 Cypress Pt., Monterey Co.	—	Herbarium sheet (1940)	Unknown
NDDB No. 6 Arroyo Seco, Monterey Co.	—	Herbarium sheet (1920)	Unknown
NDDB No. 7 Manzanita Park, Monterey County	12.1 hectares (29.9 acres)	Herbarium sheet (1989)	County of Monterey
NDDB No. 8 Naval Postgraduate School, Monterey County	11.3 hectares (27.9 acres)	— (1992)	U.S. Department of Defense (DOD)
NDDB No. 10 Pacific Grove, Monterey County	—	Herbarium sheet (1908)	Unknown
NDDB No. 12 Pajaro River, Monterey County	—	Herbarium sheet (1936)	Unknown
NDDB No. 13 Seaside, Monterey County	—	Herbarium sheet (1950)	Unknown
NDDB No. 14 Watsonville Junction, Monterey County	—	Herbarium sheet (1936)	Unknown
NDDB No. 16 Marina Dunes, Monterey County	4.5 hectares (11.1 acres)	Map (1987)	Private
NDDB No. 17 Marina Dunes, Monterey Co	—	Map 1987)	Private
NDDB No. 18 Marina Dunes, Monterey Co	5.7 hectares (14.1 acres)	Map (1987)	Private

Table 3: Summary of Occurrence Data for *Chorizanthe pungens* var. *pungens* (Cont.)

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDB No. 19 Manresa State Beach, Santa Cruz County	—	50 (1986)	DPR
NDDB No. 20 Castroville, Monterey Co.	—	Herbarium sheet (1929)	Unknown
NDDB No. 21 Moss Landing, Monterey County	23.5 hectares (58.1 acres)	Herbarium sheet (1952)	Unknown
NDDB No. 24 Del Rey Oaks, Monterey County	—	Herbarium sheet (1988)	Unknown
NDDB No. 25 Marina Dunes, Monterey County	—	Map (1987)	Private
NDDB No. 26 San Simeon, San Luis Obispo Co.	—	— (1842)	Unknown
Fort Ord Monterey County	4,224 hectares (10, 456 acres)	14,000,000± (1992)	DOD
Sunset State Beach, Santa Cruz County	10.0 hectares (24.7 acres)	—	DPR
Day Valley, Santa Cruz County	<0.1 hectare (<0.25 acre)	100–1,000 (1994)	Private
Freedom Blvd., Santa Cruz County	2.0 hectares. (4.9 acres)	1,000+ (1994)	Private
East Bellmar Drive, Santa Cruz County	0.1 hectares (0.25 acre)	10,000 (1994)	Private
Cox Road, Santa Cruz County	<0.1 hectares (0.25 acre)	100 (1994)	Private
Marina State Beach, Monterey County	10.0 hectares (24.7 acres)	1,000+ (1994)	Marina State Beach (DPR)
TOTAL	6,402+ hectares. (26,837+ acres)	14,012,000+	

¹ Occurrences are identified by numbers listed in the 1997 CDFG NDDB when available.

² A dash (—) indicates no data are available at this time.

Appendix 3

Gilia tenuiflora ssp. arenaria

Occurrence Table

From The U.S. Fish and Wildlife Service
Recovery Plan for Seven Coastal Plants and the
Myrtle's Silverspot Butterfly, 1998

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria*

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDB No. 1 Spanish Bay Golf Course, Monterey County	8.0 hectares (19.8 acres)	700–1,000 (1993)	Pebble Beach Company
NDDB No. 2 Naval Postgraduate School Dunes, City of Monterey	11.0 hectares (27.2 acres)	1498 (1991) 1950 (1986) 8–13,000 (1993)	DOD, U.S. Navy
NDDB No. 3 Tioga Ave., City of Sand City	–	10,000 (1986) 5,000 (1987) 25,000 (1993)	Private
NDDB No. 4 Marina State Beach, Monterey County	10.0 hectares (24.7 acres)	10,000 (1985) 300 (1986) 20 (1992) 325 (1993)	DPR
NDDB No. 5 Salinas River State Beach, Monterey County	10.0 hectares (24.7 acres)	<10,000 (1985) 10,000 (1986) 1,665 (1987) 13,500 (1993)	DPR
NDDB No. 6 Spanish Bay Golf Course, Monterey County	–	Extirpated	Pebble Beach Company
NDDB No. 10 Del Rey Oaks, Monterey County	–	50 (1985) Extirpated (1996)	Unknown
NDDB No. 11 Spanish Bay Golf Course, Monterey County	–	Extirpated	Pebble Beach Company, transplanted occurrence,
NDDB No. 12 Fort Ord, Monterey County	–	Map (1992)	DOD
NDDB No. 13–19 Fort Ord, Monterey County	–	Map (1992)	DOD
NDDB No. 20 Fort Ord, Monterey County	(420 acres)	42,600 (1993) 2 million (1995)	DOD

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria* (Continued).

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDDB No. 21 Fort Ord, Monterey County	(9.4 acres)	515 (1993)	DOD
NDDDB No. 22 Fort Ord, Monterey County	—	20 (1992)	DOD
NDDDB No. 23 Reservation/Seaside Monterey County	0.01 hectares (0.02 acre)	500 (1994)	Private
NDDDB No. 24–26 Marina/Reservation Road Monterey County	—	Report (1987)	—
NDDDB No. 27 Marina Dunes Monterey County	5.9 hectares (14.8 acres)	2,295 (1987)	Private
NDDDB No. 28 Marina, Monterey County	—	Report (1987)	—
NDDDB No. 29 Mulligan Hill, Salinas River Lagoon, Monterey County	4.0 hectares (9.9 acres)	3,000–5,000 (1993)	Private (Scattini and Sons)
NDDDB No. 30 Watertower Hill, Moss Landing, Monterey County	4.0 hectares (9.9 acres)	400–600 (1993) 200–500 (1994)	Private

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria* (Continued).

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDB No. 31 Fort Ord/Imjin, Monterey County	13.7 hectares (34.1 acres)	698 (1993)	DOD
NDDB No. 32 Asilomar State Park, Monterey County	5.0 hectares (12.4 acres)	550 (1993)	DPR
NDDB No. 33 Sunset State Beach, Monterey County	4.1 acres	5,000 (1995)	DPR
Sand Dollar Shopping Center, Monterey County	—	<200 (1994) (experimental)	Private: conservation easement
TOTAL	1,833.6+ hectares (4,531.2+ acres)	110,435+	

¹ Occurrences are identified by numbers listed in the 1997 CDFG NDDB where they exist.

² A dash (—) indicates no data are available at this time.

Appendix 4

Appended Biological Assessment for the Northwest Corner of the Property of Bart Bruno

Prepared by
Dale Hameister
Rana Creek Habitat Restoration
January 22, 2001

Appended Biological Assessment for the Northwest Corner of the Property of Bart Bruno

(APN 331-111- 007)

Prepared for:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942

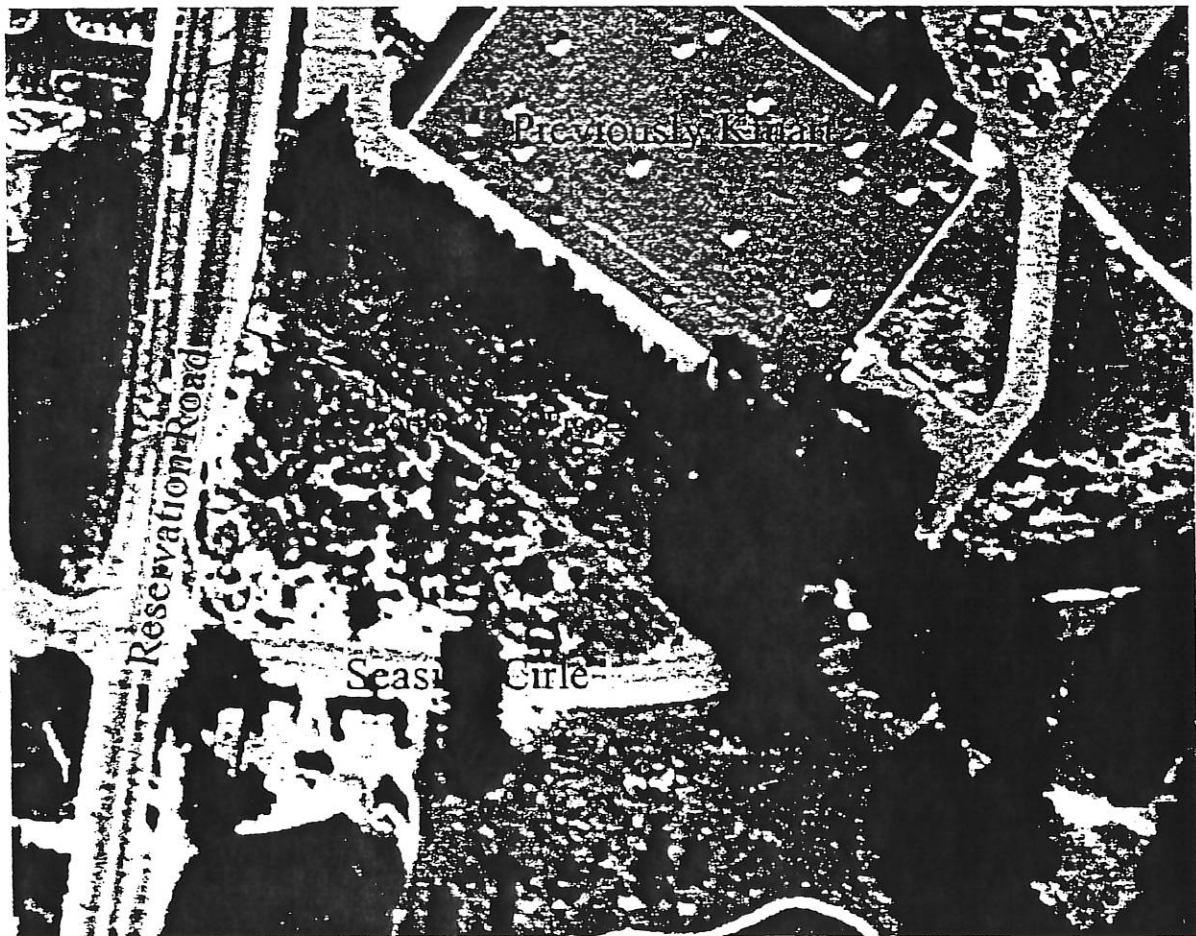
Prepared by
Dale Hameister
Rana Creek Habitat Restoration
January 22, 2001



I. SUMMARY

This appended additional biological assessment is to support the California Department of Fish and Game §2081 permit application for the property of Bart Bruno at the corner of Reservation Road and Seaside Circle in Marina, CA (APN 331-111-007). There is a small area at the northwest corner of the property that was not included in the initial survey. The area is at the western edge of Sub A Lot 39 and bordering Reservation Road. This survey focuses on the new area as well as giving an updated species list of the entire property.

The applicant proposes to develop the property, which is situated within Monterey County and therefore requires a biological assessment prior to approval of construction and/or development activity. A botanical survey was conducted January 10, 2001 by Dale Hameister of Rana Creek Habitat Restoration.



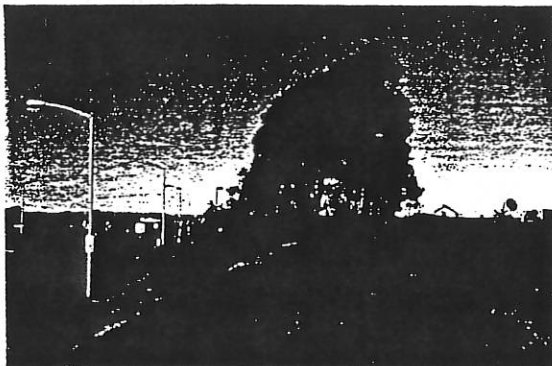
December 1999 Aerial photo of the property.

II. METHODS

The California Native Plant Society Inventory of Rare Vascular Plants of California (1994) and The California Department of Fish and Game California Natural Diversity Data Base was utilized for identification of known populations of State and Federal listed rare, threatened and endangered plant species on or in the vicinity of the project site. Plant identification was validated utilizing The Jepson Manual (Hickman 1993). Cultivar species were identified utilizing the Sunset Western Garden Book. The survey method was to walk over the entire property. A plant list was recorded.

III. VEGETATION

The vegetation of the parcel as a whole is highly degraded and dominated by invasive exotic species. The property is dominated by hottentot fig (*Carpobrotus edulis*). The area that had not previously been surveyed contains a small stand of blue eucalyptus (*Eucalyptus globulus*) and large patches of Kikuyu grass (*Pennisetum clandestinum*) both of which are extremely invasive non-native species. There are 3 large adult eucalyptus trees, and approximately 60 smaller trees. This is a sign of the invasive spreading nature of this Australian species. The previously identified Federally listed rare plants on the property, Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*), were not present on the newly survey area. Remnants of last season's growth of spineflowers were present in the center of the greater property. Sand gillia was not found during the January 10, 2001 survey. Both of these rare plants are annuals and it may be too early in the season to determine their presence.



The newly surveyed northwest corner of the property and the understory of the eucalyptus dominated by hottentot fig.

IV. WILDLIFE

There is a pond to the south of the property that provides habitat for waterfowl, and is also a popular location for people to come feed the birds. Because of this there are several species that fly over the site, but do not necessary utilized the property as there is low habitat value and little food for most bird species. During the site visit, species of bird sited including California gull (*Larus californicus*), brewer's black bird (*Euphagus*

cynocephalus), mallard duck (*Anas platyrhynchos*), and turkey vulture (*Cathartes aura*) were observed flying over the site. Other species seen in the parking lot across include domestic goose (*Anser "domesticus"*), American coot (*Fulica atra*), and Heermann's gull (*Larus heermanni*). There were a few California ground squirrel burrows present on the property, however none were in the newly surveyed area and no squirrels were seen during site visits. No amphibians were found at the site, and there are no areas suitable for breeding amphibians.

V. RARE, THREATENED OR ENDANGERED SPECIES

State Listing is pursuant to Section 1904 (Native Plant Protection Act of 1977) and Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. Federal listing is pursuant with the Federal Endangered Species Act of 1973. CEQA requires an inventory of plants listed as rare or endangered by the Inventory of Rare and Endangered Vascular Plants of California (CNPS 1994). In addition, the California Department of Fish and Game Natural Diversity Data Base was consulted for Monterey County.

Appropriate habitat and edaphic conditions were analyzed throughout the proposed building site. Prioritization of the survey locations was determined by 1) presence of suitable habitat, 2) associated species, and 3) geo-physical and soil characteristics. Species that were looked specifically for include: Yadon's rein orchid (*Piperia yadonii*), Seaside's birdsbeak (*Cordylanthus rigidus* ssp. *littoralis*), Monterey spine flower (*Chorizanthe pungens* var. *pungens*), Eastman's golden fleese, (*Ericameria fasciculata*), Sand gilia (*Gilia tenuiflora* ssp. *arenaria*), Monterey manzanita (*Arctostaphylos tomentosa*), and sandmat manzanita (*Arctostaphylos pumila*). These plants are found in other locations in Monterey County and are associated with sandy soils.

Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and sand gilia (*Gilia tenuiflora* ssp. *arenaria*), were not present on the newly surveyed area. Remnants of last season's growth of spineflowers were present in the center of the greater property. Sand gillia was not found during the January 10, 2001 survey. Both of these rare plants are annuals and it may be too early in the season to determine their presence.

The property was also surveyed for suitable habitat for "at risk" amphibians including Red-legged Frog (*Rana aurora draytonii*), the Yellow-legged Frog (*Rana boylei*), the California Tiger Salamander (*Ambystoma californiense*), and Santa Cruz long-toed Salamander (*Ambystoma macrodactylum croceum*). None of these species were found during the survey and most likely do not breed on the property, as there is no standing water.

VI. Results

The federally listed threatened species Monterey spineflower (*Chorizanthe pungens* var. *pungens*) is present on the greater property, but was not found on the newly surveyed northwest corner. (U.S. Fish and Wildlife Service ruling 50 CFR Part 17, RIN 1018--AB73).

VII. Conclusion

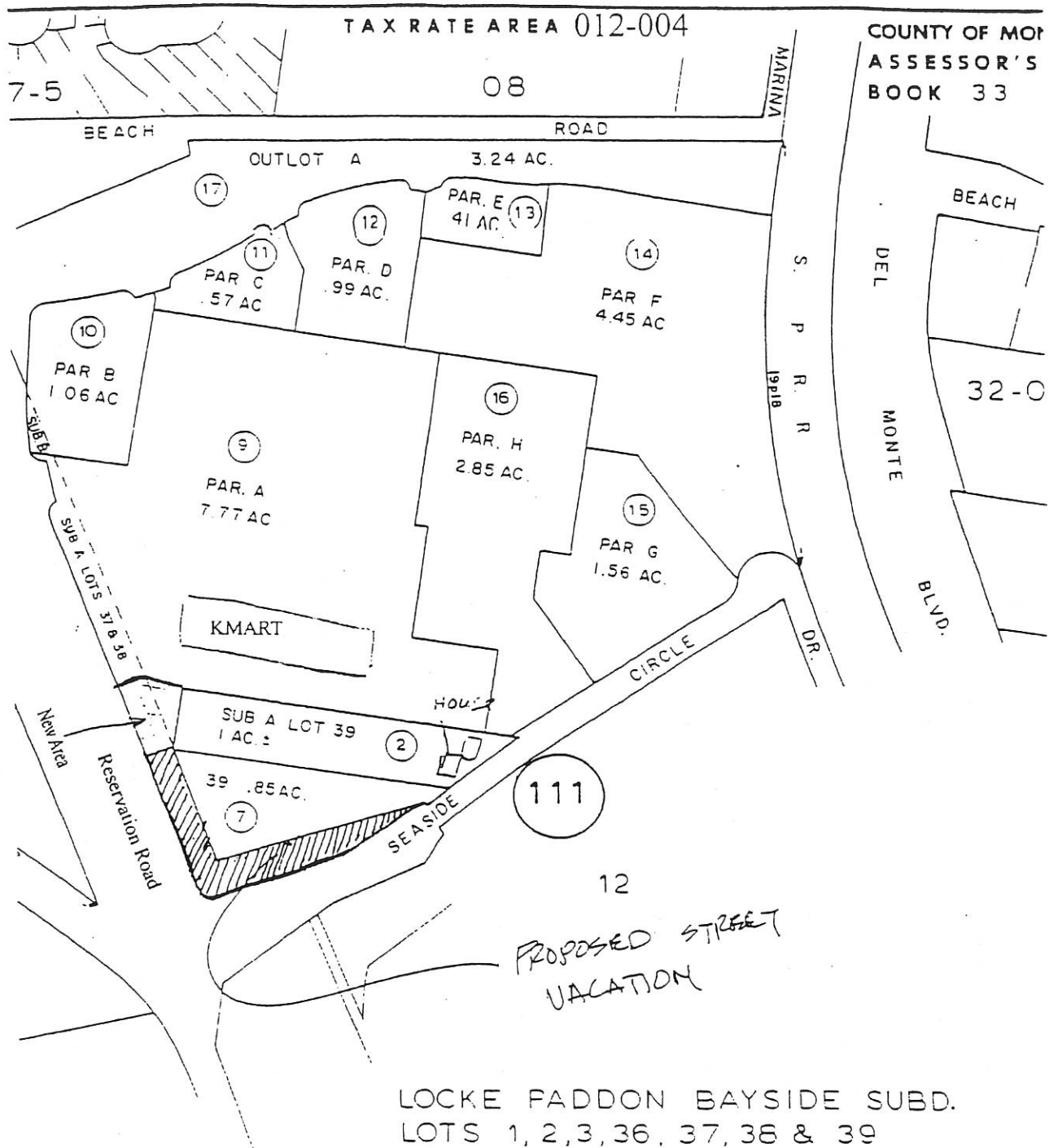
The property is highly degraded and dominated by invasive non-native species. No additional rare species were found on the newly survey portion of the property.

Vascular Plant List from the January 9, 2001 site visit.

Scientific Name	Common Name
<i>Acacia melanoxylon</i> *	blackwood acacia
<i>Anthemis cotula</i> *	mayweed (dog fennel)
<i>Artemisia californica</i>	coast sagebrush
<i>Avena fatua</i> *	slender wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Brassica nigra</i> *	black mustard
<i>Bromus diandrus</i> *	ripgut brome
<i>Cardionema ramosissimum</i>	sandmat
<i>Carpobrotus edulis</i> *	hottentot fig (ice plant)
<i>Ceanothus</i> 'Julia Phelps' **	'Julia Phelps' ceanothus cultivar
<i>Conicosia pugioniformis</i> *	conicosia
<i>Conyza canadensis</i> *	horseweed
<i>Cortaderia jubata</i> *	Pampas grass
<i>Croton californicus</i>	croton
<i>Cupressus macrocarpa</i> **	Monterey cypress
<i>Erodium cicutarium</i> *	red-stemmed filaree
<i>Eucalyptus globulus</i> *	blue gum
<i>Fremontodendron californicum</i> X**	flannelbush cultivar
<i>Lessingia filaginifolia</i>	common beach aster
<i>Limonium bonduellii</i> *	statice
<i>Lotus scoparius</i> var. <i>scoparius</i>	deer weed
<i>Pennisetum clandestinum</i> *	Kikuyu grass
<i>Pinus radiata</i> **	Monterey pine
<i>Plantago cornopus</i> *	cut-leaved plantain
<i>Rumex acetosella</i> *	sheep sorrel
<i>Sonchus asper</i> *	spiny sowthistle

* Introduced Non-native Species

** Introduced Native California Species



Appendix 5

Revised Mitigation Plan

Prepared by
Paul Kephart
Rana Creek Habitat Restoration
December 1999

Revised Mitigation Plan
Bruno Project
Marina, California

Prepared for:

Monterey Peninsula Engineering
192 Healy Avenue
Marina California 93933

Prepared by
Paul Kephart
Rana Creek Habitat Restoration
December 1999

Rana Creek Habitat Restoration
35351 East Carmel Valley Road Carmel Valley, California 93924
(831) 659-3820

Introduction

This mitigation plan describes revisions made to Sand Gilia Mitigation Plan (Zander Associates 1999). The plan describes mitigation for removal of 850 plants of federally Endangered and State threatened sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and in addition 900 spine flower (*Chorizanthe pungens* var. *pungens*) plants overlooked in previous surveys. The plan also provides detailed monitoring procedures, success criteria, and remedial measures absent from the previous plan as discussed with California Department of Fish and Game Plant Ecologist, Debra Hillard.

The Bruno project is located in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the K-mart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is approximately 0.85 acre at the top of a sandy knoll. The City of Marina's property is approximately 0.65 acre and it comprises the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue.

The existing habitat is comprised of remnant inland leeward dunes mostly invaded by annual grasses and ice plant. The habitat is surrounded by urban growth and bounded by streets and development. Removal of the sand gilia and spine flower would occur for construction of a proposed subdivision on the Bruno project site. Onsite mitigation is infeasible given the limited size and location of the property. There would be little ecological value in preserving or enhancing habitat on site. CDFG concurs with this finding during a site visit and consultation with the applicant. Therefore, offsite mitigation is proposed. An appropriate offsite mitigation area was determined in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is hind dune habitat on the Marina Dunes Open Space Preserve at the end of Dunes Drive in Marina, California (see photos appended). The MPRPD is currently restoring dune habitat in this area and the proposed mitigation site would add to the overall restoration acreage.

Goals and Objectives

1. Replace the number of sand gilia and spine flower individuals removed for development of the Bruno project site.
2. Achieve no net loss of sand gilia and spine flower.
3. Enhance approximately 0.75 acre of hind dune habitat on the Marina Dunes Open Space Preserve.

Mitigation Plan

The offsite mitigation area is located on the Marina Dunes Open Space Preserve at the end of Dunes Drive in the City of Marina. The mitigation area is approximately one mile from the Bruno project site. Vegetation composition on the mitigation site is similar to that of the Bruno site. Elements of two plant communities typical of the general area are present on the Bruno site, as well as the mitigation area.

The mitigation receiver site is comprised of bare sand/ice plant mix/scattered coastal scrub, and ruderal/disturbed. Although a larger area of the mitigation site is occupied by native shrubs such as mock heather (*Ericameria ericoides*) and coyote brush (*Baccharis pilularis* var. *consanguinea*), there is still a substantial amount of ice plant and other non-native species on the site.

To meet the proposed mitigation goals, approximately 1600 sand gilia and 1600 spine flower individuals will be propagated from seed collected in the vicinity and will be planted in the 0.75-acre mitigation area. Non-native plant species will be removed from the mitigation area to create appropriate planting areas for the targeted species. All of these activities will be supervised by a restoration specialist and will comply with measures required by the California Department of Fish and Game.

Plant Material Collection and Propagation

Sand gilia and spine flower will be collected from locally known populations in the vicinity of the mitigation area in the Marina Dunes. A sufficient quantity of seed will be collected and grown at Rana Creek Habitat Restoration Nursery. Plants will be grown in Super Stubby containers and will be sown in November or December for outplanting in February/March.

Site Preparation

The mitigation site will be prepared by removing non-native plant species within the 0.75 acre area. This will be accomplished with the use of herbicide and weeding tools in the areas devoid of native plants and hand pulling in other area occupied by native species. Non-native plant species in the mitigation area included: ice plant (*Carpobrotus* sp.), ripgut brome (*Bromus diandrus*), and wild radish (*Paphanus sativa*).

Herbicide spraying and subsequent hand weeding shall occur prior to any planting of sand gilia. A qualified herbicide applicator with a strong knowledge of native plants will be chosen for any spraying that occurs on the mitigation site. Crews of laborers shall be used for hand weeding in the more sensitive areas where non-native crowd out the native species, and use of herbicide is impractical. The site shall be fenced to limit human access and signs posted to inform the public.

Plant Installation

Plantings will be installed in zones designated by the restoration specialist to meet the habitat needs of sand gilia. Plants will be installed irregularly in cluster at approximately 12"-18" off center. Mature nursery grown sand gilia individuals will be planted in the late winter (February- early March), except as otherwise noted.

Maintenance

Maintenance will occur on a seasonally appropriate schedule during the five-year monitoring period. Maintenance activities will include basic caretaking, weeding throughout the mitigation area and temporary irrigation if needed.

Monitoring

The mitigation receiver site shall be monitored by a qualified coastal biologist and reports submitted on an annual basis for at least five years from the date the Department of Fish and Game concurs in writing that all restoration minimum standards have been achieved. Such reports shall include both quantitative and qualitative evaluation. At the least, qualitative measurements 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. If the report should identify a failure to meet any of these minimum standards, or failure to meet any other standards consistent with current professional dune restoration standards, the report shall include appropriate recommendations for achieving these minimum standards.

Annual monitoring reports will be prepared in the early summer, and submitted to the CDFG, MPRPD, and the City of Marina by August 1 of each monitoring year. The reports will include the number of sand gilia and spine flower individuals present on the site, and evaluation of the status of the population against the reference population and a general habitat assessment for the entire 0.75 acre.

Monitoring Goals

For each monitoring goal listed below, there is a numerical equivalent under performance criteria listed in Table A. (Performance Criteria). In addition, corresponding monitoring procedures are provided below (B. Monitoring procedures).

1. Monitor the effectiveness of avoidance and protection measures within the restoration receiver site.
2. Assess the numbers, and population health (seed production, recruitment) of the State and Federally listed species Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*). Restoration shall show

a survivorship of 85% of planted individuals. Assess density of recruiting individuals each year. Recruiting individuals shall equal at a minimum 1 plant per 400 sq. feet.

3. Monitor associated species cover, including exotic species and naturally recruiting native species. Maintain and annotate a list of all vascular plants on the site each year. Restoration shall show less than 10% cover of exotic species each year.

Monitoring Procedures

1. Impacts to site: Once the protective fence and signs are installed, visually inspect the perimeter of the mitigation area for adequacy of protective measures. Inspection shall occur not less than weekly during construction activities.

2. Monitor density, reproductive success and recruitment of the State and Federally listed species Sand gilia (*Gilia tenuiflora* ssp. *arenaria*), and Monterey spineflower (*Chorizanthe pungens* var. *pungens*).

Monitor associated species cover, including exotic species and bare sand.

In spring, estimate absolute cover for all species (and bare ground) within the receiver site area. Maintain and annotate a species list for each area for each year. Absolute cover for each species, according to Daubenmire cover classes, shall be recorded for each plot; absolute cover estimates should also be done for bare sand and exotics, if applicable.

Performance Criteria

Listed in Table A. are performance criteria for the State and Federally listed species Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*). The numbers correspond to the numbers of the monitoring goals (A. above) and monitoring procedures (B. above).

Analysis of Results

Assess number of individuals of the State and Federally listed Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*) surviving and reproducing. Assess cover of associated species, and bare sand using the mid-point value for the cover class of each species.

Performance Criteria:

Implementation of Restoration Measures: Monitoring and Performance Standards. All restoration measures shall be implemented within one (1) year of the CDFG's action on the application/amendment request or by such other date as is specified by the CDFG.

Intermediate Performance Standards

During the first and second years, the initial restoration performance standards target survivorship of specific numbers of plants installed, effective maintenance, and weed control.

1. During the first and second years of restoration, the planting shall result in an average plant density of one (1) sand gilia per 2 square ft. averaged over the entire planting area that equals approximately 32,670 square feet. Therefore, intermediate success shall be determined when the planted population equals 1660 in size.
2. During the first and second years of restoration, exotic weed control shall show less than 1 exotic plant per sq. meter.
3. During the first and second years of restoration, the planted individuals shall be protected throughout the restoration site.

Long-term- performance standards

Vegetation is not constant. Over time, climatic conditions and variable plant reproductively, will effect the ecological outcome. Our goal is to establish self-sustaining vegetation and reproductive populations of the listed species. Given that natural populations are highly variable, long-term performance standards target minimum population size that triggers remedial measures.

1. During the third, four, and fifth years of restoration, a minimum sustainable population size of 581 sand gilia will be established and self perpetuate the population. Evidence of naturally requiting seedlings shall be surviving and reproducing and represent no less than 35% of planted individuals.
2. During the third, four, and fifth years of restoration, exotic weed control shall show less than 1 exotic plant per sq. meter.
3. The site shall be permanently protected from impacts related to access, recreation, land use, or any other cause.

Remedial measures:

1. During the first and second years of restoration, if the population of planted individuals does not equal or exceed 1,660, then remedial collection, propagation, and planting shall occur.
2. During the first and second years of restoration, if exotic weeds exceed 1 exotic weed plant per meter, then exotic weed control shall be implemented.
3. If protection measures (i.e. signage and temporary fencing is not effective, install permanent protection around the site and/or plants.

4. If during the third, forth, and fifth years of restoration, the population does not meet the minimum number of recruiting individuals (581), then additional propagation and planting shall be initiated. If it is determine a self-sustaining population can not be achieved in the third, fourth, or fifth year, reinitiate consultation with CDFG.

TABLE A. PERFORMANCE CRITERIA				
PARAMETER	METHOD OF MONITORING	FREQUENCY AND TIMING	PERFORMANCE CRITERIA	REMEDIAL MEASURE
No.1 Site protection	Inspect site and protective measures	Any site visit	Site protected from impacts-	Protections in place: no remediation needed- protections not in place repair fence/replace signs
No.2 State and Federally listed species Sand gilia (<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>) and Monterey spineflower (<i>Chorizanthe pungens</i> var. <i>pungens</i>) surviving and reproducing no less than 85% of planted individuals.	Census of individual seedlings and reproduction plants. Visual examination of flowering, seed set, seed production.	Twice annually- spring-summer (April-June) Spring and summer (April-June)	Numbers of Listed Species in restoration area without addition of seed/plants equivalent to plant survivorship and recruitment specified,	If falls below plant spacing, density, and numbers: reinitiate consultation with DFG for recovery.
2a. One plant at a density of 1 per 400 sq. feet.	Percent cover estimates	Spring (April-June)	Plants flowering, setting seed, and dispersing seed. Natural recruitment occurring.	Cover/number below targeted goal : repeat seed collection, propagation, and planting program; if below 3yr average for two consecutive years, reinitiate consultation with DFG
3a Exotic species not interfering with planted and restored areas.	Visual inspection	Any site visit	Exotic species > 10% and/or interfering with seaside bird's-beak	Exotics < 10%: no action Exotics > 10% or interfering: implement exotic plant removal. Update with any new observation

Remedial Actions

Remedial actions shall consist of the following:

1. If access and/or vandalism cause impacts to the receiver site, maintain and/or increase protective fencing and signing measures.
2. If more than 10% cover of non-native inhibiting weeds are present, hand-remove invasive plants.
3. If plant density falls below stated levels, reinitiate collected and planting program.

Reporting results

Restoration monitoring and reporting shall continue on an annual basis until the minimum standards have been achieved. These standards may be modified after (2) years, subject to prior approval from the Department of Fish and Game and the City of Marina, if the coastal biologist determines that the preceding standards cannot be feasibly maintained due to adverse natural conditions on the site. All reports shall be signed and dated.

Agencies to Receive Reports

All reports specified in this Order shall be submitted for the review and approval of the City of Marina, Monterey Peninsula Regional Parks District, California Department of Fish and Game, United States Fish and Wildlife Service. Such agencies shall have twenty (20) working days from the day of receipt of any report to inform the consulting biologist who prepared the report in writing that the report is not approved and to explain what needs to be done to correct any deficiencies. If such written objection is not sent within such period by any agency, the report will be determined to have been approved by that agency.

Maintenance Measures

Maintenance measures will consist of annual reduction of all exotic plants by hand weed control. Trash and litter will be removed from the site. Maintenance activities shall occur over the five-year period.

A restoration and maintenance agreement shall be developed between the person and organization implementing the maintenance program and the owner/agent. The agreement shall contain the terms and conditions as set forth in the maintenance measures and specifications, and an annual budget. A copy of the agreement shall be submitted to City of Marina, California Department of Fish and Game, and the United States Fish and Wildlife Service.

Protection Measures

Protection measures during the term of permit shall consist of 1) fencing, 2) signage, and 3) maintaining weed free conditions.

Contingency Plan

If the mitigation area appears that it will not the success criteria outlined above in any particular monitoring year, corrective actions may be recommended in the annual monitoring report. Corrective actions may include more intensive non-native plant eradication or significant replanting. At the end of the fifth year, the monitoring report will summarize the previous reports and evaluate the success of the project against the performance standards. Any areas that do not meet the success criteria will be remedies and, as appropriate, monitored until they are shown to meet the performance standards.

Responsibility and Funding

Monterey Peninsula Engineering will be responsible for funding the mitigation plan and monitoring and maintenance for five years following implementation. The funding will provide for the collection and propagation of sand gilia seed and spine flower, site preparation (weeding, herbicide application), plant installation, monitoring and maintenance for five years, and contingency measures, if required.

Appendix 6

Biological Resource Assessment

Prepared by
Kevin Merk
Zander Associates
March 2, 1999

ZANDER ASSOCIATES

Environmental Consultants

March 2, 1999

Mr. Bart Bruno
Monterey Peninsula Engineering
192 Healy Avenue
Marina, CA 93933

**Biological Resource Assessment
Bruno Project
Marina, California**

Dear Bart:

At your request, Zander Associates has completed an assessment of the existing biological resource conditions for your project site in Marina, California and we have evaluated the potential effects of the proposed project on those resources. This letter report provides the results of our assessment and evaluation.

The Bruno project site is located within the City of Marina on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the Kmart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is an approximately 0.85 acre area at the top of a sandy knoll with a southwesterly slope aspect. The City of Marina's property is composed of the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue. This parcel is approximately 0.65 acre.

Zander Associates conducted a reconnaissance-level field survey of the site on April 21, 1998 to characterize and map existing vegetation, and assess the potential for sensitive plant and animal species to occur on the site. Prior to our site visit, we reviewed existing information on biological resources in the project vicinity. Sources included the California Natural Diversity Data Base (CNDDB) (California Department of Fish and Game, 1998) for recorded locations of sensitive species on the Marina and Seaside quadrangles, and a Rare Plant Survey Report for the Marina Landing Development prepared by Harvey and Stanley Associates in 1988.

The field survey was conducted by systematically traversing the project area on foot. All plants observed on the project site were identified to species (Table 1). For any sensitive species located, a thorough assessment of the occurrence area was done to determine the numbers of individuals and their distribution. Following is a discussion of the results of our survey.

Existing Conditions

Elements of two plant communities typical of the general area are present on the project site (Figure 2): 1) bare sand / ice plant mix / scattered coastal scrub, and 2) ruderal / disturbed. The majority of the Bruno parcel is devoid of trees and shrubs, but there is a small cluster of California sagewort (*Artemisia californica*) and mock heather (*Ericameria ericoides*) near the southern boundary of the Bruno parcel. There are two Monterey cypress trees (*Cupressus macrocarpa*) on the City of Marina's parcel, as well as patchy occurrences of California sagewort and silver-bush lupine (*Lupinus chamissonis*).

The bare sand areas on the project site are separated by well developed patches of ice plant (*Carpobrotus edulis*), other non-native vegetation, and scattered patches of coastal scrub. The native plant species found in these areas include deer weed (*Lotus scoparius*), California croton (*Croton californica*), sand mat (*Cardionema ramosissima*), and common corethrogyne (*Corethrogyne filaginifolia*). Non-native plant species, other than ice plant, include scarlet pimpernel (*Anagalis arvensis*), sheep sorrel (*Rumex acetosella*), and sand spurry (*Spergula arvensis*). The sandy cut slopes on the City of Marina's parcel support a mixture of native and non-native species. Native plant species found in this area include silver bush lupine (*Lupinus chamissonis*), California sagewort, and California poppy (*Eschscholtzia californica*). Non-native plant species that have colonized these slopes include giant buckwheat (*Eriogonum giganteum*), statice (*Limonium sinuatum*), and woolly cat's ears (*Hypochaeris radicata*).

Disturbed areas also exist within the project boundaries and extend further north towards the Kmart shopping center. These disturbed areas are associated with an old access road that enters the site from Seaside Avenue and runs along the northern project boundary. This relatively small portion of the project site is densely vegetated with various non-native annual grasses and forbs including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), rattail fescue (*Vulpia myuros*), and red-stemmed filaree (*Erodium cicutarium*).

The project site provides habitat for wildlife species adapted to open sand and disturbed plant communities. Burrowing rodents such as the California ground squirrel (*Spermophilus beecheyi*) were identified during our site visit. Other rodents such as the pocket gopher (*Thomomys umbrinus*), and the house mouse (*Mus musculus*) could inhabit the dense growth of ice plant or disturbed vegetation. In more open areas, reptiles such as the western fence lizard (*Sceloporus occidentalis*) and northern alligator lizard (*Gerrhonotus coeruleus*) can be found. Birds such as Brewer's blackbird (*Euphagus cyanocephalus*), white-crowned sparrow (*Zonotrichia leucophrys*), and killdeer (*Charadrius vociferus*) would also be expected to forage on the site.

Sensitive Species

For the purpose of this assessment, sensitive species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act; those considered "species of concern" by the USFWS; those listed or proposed for listing as rare, threatened, or

endangered by the California Department of Fish and Game (CDFG) under the California Endangered Species Act; animals designated as "Species of Special Concern" by the CDFG; and plants occurring on lists 1 and 2 of the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 1994).

Based on our site survey and review of information on biological resources in the project vicinity, we have determined that the project site supports two sensitive plant species, sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and could potentially provide habitat for two sensitive animal species, the black legless lizard (*Anniella pulchra nigra*) and California horned lizard (*Phrynosoma coronatum frontale*). These species are discussed below.

Sand Gilia

Sand gilia is a federally listed endangered species and a state-listed threatened species. It is a small, erect annual plant in the phlox family that typically blooms from March to May. Sand gilia prefers stabilized sandy soils in open, yet wind-sheltered areas. Previous physical disturbance to the sand seems to encourage germination in some areas, and healthy sand gilia populations may be found along old paths, in old vehicle tracks, or in areas where trenching has occurred. At present, this species is found in scattered populations in coastal dune scrub and maritime chaparral communities from Moss Landing to the Monterey Peninsula, and there is a large population of sand gilia on the former Fort Ord property (U.S. Army Corps of Engineers, 1992). Sand gilia was listed by both the federal and state governments because of its small number of known populations, limited distribution, and potential threat to its populations from development.

The project site was surveyed for rare plants in 1988 by Harvey and Stanley Associates. This survey was conducted after the Marina Landing project EIR (Earth Metrics, 1988) reported that the southwest knoll of the site contains "habitat similar to nearby locations where sand gilia populations have been reported." The Harvey and Stanley Associates' report (April 10, 1988) documented 448 individuals of sand gilia in four separate locations on the project site.

Approximately 805 sand gilia individuals were found occupying about 0.38 acre of the Bruno project site at the time of our field survey (Figure 3). About 85% of the individuals were in flower, and density levels varied from low (0-10 plants/m²) to high (>30 plants/m²).

Monterey spineflower

Monterey spineflower is a federally listed threatened species and a CNPS list 1B species. It is a small, prostrate annual of the buckwheat family. Monterey spineflower occurs scattered on sandy soils within coastal dune, coastal scrub, grassland, maritime chaparral, and oak woodland communities in the Monterey Bay region. Significant populations of Monterey spineflower representing upwards of 70 percent of the range of the plant were documented at the former Fort Ord (U.S. Army Corps of Engineers 1992).

Monterey spineflower appears to be a recent colonizer of the bare sand areas on the Bruno project site. None of the previous studies completed on the property identified Monterey spineflower. However, this species of spineflower was only recently listed as threatened (1994) and prior to that, it did not have any formal listing status. We observed Monterey spineflower in the central portion of the Bruno parcel during our April 1998 survey. Approximately 0.45 acre of medium density Monterey spineflower at a density of 10-20 plants/m² was estimated to be present on the project site.

Black Legless Lizard

This species was previously proposed for federal listing as threatened or endangered, but was withdrawn from proposed status on August 12, 1998. The black legless lizard is currently considered a "species of concern" by the USFWS, and is a CDFG Species of Special Concern. Black legless lizards live in a variety of vegetation types in dunes and sandy areas, and are most abundant in dune scrub habitats where native vegetation is present. They are fossorial animals that burrow in sand and leaf litter beneath plants growing in these habitats and feed on insects and other invertebrates. Some plant cover needs to be present as food for insects that, in turn, serve as food for the black legless lizards. Although legless lizards have also been found along the edges of ice plant mats within dune ecosystems, ice plant mats are not considered suitable habitat for legless lizards.

Areas on the project site with coastal scrub vegetation could potentially provide habitat for this species. However, because of the low density of this vegetation relative to ice plant mats and bare sand areas, and because the site is effectively isolated by surrounding development from any significant habitat areas for this species, we conclude that the project site would, at best, provide only marginal habitat for a small number of black legless lizards.

California Horned Lizard

The California horned lizard is a USFWS species of concern and a CDFG Species of Special Concern. This species lives in sandy areas with sparse shrub cover, and feeds primarily on ants and other small insects. Horned lizards rely on camouflage for protection and often remain motionless at the approach of a potential predator.

Although we did not detect this species during our site reconnaissance, areas on the project site with scrub vegetation and adjacent bare sand areas could provide habitat for this species. As with the legless lizard, the site is considered relatively marginal habitat for the California horned lizard because of the surrounding development and resulting isolation from other suitable habitat areas.

Potential Impacts

The following discussion of project impacts is based on the December 1998 Site Plan for a Portion of Lot 39 Locke-Paddon Bayside Subdivision prepared by Monterey Bay Engineers, Inc. The total area of the project site is approximately 1.5 acres.

Mr. Bart Bruno
March 2, 1999
Page 5

Zander Associates

Construction of the Bruno project as proposed will alter the current topography of the site and result in the removal of all existing vegetation. The bare sand / ice plant mix / coastal scrub and disturbed plant communities that occur on the project site are common in the region and provide limited biological resource value because of the predominance of ice plant and other non-native species, and the low density of native vegetation. Therefore, removal of 1.5 acres of these vegetation types would not be considered a significant impact. However, because there are sensitive plant species present within these communities, and these species occupy a substantial portion of the project site, removal of these plants would be considered a significant impact.

Approximately 0.38 acre of sand gilia in varying densities will be removed for the construction of the project. Because sand gilia is a federally and state listed species, this removal would be considered a significant impact. Approximately 0.45 acre of medium density Monterey spineflower will be removed for the construction of the project. Because Monterey spineflower is a federally listed threatened species, as well as a CNPS list 1B species, removal of these plants would also be considered a significant impact. However, from a regional and cumulative perspective, the loss of the limited number of sand gilia and Monterey spineflower plants on the Bruno property would not substantially affect survival of the species, particularly considering the large areas of sand gilia and Monterey spineflower habitat that are permanently protected on the former Fort Ord.

Grading and construction activities on the project site could potentially affect black legless lizards or California horned lizards, if they occur on the site. Since the site provides only marginal habitat for these species, removal of this habitat is not considered a significant impact. In the unlikely event that an individual black legless lizard is encountered on the site during construction activities, methods can be employed to salvage the individuals as described further in the following mitigation recommendations.

Recommended Mitigation

To compensate for the loss of sand gilia and Monterey spineflower occurrences on the project site, we recommend a two part program consisting of 1) salvage and 2) offsite habitat enhancement and revegetation with these species. In consultation with the CDFG and Monterey Peninsula Engineering, Zander Associates would undertake an effort to salvage the seeds of sand gilia from the Bruno project site. Salvage would consist of collection of sand gilia seed from the project site for storage at the Rancho Santa Ana Botanic Garden to preserve this population's genetic diversity, and collection of sand gilia seed from natural occurrences found in the vicinity of the proposed mitigation area for the reintroduction effort.

Offsite habitat enhancement is recommended at an appropriate location with similar site characteristics (i.e., vegetation and habitat) as that of the project site. Initial discussions with the CDFG (Deborah Hillyard, 5/1/98) indicated that offsite mitigation was a possibility. On that basis, Zander Associates pursued discussions with Monterey Peninsula Regional Park District (MPRPD) to utilize a portion of its property at the end of Dunes Drive in the Marina Dunes Open Space Preserve in the City of Marina as a receptor site for this offsite mitigation. MPRPD

expressed an interest in collaborating to enhance an approximate 0.75 acre of hind dune habitat at its Marina Dunes Open Space Preserve (Figure 4). The proposed restoration would provide opportunities to enhance currently degraded flandrian dune scrub, and re-establish populations of sand gilia and Monterey spineflower in permanently protected conservation areas.

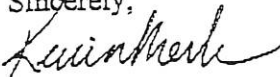
Enhancement activities on the designated mitigation area would consist of removal of non-native vegetation and establishment of sand gilia. Monterey spineflower is expected to colonize the mitigation area naturally once non-native plant species are removed because there is a substantial seed source for the species in nearby areas. Therefore, we do not recommend replanting of Monterey spineflower on the mitigation area at this time. A detailed mitigation proposal is currently being prepared and will be submitted to you under separate cover.

To minimize the risk of direct impacts to black legless lizards or California horned lizards during construction, we recommend that a qualified biological monitor be present on the site during the initial site clearing and grading activities. Construction personnel should be oriented prior to the onset of grading activities to proper monitoring and salvage procedures for legless lizards and horned lizard. If any individuals of these species are found on the project site, they should be captured and placed in suitable containers for temporary holding, and the CDFG should then be contacted to determine an appropriate site for relocating captured animals.

Implementation of these mitigation recommendations would mitigate all potential impacts on biological resources resulting from the project to a less-than-significant level.

If you have any questions regarding this report please feel free to contact me.

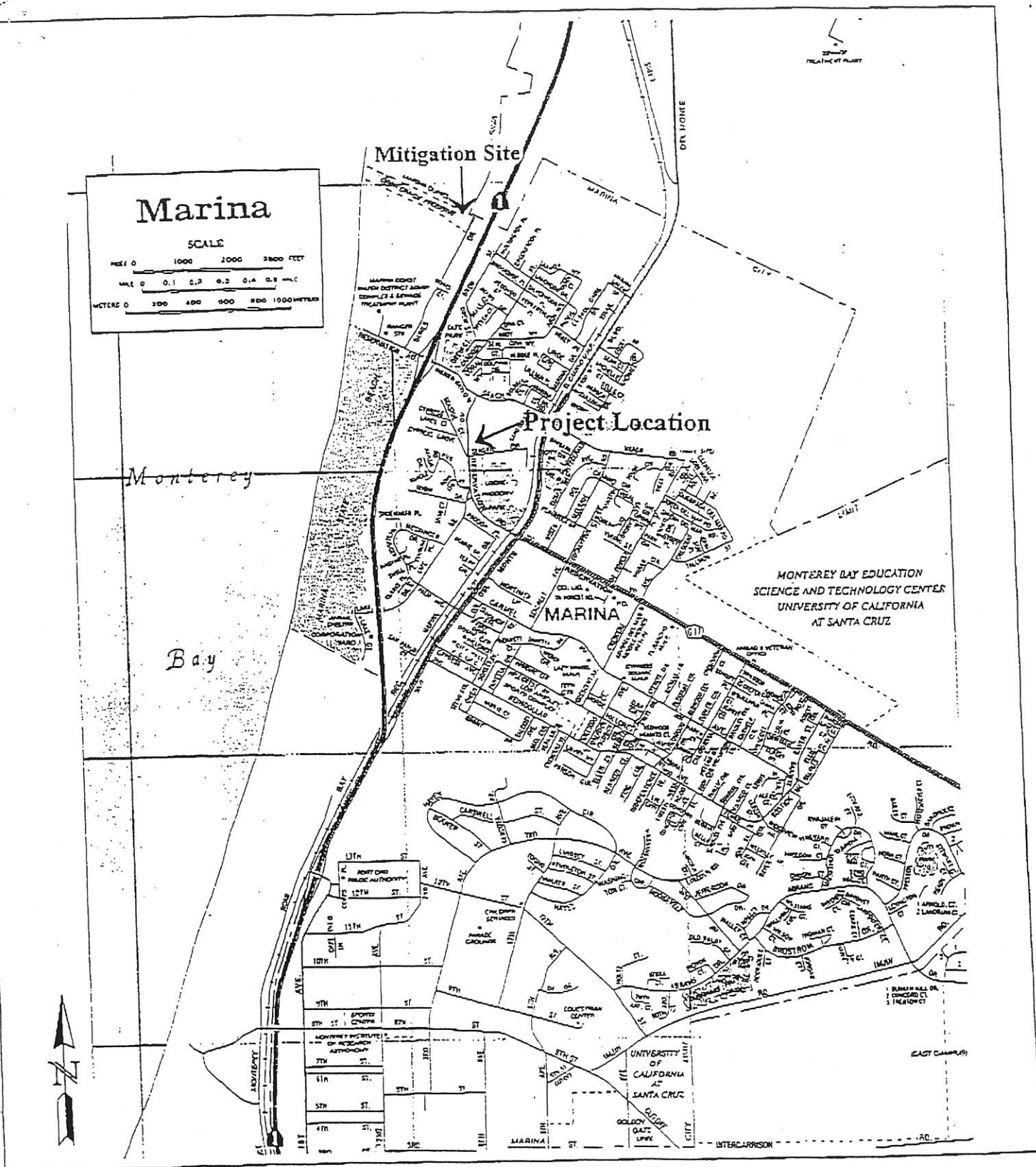
Sincerely,



Kevin Merk
Project Biologist

Table 1: Plant species observed on the Bruno project site, April 21, 1998.

Scientific Name	Common Name
TREES AND SHRUBS:	
<i>Artemisia californica</i>	California sagewort
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote brush
<i>Croton californica</i>	California croton
<i>Cupressus macrocarpa</i>	Monterey cypress
<i>Ericameria ericoides</i>	mock heather
<i>Eriogonum giganteum</i>	Channel Islands buckwheat
<i>Lupinus chamissonis</i>	silver beach lupine
HERBS:	
<i>Amsinkia intermedia</i>	fire weed
<i>Anagallis arvensis</i>	scarlet pimpernel
<i>Calandrinia ciliata</i>	red maids
<i>Camissonia cheiranthifolia</i>	dune primrose
<i>Camissonia micrantha</i>	small primrose
<i>Cardionema ramosissima</i>	sand mat
<i>Carpobrotus edulis</i>	ice plant
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's clover
<i>Chorethrogne filaginifolia</i>	common corethrogyne
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower
<i>Cryptantha leiocarpa</i>	coast cryptantha
<i>Cuscuta</i> sp.	dodder
<i>Erodium botrys</i>	storksbill
<i>Erodium cicutarium</i>	red-stemmed filaree
<i>Eschscholzia californica</i>	California poppy
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	sand gilia
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hypochaeris radicata</i>	woolly cat's ears
<i>Limonium sinuatum</i>	statice
<i>Linaria canadensis</i>	toad flax
<i>Lotus scoparius</i>	deer weed
<i>Lupinus nanus</i>	sky lupine
<i>Marah fabaceus</i>	wild cucumber
<i>Nemophila menziesii</i>	baby blue eyes
<i>Phacelia distans</i>	common phacelia
<i>Plantago erecta</i>	California plantain
<i>Raphanus sativa</i>	wild radish
<i>Rumex acetosella</i>	sheep sorrel
<i>Silene gallica</i>	windmill pink
<i>Spergula arvensis</i>	sand spurry
GRASSES:	
<i>Avena barbata</i>	slender wild oats
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus hordeaceus</i>	soft chess
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	barnyard foxtail
<i>Pennisetum clandestinum</i>	kikuyu grass
<i>Vulpia myuros</i>	rat-tail fescue
<i>Vulpia octoflora</i>	slender fescue



ZANDER ASSOCIATES

Environmental Consultants

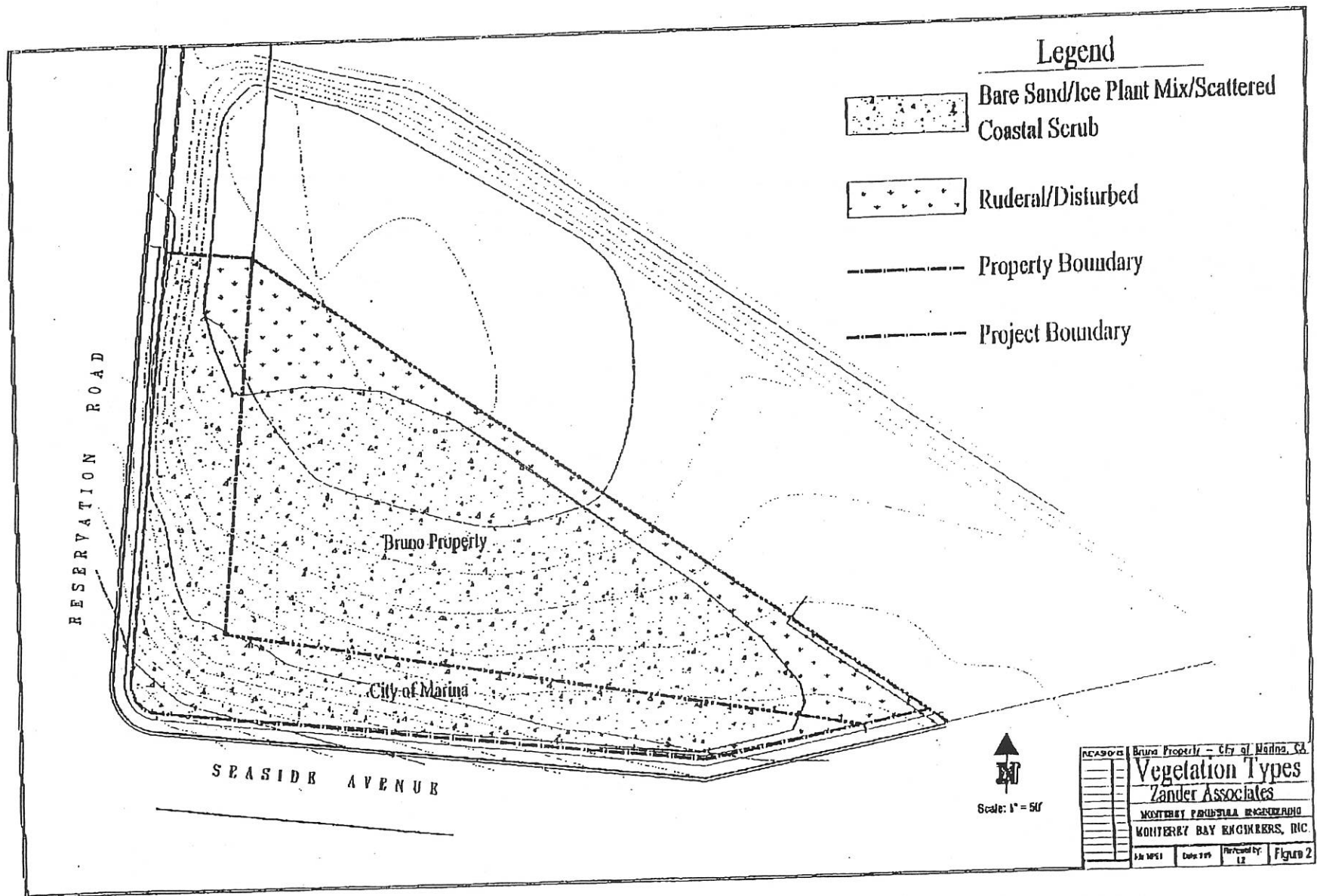
Site Location
Bruno Project
Marina, California

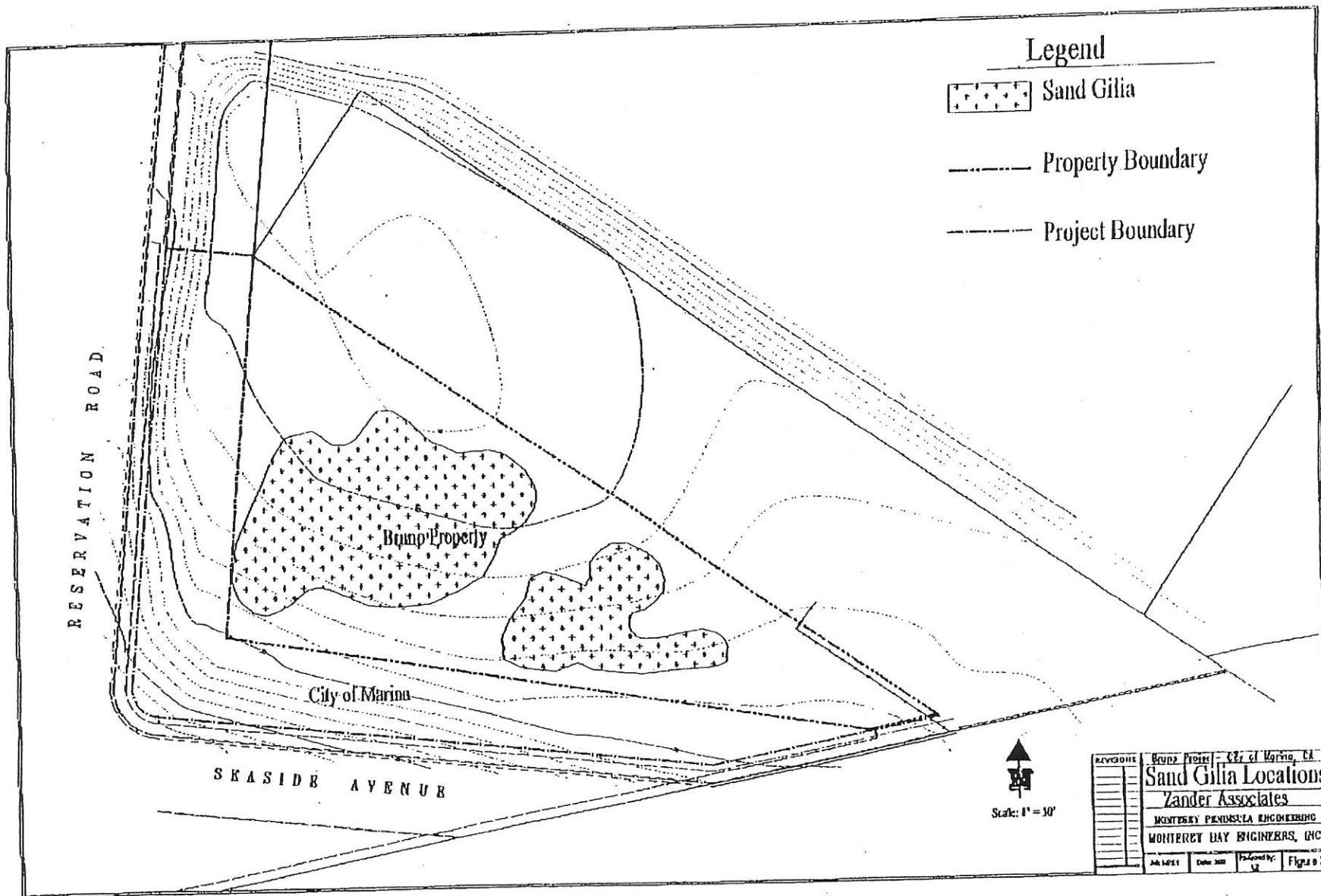
FIGURE
1

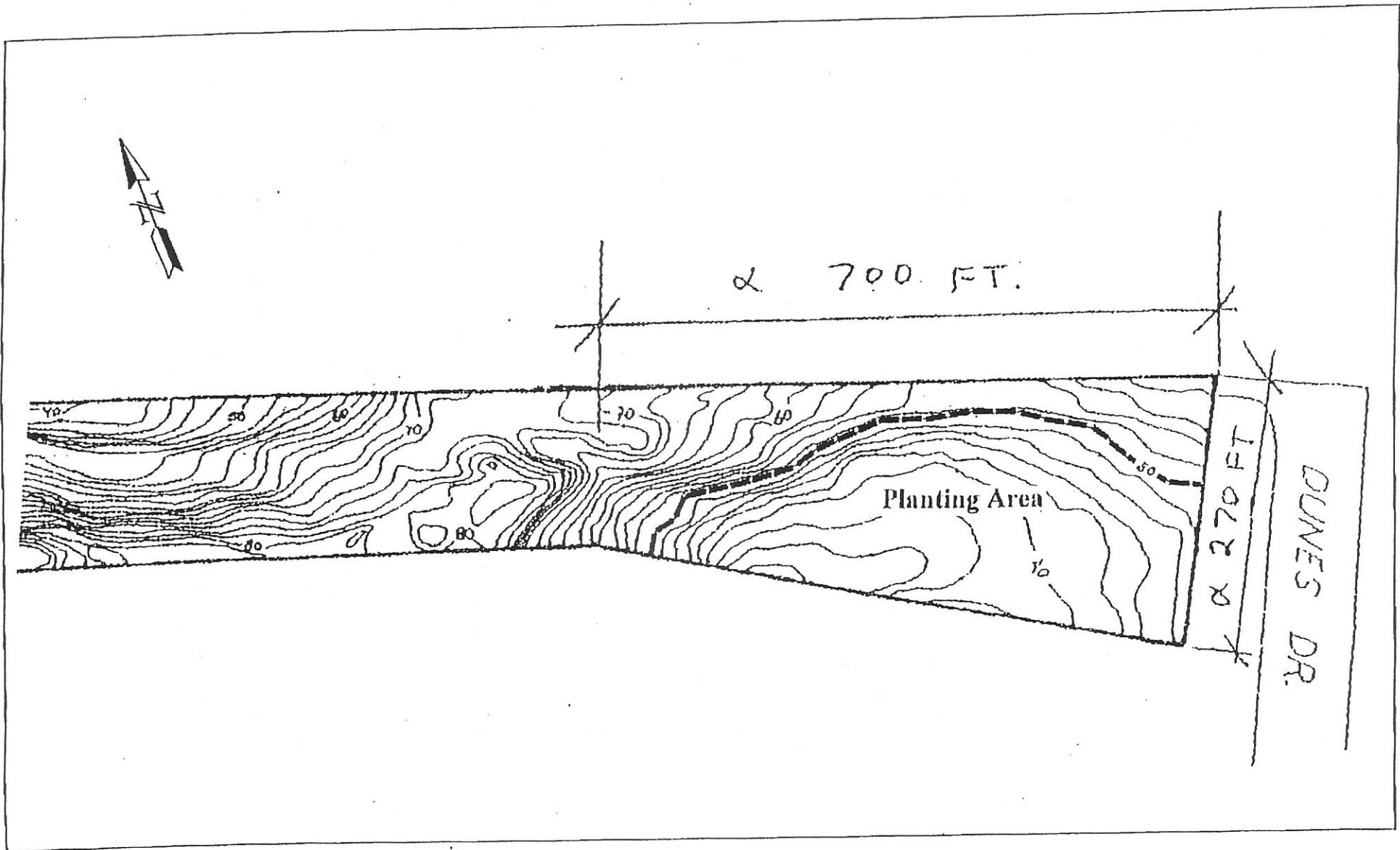
JOB NUMBER
MPE1

REVIEWED BY
LZ

DATE
2/99







ZANDER ASSOCIATES

Environmental Consultants

Mitigation Site at Monterey Peninsula Regional Park District/Marina Dunes Open Space Preserve

Bruno Project

Marina, California

FIGURE

4

JOB NUMBER
MPE1

REVIEWED BY
LZ

DATE
2/99

Appendix 7

Sand Gilia Mitigation Plan

Prepared by
Zander Associates
April 5, 1999

**Sand Gilia Mitigation Plan
Bruno Project
Marina, California**

Prepared for:
Monterey Peninsula Engineering
192 Healy Avenue
Marina, California 93933

Prepared by:
Zander Associates
150 Ford Way, Suite 101
Novato, California 94945

April 5, 1999

1.0 Introduction

This plan describes mitigation for removal of approximately 805 plants of the federally Endangered and state Threatened sand gilia (*Gilia tenuiflora* ssp. *arenaria*) from the Bruno project site. The Bruno project is located in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the Kmart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is approximately 0.85 acre at the top of a sandy knoll. The City of Marina's property is approximately 0.65 acre and it comprises the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue.

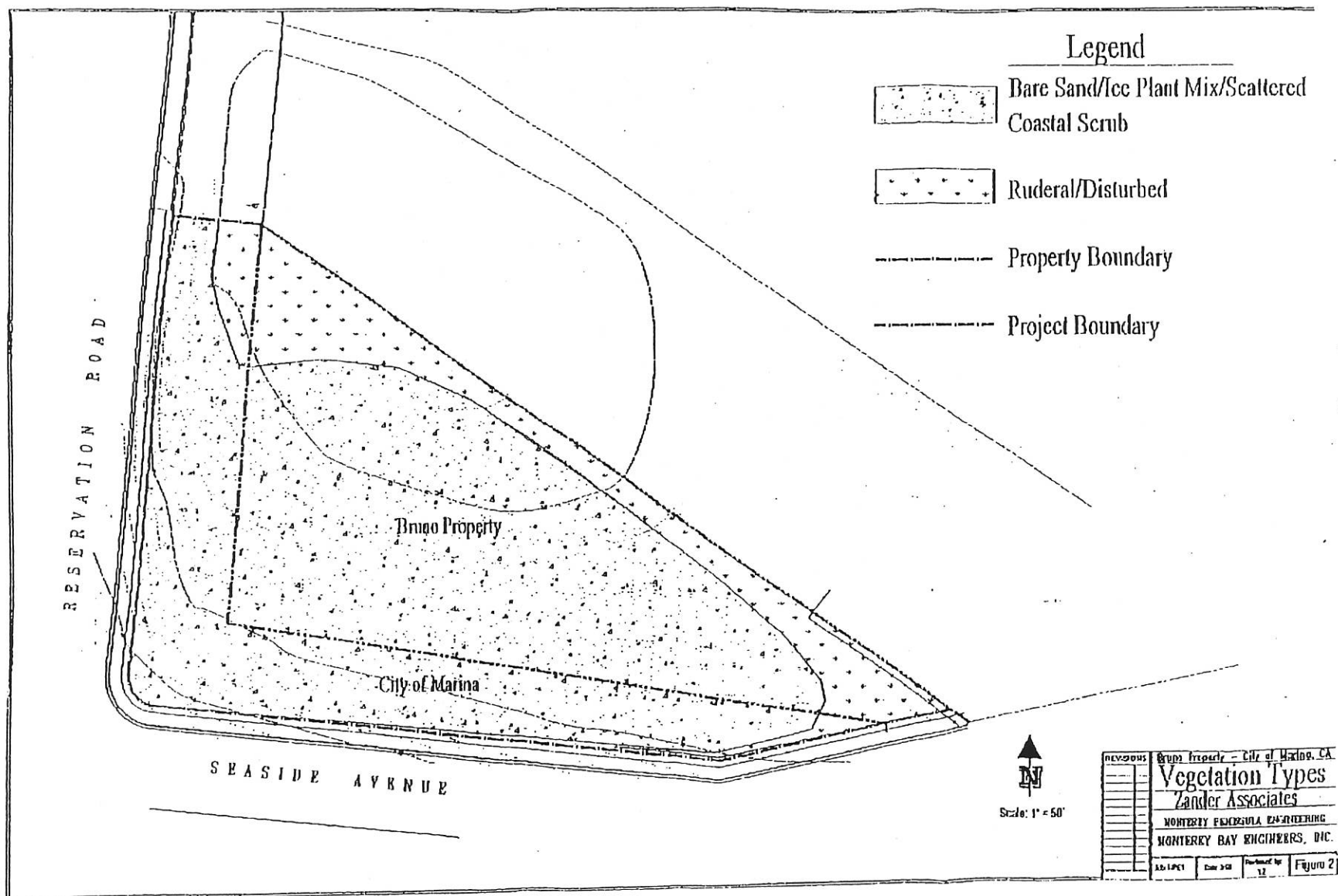
Removal of the sand gilia would occur for construction of a proposed subdivision on the Bruno project site. No sand gilia occurs on the City of Marina property. Onsite mitigation is infeasible given the limited size and location of the property and so offsite mitigation was explored. An appropriate offsite mitigation area was determined in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is hind dune habitat on the Marina Dunes Open Space Preserve at the end of Dunes Drive in Marina, California. The MPRPD is currently restoring dune habitat in this area and the proposed mitigation site would add to the overall restoration acreage.

The goal of this mitigation and restoration plan is two-fold: 1) replace the number of sand gilia individuals removed for development of the Bruno project site and achieve no-net-loss of sand gilia as a result, and 2) enhance approximately 0.75 acre of hind dune habitat on the Marina Dunes Open Space Preserve. The following mitigation plan provides the details for how this goal will be achieved.

2.0 Mitigation Plan

As previously discussed, the offsite mitigation area is located on the Marina Dunes Open Space Preserve at the end of Dunes Drive in the City of Marina. The mitigation area is approximately one mile from the Bruno project site. Vegetation composition on the mitigation site is similar to that of the Bruno site. Elements of two plant communities typical of the general area are present on the Bruno project site, as well as the mitigation area (Figure 2): 1) bare sand / ice plant mix / scattered coastal scrub, and 2) ruderal / disturbed. Although a larger area of the mitigation site is occupied by native shrubs like mock heather (*Ericameria ericoides*) and coyote brush (*Baccharis pilularis* var. *consanguinea*), there is still a substantial amount of ice plant and other non-native species on the site.

To meet the proposed mitigation goals, approximately 1600 sand gilia individuals will be propagated from seed collected in the vicinity and will be planted in the approximately 0.75 acre mitigation area. Non-native plant species will be removed from the mitigation area to create appropriate planting areas for the sand gilia. All of these activities will be supervised by a restoration specialist and will comply with measures required by the California Department of



Fish and Game.

2.1 Plant Material Collection and Propagation

Sand gilia seed will be collected from locally known populations in the vicinity of the mitigation area in the Marina Dunes. A sufficient quantity of seed will be collected and given to a qualified horticulturist for propagation. Plants will be grown in Super Stubby containers and will be sown in November or December for outplanting in February/March.

2.2 Site Preparation

The mitigation site will be prepared by removing non-native plant species within the 0.75-acre area. This will be accomplished with the use of herbicides and weeding tools in areas devoid of native plants and hand pulling in other areas occupied by native species. Non-native plant species in the mitigation area include: iceplant (*Carpobrotus* sp.), ripgut brome (*Bromus diandrus*), and wild radish (*Raphanus sativa*).

Herbicide spraying and subsequent hand weeding shall occur prior to any planting of sand gilia. A qualified herbicide applicator with a strong knowledge of native plants will be chosen for any spraying that occurs on the mitigation site. Crews of laborers shall be used for hand weeding in more sensitive areas where non-natives crowd out the native species, and the use of herbicides is impractical. The site shall be fenced to limit human access and signs posted to inform the public.

2.3 Plant Installation

Plantings will be installed in zones designated by the restoration specialist to meet the habitat needs of sand gilia. Plants will be installed irregularly in clusters at approximately 12"-18" off center. Mature nursery grown sand gilia individuals will be planted in the late winter (February - early March), except as otherwise noted.

2.4 Maintenance

Maintenance will occur on a seasonally appropriate schedule during the five-year monitoring period. Maintenance activities will include basic caretaking, weeding throughout the mitigation area, and temporary irrigation if needed.

2.5 Monitoring

The purpose of monitoring is to 1) document the number and vigor of sand gilia within the mitigation area, 2) provide an overall habitat assessment, and 3) identify any shortcomings so that appropriate corrective measures can be implemented as necessary. The mitigation site will be monitored and maintained for a minimum of five years under the direction of a habitat restoration specialist to assure that the new sand gilia population is successfully establishing. Monitoring will be conducted in April of each year and will be done concurrently with visits to a designated reference population in the vicinity. The purpose of visiting the reference population is to confirm that sand gilia is readily identifiable at the time of monitoring and to evaluate the

status of the new population against an established population.

Annual monitoring reports will be prepared in the early summer, and submitted to the CDFG and the City of Marina by August 1 of each monitoring year. The reports will include the number of sand gilia individuals present on the site, and evaluation of the status of the population against the reference population and a general habitat assessment for the entire 0.75 acre.

Success of the revegetation effort will be assessed annually. The project will be determined successful if at the end of the five-year monitoring period, the introduced sand gilia population consists of a minimum of 805 individual plants and reflects the dynamics at the naturally occurring sand gilia population at the reference site.

Contingency Plan

If the mitigation area appears that it will not meet the success criteria outlined above in any particular monitoring year, corrective actions may be recommended in the annual monitoring report. Corrective actions may include more intensive non-native plant eradication or significant replanting. At the end of the third year, the monitoring report will summarize the previous reports and evaluate the success of the project against the performance standards. Any areas that do not meet the success criteria will be remedied and, as appropriate, monitored until they are shown to meet the performance standards.

Responsibility and Funding

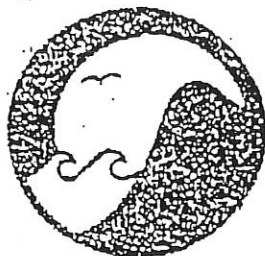
Monterey Peninsula Engineering will be responsible for funding implementation of the mitigation plan and monitoring and maintenance for five years following implementation. The funding will provide for the collection and propagation of sand gilia seed, site preparation (weeding, herbicide application), plant installation, monitoring and maintenance for five years, and contingency measures, if required.

Appendix 8

Rare Plant Survey Report

Prepared by
Kathleen Lyons
Harvey & Stanley Associates
April 10, 1988

property owner, Gail ZATKIN
8/6/90



HARVEY AND STANLEY ASSOCIATES, INC.

ECOLOGICAL CONSULTANTS • ENVIRONMENTAL PLANNERS • MARINE MAPPING

MAIN OFFICE:
706 ELIZABETH ST., P.O. DRAWER E
ALVISO, CA 95002
(408) 263-1814

CENTRAL COAST OFFICE:
6001 BUTLER LANE, SUITE #1
SCOTT'S VALLEY, CA 95066
(408) 438-4107

RECEIVED

APR 16 1988

RARE PLANT SURVEY REPORT

FOR

MARINA LANDING DEVELOPMENT

MARINA, CALIFORNIA

PREPARED FOR

Mr. Ron Sisseem
COATS CONSULTING

PREPARED BY

HARVEY AND STANLEY ASSOCIATES

Kathleen B. Lyons, Botanist

David
Cuddihy
Wildlife
Biologist

File No. 407.01

April 10, 1988

CITY OF MARINA

APR 18 1988

PLANNING DEPT.

MARINA LANDING RARE PLANT SURVEY

INTRODUCTION AND METHODS

A field reconnaissance of the Marina Landing project site was performed on March 31, 1988, such that the potential presence of the Monterey Bay slender-flowered or sand gilia (Gilia tenuiflora ssp. arenaria) could be determined. As reported in the project EIR the southwest knoll of the site contains "habitat similar to nearby locations where sand gilia populations have been reported" (Earth Metrics, 1988). A detailed survey of this area was performed.

The southwest knoll of the project site and the side slopes adjacent to Reservation Road and Seaside Avenue were visually inspected for the occurrence of the sand gilia. A series of parallel transects approximately 6 feet (2 meters) apart were established along the side slopes of the two roads. The upper knoll area was surveyed in a similar manner by the establishment of parallel transects run in a N-S orientation from the dirt access road to the project property line.

All plants observed during the survey were identified to genus and the majority to species. When an individual of sand gilia was located a detailed survey of the population area was performed such that the distribution and number of individuals could be determined.

RESULTS

Individuals of sand gilia were identified within the upper knoll area of the project site. One hundred and forty-eight (148) individuals were found growing in four areas. The areas, composed of bare sand substrate, were separated from one another by large patches of hottentot fig (Carpobrotus sp.). The location and extent of these areas is portrayed in Figure 1. The majority of the sand gilia plants (98%) were in flower and were easily visible.

 TABLE 1. Size of area and number of individuals of sand gilia
 (Gilia tenuiflora ssp. arenaria), Marina Landing, Marina, CA.

AREA	SIZE (approx. sq. feet)	# individuals of Sand Gilia
1	1,776	144
2	3,616	264
3	368	36
4	328	4
	-----	-----
TOTAL	6,088 sq. ft.	448 individuals

A copy of the California Native Species Field Survey Form to be filed with the California Natural Diversity Data Base (California Dept. of Fish and Game) is shown as Figure 2.

POTENTIAL IMPACTS AND RECOMMENDATIONS

Potential threats to the sand gilia population on the project site include to the following:

1) Potential disturbance from adjacent land uses. Human and or domesticated animal use of the knoll area may disturb the sand gilia population by trampling and may disturb the sand substrate.

Recommendation: The Marina Landing conceptual site plan shows this area as "vacant land", therefore disturbance to the sand gilia population is not expected. If, however, grading is to occur nearby, such as immediately adjacent to the residential inholding property, care should be taken such that drainage patterns of the knoll area are not altered and there is no placement of fill or excavated material onto the rare plant habitat sites. Do not encourage access to the knoll area by the placement of trails or roadways immediately adjacent to the sand gilia populations. A

low type of fencing around the area may be desirable to control access.

2) Spread of hottentot fig. The potential spread of hottentot fig throughout the knoll site may eliminate suitable habitat for the sand gilia.

Recommendation: An enhancement plan for the knoll area could be established that would control the expected spread of hottentot fig into the existing sand gilia population areas. The removal would need to be performed with care such that existing plants and habitat are not adversely impacted.

FIGURE 2. CALIFORNIA NATIVE PLANT FIELD SURVEY FORM

Transmitted from for field data collected on populations of California native plants submitted to the California Native Plant Society. This form is submitted by the California Native Plant Society and contains information that is not to be used for publication. The California Native Plant Society and the California Native Plant Society are not responsible for the use of this form.

OFFICE USE ONLY

Document Code _____ Team Code _____
Index Code _____ Occurrence # _____
Quad Code _____

IN ORDER FOR US TO HANDLE THIS FORM PLEASE COMPLETE ALL ENTRIES IN THE BASIC DATA SECTION ABOVE THE HEAVY LINE. IF YOU HAVE TIME, WE WOULD APPRECIATE YOUR ENTERING ALL INFORMATION NOW AVAILABLE TO YOU WITHIN THE DETAILED SECTION BELOW THE HEAVY LINE. YOU DO NOT HAVE TO COMPLETE ALL ENTRIES IN THE DETAILED SECTION. YOU MAY USE THE BACK FOR COMMENTS.

BASIC DATA

Scientific Name (no codes): GILIA TENUIFLORA SSP. ARENARIA
Date of Field Work: 31 3 1988 County: MONTEREY Collections: X Yes No (# GLTE 1)
Location: NE CORNER OF JUNCTION OF SEASIDE AVENUE AND RESERVATION ROAD
MARINA, CALIFORNIA
Reporter: KATHLEEN LYONS, HARVEY AND STANLEY Phone: 408 438-4102
Address: 6001 BUTLER LANE #1, SCOTTS VALLEY, CA 95066

1. LOCATION

A. Is this a new location record? X Yes No Unknown

Is this a subsequent visit? Yes X No

B. Plant found? X Yes No If not, reason: _____

C. Quad Name: MARINA

7 1/2 X 15

115 R 1E % ol % Sec

1 R % ol % Sec

D. Owner (Name/Address/Phone): _____

E. Attach, or sketch on back, a map indicating the exact site, scale, and proximity to a prominent feature on quad sheet.

2. SPECIES BIOLOGY (Check one or more, and fill in percentages)

A. Phenology

X In leaf
X In bud
X In flower
In fruit
Fall regreen
Dormant

B. Number of Plants

1-10
11-30
31-100
X 101-1000
1001-10,000
10,001+

C. Population Area

< 1 m² (= yd²)
1-5 m²
5-10 m²
10-100 m²
X 100 m² - 1 ha
1 ha + (= 2 1/2 ac)

D. Age Class

% Seedlings
% Immature
% 1st yr
100 % Mature
% Senescent

E. Compared to your last visit to this site Number of Plants more
same
fewer

Population Area larger
same
smaller
Age Classes same
different

F. Give reasons for changes: _____

3. HABITAT (Describe site and check one or more, or fill in blanks)

A. Description

COASTAL SCRUB VEGETATION ON SOUTH-WEST FACING SLOPE, SAND
SUBSTRATE

B. Aspect

N
E
X S
W
Flat

C. Slope

X Slight, 0°-20°
Moderate, 20°-45°
Extreme, 45°+
Vertical

D. Topographic Position

Crest
X Upper Slope
Mid-Slope
Lower Slope
Bottom

E. Light

X Open
Filtered
Shade

F. Moisture

Inundated
Saturated
Moist
X Dry

G. Elevation: 34-43' (m) to _____ (m) M. Microhabitat Relief: X _____

I. Substrate/Soil

SANDY

J. Plant Communities/Associated Species/Influences of Same Genus

LOTUS SCOPARIUS, ORTHOCARPUS SP., CARDIONEMA RAMOSISSIMUM

K. Disturbances/Viable Threats

POTENTIAL DEVELOPMENT, SPREAD OF ICEPLANT (CARBOBROTUS SP.)

4. DETERMINATION (Check one or more, fill in blanks)

A. How was plant identified?

X Keyed in a flora (title MUNZ AND KECK)
Compared with Specimen
Compared with Photo/Drawing (source _____)
By another person (name _____)
Other (_____)

B. If collection was made, give collector's name and number, and repository for each specimen

5. OTHER KNOWLEDGEABLE INDIVIDUALS (Name/Address/Phone)

5. PHOTOGRAPHS (Check one or more)

A. Subject Plant B. Type Plant
Habitat
Diagnostic Feature
Other

C. May we obtain duplicates, or our own? Yes No

CALIFORNIA NATURAL DIVERSITY DATA BASE, c/o DEPARTMENT OF FISH AND GAME, 116 NINTH ST., SACRAMENTO, CA 95814

DETAILED INFORMATION



Appendix 9

Legless Lizard Survey

Prepared by
Linda Kuhn
ABA Consultants
March 26, 2001

ABA Consultants

P.O. Box 1151, Capitola CA 95010

Environmental Research, Assessment & Planning
VOX: (831) 479-0277 FAX: (831) 465-0123 aba1@ix.netcom.com

March 26, 2001

Prepared for:

Rana Creek Habitat Restoration
Paul Kephart
35351 E. Carmel Valley Road
Carmel Valley, CA 93924

Holiday Inn Express Project
189 Seaside Circle
Marina, CA

The following is a report of our findings regarding the California legless lizard (*Anniella pulchra*) surveys conducted in March 20 and 22, 2001 on this parcel.

Survey One: March 20, 2001 11:00

Sunny, 71° F

The site contains homogeneous yellow sand with a low to moderate amount of organic material. It was uniformly cool and moist at 0.5 cm depth. The surface contour was even with obvious swales (areas of moisture accumulation) present.

Task 1: Because Monterey spineflower (*Chorizanthe p. pungens*) and sand gilia (*Gilia tenuiflora arenaria*) (threatened and endangered species) are present on the site and must not be disturbed, we first surveyed the entire site to establish where they occurred. We wanted to determine if our sampling protocols would allow for sufficient data collection without disturbing these sensitive species. Our restoration biologist, Peter Slattery, who has more than five years of experience with these two plant species, was present to make this determination and assist with mapping the current distribution of them. A plant species list for the entire site was compiled.

The two sensitive plant species incompletely covered the site. *Chorizanthe* was very patchily distributed in four areas. *Gilia* was confined to an approximately 13x23 foot area with about a dozen small colonies (1-12 rosettes each). These areas were flagged, mapped by Rana Creek personnel using a GPS, and were easily avoided during lizard searches. Photographs were obtained.

Task 2: We searched for legless lizards in three 2.5 m diameter plots and by haphazardly spot raking. Searchers were extensively trained and experienced in the collection and handling of legless lizards. All searchers have permits issued by the California Department of Fish and Game that allows the handling of this protected species. Linda Kuhn was the senior biologist present. Search locations were stratified to sample

representative microhabitats within the site, and based on the likelihood of finding lizards. Prior to searching plots, we made a list of the individual plant species present within them and took multiple photographs to document the absence of sensitive species. After searches, we restored any disturbed materials and duff layers, as close as possible to pre-sampling conditions. Photographs were taken of the post-surveyed plots.

Plot 1

The first plot was located on the eastern side of the parcel, 18 feet away from the nearest sensitive plant, and contained a small silver bush lupine (*Lupinus chamissonis*). About 50% of the plot was covered by the lupine bush, with ~25% ripgut brome (*Bromus diandrus*), ~25 % sheep sorrel (*Rumex acetosella*), plus small percentages of deer weed (*Lotus scoparius* var. *scoparius*) and California cucumber (*Marah fabaceus*).

Three searchers looked for lizards within the plot boundary, both on the surface, under dried vegetation or objects that might provide cover, and then quickly dug to a depth of 15-25 cm below the surface. This moderate-impact, fixed-area survey involved removing patches of annual vegetation and pushing aside but not uprooting larger perennial plants. No tools (rakes, shovels, trowels, etc.) were used during this survey.

Plot 2

This plot was located on the western edge of the parcel, 32 feet away from the nearest sensitive plant, and contained a small silver bush lupine. About 40% of the plot was covered by the lupine bush, with ~20% iceplant, ~5% ripgut brome, plus small percentages of fillaree (*Erodium cicutarium*), sheep sorrel (*Rumex acetosella*), fescue (*Vulpia* sp.), and deer weed (*Lotus scoparius* var. *scoparius*).

Two searchers looked for lizards in the manner described above.

Plot 3

This plot was located to the south east, 38 feet away from the nearest sensitive plant and contained grasses and forbs (sheep sorrel, ripgut, iceplant, dead iceplant, California poppy (*Eschscholzia californica*), and croton (*Croton californicus*).

Two searchers looked for lizards in the manner described for plot 1.

No legless lizards were located. Four people walked the site to establish the location of sensitive plant species prior to the searches. Due to this footfall disturbance, we decided to continue the survey on a subsequent day.

Survey Two: March 22, 2001 12:00**High clouds, 62° F**

No foot-fall disturbance occurred prior to the survey, and only the two searchers approached un-searched areas. Numbers and types of insect fauna were noted.

Plot 3 was searched again with the moderate impact survey method.

Next, starting from the south west, searchers systematically walked the site, carefully searching under every wooden object and spot raking. Spot raking involved low-impact searching in twelve 0.5 m diameter areas to a depth of ~10 cm. Again, sensitive plants were avoided.

Plots 1 and 2 were searched again with the moderate impact survey method.

No legless lizards were located. Nearly every piece of wood had a large number of argentine ants underneath it. Some workers report that these ants serve as food items for immature legless lizards, while others believe that these aggressive ants may discourage adult lizards from inhabiting an area. During our searches, we found few legless lizard prey items (several insect larvae, three beetles, two spiders and a large cricket). Six manhours were spent exclusively on directed lizard searching during the two surveys. Approximately 59 m² was searched with the moderate-impact methods, and ~10-11 m² was searched using low-impact methods.

Other Findings and Conclusions

In previous surveys, we used these methods to search fixed-area plots prior to recovering discrete, enclosed populations of legless lizards by removing all vegetation and raking the plot to depletion. At very low densities (~1 animal/100 m²) no legless lizards were detected with these fixed-area sampling methods. In past studies at slightly higher densities (8 to 12 animals/100 m²), we found 5 to 9 animals with moderate-impact area searches and 3 to 7 animals with the low-impact method. In plots supporting the highest estimated population densities (40 to 58 individuals/100 m²), we found 7 to 13 animals with moderate-impact sampling while 3 to 8 were found with the low-impact method.

Important microhabitats to consider when designing a sampling protocol for legless lizards include the type and organic content of the soil, the amount of moisture and temperature of soil, and vegetation. Vegetation plays a large role in mediating moisture and temperature changes, and most importantly influences the type and amount of insect prey available to lizards. The sand on this parcel is similar to the yellow sand (in grain size and texture) on Moss Landing Hill, which supports a large population of legless lizards. Due to the uniform sand, moisture, and temperature conditions, only vegetation microhabitats were considered for this site.

The dominant plant species on the parcel was iceplant (*Carpobrotus edulis*; ≥ 50%).

There were five small silver lupine bushes capable of producing leaf-litter, and thus were

considered possible habitat. Ripgut is prevalent in the north west section of the site and present throughout. None of the California sagebrush (*Artemisia californica*) produced enough leaf litter to be considered good habitat (we spot raked under several of them).

Other studies have shown that bush lupines may provide habitat for large numbers of lizards (up to 17/bush). Average-quality habitats usually contain grass and forbs, while iceplant generally provides poor habitat. Legless lizards are known to feed on a variety of insects and insect larvae, which appear to be in very low abundance at this site.

Given the low quality vegetation and depauperate insect fauna, a legless lizard population, if present, would be very limited. However, because these animals are cryptic, living underground nearly exclusively, they quite possibly could have been present but avoided detection by searchers. High impact and extended searches were not feasible due to the presence of threatened and endangered plant species. There was one legless lizard sighting reported here recently and despite the fact that the habitat is not very good, it could support a small yet viable population.

Recommendations

It is the policy of the Department of Fish and Game to error on the side of safety when the presence of protected species is possible, thus some mitigation measures are advisable. We suggest that prior to any construction and with the approval of the California Department of Fish and Game (CDF&G),

- Each lupine bush, and the surrounding 2 m around it, should be systematically searched using high impact methods (removal of all vegetation, including the lupine bush) by a biologist permitted to collect *Anniella pulchra*.
- A biological monitor (permitted to collect *Anniella pulchra*) should be present during the first full day of grading on this site. A grading method that first removes the top 4-6 inches of soil should be used. The monitor should actively search this soil as it is moved and collect any lizards uncovered by these activities. If legless lizards are found, the monitor should continue searching until the whole parcel is graded in this manner.
- If legless lizards are recovered, they should be held in captivity pending an approved (CDF&G) relocation plan.

Appendix 10

Correspondence with Monterey Peninsula Regional Parks District

1. Letter dated May 17, 2001 to MPRPD from Dale Hameister of Rana Creek Habitat Restoration
2. Letter Dated May 18, 2001 from MPRPD to Dale Hameister of Rana Creek Habitat Restoration

RANA CREEK HABITAT RESTORATION



May 17, 2001

To: Tim Jensen
Special Projects & Planning Manager
Monterey Peninsula Regional Park District
60 Garden Court, Suite 325
Monterey, CA 93940-5341

CC: Bart Bruno
BT Development Group
P.O. Box 2317
Monterey, CA 93942

City of Marina Planning Department
211 Hillcrest Avenue
Marina, CA 93933

Rob Floreke
California Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Dear Mr. Jensen,

On behalf of our client, BT Development Group and to satisfy requirements of California Department of Fish and Game, and U.S. Fish and Wildlife, we respectfully request a written agreement for the use of 2.79 acres of the Monterey Peninsula Regional Park District's Locke Paddon Park for use as a mitigation and restoration site. The proposed restoration project mitigates for the development of a Holiday Inn Express, parking area, and driveway as approved by the Marina City Council and certified by the City of Marina Project Approval Certificate dated April 16, 2001. Mitigation will entail exotic species control, planting of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke Paddon Park, five (5) years of monitoring and maintenance, and public education in the form of signage in the planting areas. BT Development Group will be financially responsible for the implementation, monitoring and maintenance of the restoration plan.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dale Hameister", with a long horizontal flourish extending to the right.

Dale Hameister
Biological Consultant



monterey peninsula regional park district

60 Garden Court, Suite 325 • Monterey, California 93940-5341

May 18, 2001

Mr. Dale Hameister
Rana Creek Habitat Restoration
35351 East Carmel Valley Road
Carmel Valley, California, 93924

Re: Mitigation Request for Holiday Inn Express, Marina

Dear Mr. Hameister:

In response to your correspondence dated May 17, 2001, the District is willing to offer lands owned by the District at Locke-Paddon Wetlands as a receiver site for your proposed mitigation of gilia (*Gilia tenuiflora*) and spineflower (*Chorizanthe pungens* var. *pungens*) impacts associated with the Holiday Inn Express project in Marina.

Locke-Paddon Wetlands is one of the District's earlier (1982) open space acquisition projects and, as a condition of Coastal Conservancy grant-funding approval, a Wetlands Enhancement Plan was required and completed that year. The plan recommended coastal habitat restoration among other environmental improvements. In 1994, in fulfillment of a Coastal Commission requirement, and with Coastal Conservancy grant funds, a Marina Coastal Vernal Ponds Management Plan was completed. This plan's recommendations reiterated the earlier 1982 plan recommendations.

The proposal forwarded by Rana Creek Habitat Restoration and Mr. Bruno, the project proponent, appears to support and implement a long overdue habitat enhancement program at Locke-Paddon - a program fully supported by the District and the two aforementioned plans. Pending the state Department of Fish and Game's response to Locke-Paddon as an appropriate site for the proposed mitigation, the District continues to extend the offer of its lands at Locke-Paddon as a potential receiver site for spineflower, gilia, and coastal scrub habitat restoration.

Sincerely,

JOSEPH DONOFRIO
General Manager

C:\Tjensen\PLANNING\North Coast\HIE - Mitigation Site.doc3:50 PM5/18/01

Attachment 2

DEPARTMENT OF FISH AND GAME MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

**CALIFORNIA INCIDENTAL TAKE PERMIT NO. 2081-2001-011-03
PERMITTEE: B. T. DEVELOPMENT COMPANY L.L.C.
PROJECT: HOLIDAY INN EXPRESS, MARINA**

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (Department) for the above-referenced project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by the Department is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit ("Permit") and in attachments to the Permit, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to the Department on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the Permit itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

The Department may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The "Mitigation Measure" column summarizes the mitigation requirements of the Permit. The

"Source" column identifies the Permit document that sets forth the mitigation measure. The "Implementation Schedule" column shows the date or phase when each mitigation measure will be implemented. The "Responsible Party" column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The "Status/Date/Initials" column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
1	Permittee shall immediately notify the Department in writing if it determines that any of the mitigation measures were not implemented during the period indicated in the MMRP, or if Permittee anticipates for any reason that measures may not be implemented within the time period indicated.	Permit	Entire project	Permittee	
2	Beginning with the issuance of the permit, and continuing for the life of the project, Permittee agrees to commence active restoration for dune scrub and sand gilia in accordance with Attachment 1- Final Restoration and Mitigation Plan (FRMP); and meet Performance Standards (VI. E. 1-5) and Success Criteria VI. F. 1-7) and schedule specified in the Plan; this work shall be carried out by a knowledgeable, experienced biologist.	FRMP	Entire project	Permittee	
3	Permittee shall obtain Department Legal Office approval for the Security and provide the fully funded Security to the Department no more than 30 days after the Effective Date. The Security shall be in the amount of \$35,500 to implement the permit's mitigation, monitoring and reporting requirements.	Permit	30 days after Effective Date		
4	Beginning with issuance of the Permit and continuing for the life of the project, Permittee shall provide the Department an annual Status Report no later than Sept. 15 of every year. Each Status Report shall include, at a minimum: 1) a general description of the status of the project, including actual or projected completion dates, if known; 2) a copy of the attached table with notes showing the current implementation status of each mitigation measure; and 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for project impacts, including compliance with Performance Standards (Section VI. E. 1-5) and Success Criteria (Section VI. F. 1-7) and need for implementation of Remedial Measures, as specified in Attachment 1 - Final Restoration and Mitigation Plan. Status Reports shall be sent to Department of Fish and Game, Post Office Box 47, Yountville, CA 94599 and shall reference permit number 2081-2001-011-3.	Permit, FRMP	Entire project, annually	Permittee	
5	The Department may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.	Permit	Entire project	Department of Fish and Game	
6	Permittee shall fully cooperate with the Department in its efforts to verify compliance with or effectiveness of mitigation measures.	Permit	Entire project	Permittee	
7	No later than 45 days after completion of the project, including completion of all mitigation measures, Permittee shall provide the Department with a Final Mitigation Report. The Final Mitigation Report shall be prepared by a knowledgeable, experienced biologist and shall include, at a minimum: 1) a copy of the attached table with notes showing when each of the mitigation measures was implemented; 2) all available information about project-related incidental take of species named in the Permit; 3) information about other project impacts on the species named in the Permit; 4) construction dates; 5) an assessment of the effectiveness of each mitigation measure in minimizing and compensating for project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the species; and 7) any other pertinent information. Permittee's monitoring and reporting obligations under this MMRP will end only after the Department accepts the Final Mitigation Report as complete. The Final Mitigation Report shall be sent to Department of Fish and Game, Post Office Box 47, Yountville, CA 94599 and shall reference permit number 2081-2001-011-3.	Permit	Post-project	Permittee	
8	The Department accepts the Final Mitigation Report as complete.	Permit	Post-project	Department of Fish and Game	

BOARD OF DIRECTORS

Jennifer Lagler - Ward 1

jlagler@jlagler.org
Marina, northern Ft. Ord

Ben Post - Ward 2

ben@post-tech.net
Seaside, Sand City

Judi Lehman - Ward 3

jlehman@redshift.com
Monterey, Del Rey Oaks,
southern Ft. Ord

Mary Dainton - Ward 4

mdainton@tuna.com
Pacific Grove, New Monterey
northern Pebble Beach

Zad Leavy - Ward 5

zadleavy@aol.com
Carmel, Carmel Valley, Big
Sur, southern Pebble Beach

General Manager

Joseph D. Donofrio
donofrio@mprpd.org

monterey peninsula regional park district

80 Garden Court, Suite 325 • Monterey, California 93940-5341

November 15, 2001

11-19-01

R

Mr. Robert Floerke, Regional Manager
California Department of Fish & Game
Central Coast Region
P. O. B. 47
Yountville, California 94599

Re: Holiday Inn Express, Marina

Dear Mr. Floerke:

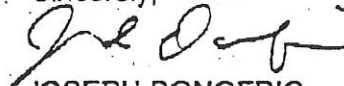
The Monterey Peninsula Regional Park District (The Park District) is a special district subdivision of the State of California as defined under Public Resources Code 5500 et seq. The District was created by voter initiative in 1972 with the mission and purpose to acquire and protect, in perpetuity, open space and open space resources for public use and enjoyment. Geographically, the District serves the 150,000 residents of Monterey County's Greater Monterey Peninsula, Carmel Valley, Cachagua, Del Monte Forest, and Big Sur communities.

The Park District has agreed to make available a portion of its open space lands at Locke-Paddon Wetlands Community Park (Park) as a receiver site for Section 10 species take mitigation of Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and dune gilia (*Gilia tenuiflora*).

To ensure that the mitigation has long-term protection, The Park District will complete the following actions within one-year of the issuance of the Section 10 permit:

1. Apply to the City of Marina for an extinguishment of all legal parcels within the property so as to create a single parcel;
2. Request the City to re-zone the entire ensuing Park parcel to "Open Space";
3. Formally and irrevocably *Dedicate* the Park as open space pursuant to Article 13 Section 8 of the California State Constitution and Public Resources Code Section 5540;
4. Record a *Deed Restriction* on the Park property identifying the mitigation area and its perpetuity; and
5. Signing and posting the mitigation area as an *endangered species mitigation plant preserve*.

Sincerely,



JOSEPH DONOFRIO
General Manager

Cc: Debra Hillyard, DFG
Mike Wilson, CCC
Jeff Dack, Marina
Bart Bruno, MPE

C:\Tjensen\PLANNING\North Coast\Holiday Inn Express\Mitigation Site Perpetuity.doc

Admin. Office (831) 373-3400 • Fax: (831) 373-3403

ers set forth in the Permit will fully mitigate impacts to those species and avoid significant
s on the species:

- the Permittee has committed to implementation of the Final Restoration and Mitigation Plan, including restoration of 3.55 acres of dune scrub habitat at Locke-Paddon Park; and establishment of viable populations of sand gilia and Monterey spineflower.
- the Permittee shall monitor compliance with the Plan, and the effectiveness of the mitigation measures, according to provisions identified in the Plan, and report on the results of such monitoring annually; and shall immediately report any non-compliance to the Department of Fish and Game.
- the Permittee shall post a security of \$35,500.00 to implement the permit's mitigation, monitoring and reporting requirements.

CDFG has independently concluded that the Permit should be issued under the terms and conditions specified therein.

CDFG finds that the Mitigation Monitoring and Reporting Program at Attachment 2 of the Permit will ensure compliance with mitigation measures by requiring the applicant to monitor and report progress in implementing those measures for review by CDFG staff.

The Mitigation Monitoring and Reporting Program is adopted.

The Project is approved.

DATE: Jan 15, 2002

By: Sandra Morey
SANDRA MOREY
CHIEF
HABITAT CONSERVATION PLANNING BRANCH
DEPARTMENT OF FISH AND GAME

**Final Restoration and Mitigation Plan
for
BT Development Company L.L.C.
Holiday Inn Express Project
(2081-2001-011-03)**

Prepared for:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942

Prepared by
Paul Kephart and Dale Hameister
Rana Creek Habitat Restoration
November 12, 2001



I. EXECUTIVE SUMMARY

B.T. Development Company L.L.C. proposes to build an eighty (80) unit Holiday Inn Express Hotel at the northeast corner of Reservation Road and Seaside Circle in Marina, CA (APN 331-111- 007). The property to be developed is degraded and dominated by Hottetot fig (*Carpobrotus edulis*) but also contains Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). Through consultation with the California Department of Fish and Game (CDFG), it has been determined that the sensitive habitat within the area to be developed is 1.52 acres. To fully mitigate for this loss of habitat, this restoration plan has been prepared to establish 3.55 acres of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke-Paddon Park of the Monterey Peninsula Regional Parks District (MPRPD) directly across the street from the area to be developed. The mitigation plan includes provisions for removal of the top (approximately 6 inches to 1 foot) of sand at the property proposed for development and the relocation of this topsoil to the mitigation area. This will preserve the total existing seed bank of Monterey spineflower and sand gilia of the area to be developed and relocated it to the restoration area.

A. Owner and Location of Project

1. Applicant: B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942
2. Location: The project is located at 189 Seaside Ave in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue. The project is bounded by the K-mart shopping center to the north, Seaside Circle to the south, a residential property to the east, and Reservation Road to the west. The mitigation site is located to the south of the BT Development property across Seaside Ave at Locke-Paddon Park.
3. CDFG case number: 2081-2001-011-03
4. Assessor's Parcel Number: APN 331-111- 007

B. Introduction

This Restoration Plan has been prepared to mitigate for the loss of upland dune habitat as a result of the proposed Holiday Inn Express Project at the corner of Reservation Road and Seaside Circle in Marina, CA. The property is degraded and dominated by Hottetot fig (*Carpobrotus edulis*) but also contains Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). State Listing is pursuant to Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered and Threatened species of plants and animals. Federal listing is pursuant to the Federal Endangered Species Act of 1973. This plan has been prepared to fully mitigate as required by the City of Marina General Plan, California Environmental Quality Act (CEQA), California Endangered Species Act, and the Federal Endangered Species Act.

Impacts Assessment

The project involves the development of a Holiday Inn Express. The total area to be developed is, according to the parcel maps, 1.78 acres (77,684 ft²) including road and grading easements. Through consultation with the California Department of Fish and Game (CDFG), it has been determined that the sensitive habitat within the area to be developed is 1.52 acres (measured with GIS). In 1998, Kathleen Lyons of Harvey & Stanley Associates prepared a "Rare Plant Survey Report" (appendix 8) and found 448 sand gilia plants within four separate areas on the project site totaling 0.14 acres (566 m²). Kevin Merk of Zander Associates surveyed the project site in 1999, and reported 805 sand gilia (*Gilia tenuiflora* ssp. *arenaria*) found within two areas totaling 0.38 acres (1,538 m²). In 2001 Dale Hameister of Rana Creek Habitat Restoration found 42 sand gilia plants within one area of 0.005 acres (20.9961 m²). Also in 2001, Monterey spineflower was found by Dale Hameister in fragmented areas totaling approximately 2,500 ft² (232 m²) within the 1.52 acre sensitive habitat area (size of distributions were measured with GPS). Appendix 1, Map 4, Oct 19, 2001 shows the rare species distribution on the site from each survey. The sensitive species occur in patches of open sand between areas dominated by non-native Hottentot fig. The remaining area of the project (referred to as the panhandle) contains Eucalyptus trees, Hottentot fig, and other non-native invasive species, and is not used in the calculations to determine mitigation amounts.

Species Wide Range

In the 1988 *Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly*, The U.S. Fish and Wildlife Service summarize that *Chorizanthe pungens* var. *pungens* is known from seven occurrences with as many as 1.2 million individuals, the apparent majority of them at Fort Ord (USFW 1998). The same report also summarizes that as of 1998, *Gilia tenuiflora* ssp. *arenaria* is known from 15 extant occurrences with 110,400 individuals. The tables of occurrences are included in appendices 2 and 3.

Mitigation

Mitigation will entail establishment and management of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke-Paddon Park of the Monterey Peninsula Regional Parks District (MPRPD) directly across the street from the property to be developed. An agreement with MPRPD for this use can be found in Appendix 10. The area available for restoration at the park is 3.55 acres (see Appendix 1, Map 3).

This plan describes the methods and techniques to restore, protect, propagate, and monitor native plant components of upland dune scrub habitat including Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) on MPRPD property which, when success criteria are met, fully mitigates for the loss of habitat on the site to be developed.

Environmental Review

The City of Marina has accepted the previously approved 1988 Marina Landing Shopping Center EIR as adequate Environmental Review for the property.

state-listed threatened or endangered species; and California Native Plant Society list 1B species with extensive portions (i.e. greater than 10 percent) of their known range within the Marina Planning Area.

4.112 Within areas identified as supporting sensitive habitat(s), the following requirements shall apply:

1. With the expectations of areas where an approved Habitat Management Program (HCP) allows development without restrictions, and for structures erected to maintain, restore or enhance sensitive habitat and species, require discretionary approval for all new structural and road development proposed within sensitive habitat areas or on sites supporting sensitive species and habitat.

2. Site and design those new structures or roads which may be allowed within designated Habitat Reserves or other sensitive habitat areas as to minimize adverse impacts upon habitat areas. They may entail site plan modification and/or the inclusion of appropriate mitigation measures developed by biologists, soil engineers, or hydrologists (e.g. erosion and storm drainage controls, wildlife culverts, and grading imitations.) Specific requirements shall govern the design and construction of California Avenue where it passes through the UC Natural Reserve System.

4.113 Within areas for which there is an approved (HMP) or (HCP) and where avoidance of significant impacts is not feasible as determined through discretionary review, a seasonal avoidance and/or salvage/relocation program for certain species and habitat areas should be established or undertaken, as appropriate, prior to site development.

4.114 Where new development may remove all or a portion of identified sensitive habitat in an area not subject to an approved HCP, and where no less environmentally damaging alternative can be feasibly implemented, comparable habitat should be restored either on-site or off-site on a two-to-one basis (e.g. two acres of habitat shall be restored for every acre of habitat removed).

4.115 Except where possible "take" of sensitive species is allowed (and may be mitigated in compliance with state and federal laws, regulations, and other applicable legal mechanisms such as approved HCP or HMP), the city shall designate all areas identified as supporting sensitive habitat as "Habitat Reserve," and, where occurring on private property, it shall ensure protection through easements, dedications, or other appropriate legal means.

End text from City of Marina General Plan

These provisions of the Marina General Plan pertain to both the Federally Threatened Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*). The existing population this year (2001) was surveyed using GPS equipment and integrated into a GIS based map (Appendix 1 – Map 4). The area of rare plant habitat on the property is 1.52 acres. Per section 4.114 of the Marina General Plan, the Restoration Area, which totals 3.55 acres, is adequate to mitigate for the proposed development.

The Marina General Plan does not designate California black legless lizard (*Anniella pulchra nigra*) as a sensitive species. California black legless lizard is a California Species of Concern, and must be afforded protection under CEQA. Surveys were conducted to determine the presence of legless lizards on the site. None were found. See sections II, B; IV, D; and Appendix 9 herein for details of the lizards surveys and plans for extensive searching for potentially occurring lizards prior to construction.

Fish and Game Code

2052.1. The Legislature further finds and declares that if any provision of this chapter requires a person to provide mitigation measures or alternatives to address a particular impact on a candidate species, threatened

species, or endangered species, the measures or alternatives required shall be roughly proportional in extent to any impact on those species that is caused by that person. Where various measures or alternatives are available to meet this obligation, the measures or alternatives required shall maintain the person's objectives to the greatest extent possible consistent with this section. All required measures or alternatives shall be capable of successful implementation. This section governs the full extent of mitigation measures or alternatives that may be imposed on a person pursuant to this chapter.

2081. The department may authorize acts that are otherwise prohibited pursuant to Section 2080, as follows:

(b) The department may authorize, by permit, the take of endangered species, threatened species, and candidate species if all of the following conditions are met:

(1) The take is incidental to an otherwise lawful activity.

(2) The impacts of the authorized take shall be minimized and fully mitigated. The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation. For purposes of this section only, impacts of taking include all impacts on the species that result from any act that would cause the proposed taking.

This plan provides methods to fully mitigate the take of listed species on the development site, and to create/enhance habitat in the restoration area that is more diverse in native species and has higher ecological function than the site to be developed.

This plan will be included as supporting documentation for required California Fish and Game Incidental Take Permit §2081. The permit will enable the project proponent to collect, propagate, and transplant the listed species.

C. Summary of Project

The project includes the development of a Holiday Inn Express, parking area, and driveway as approved by the Marina City Council and certified by the City of Marina Project Approval Certificate dated April 16, 2001.

The existing habitat to be developed is comprised of remnant inland dunes mostly invaded by non-native annual grasses and Hottetot fig. The habitat is surrounded by urban growth and bounded by streets and development. Removal of the sand gilia and spine flower would occur for construction of a proposed Holiday Inn Express on the BT Development project site. Onsite mitigation is not feasible given the limited size and location of the property. There would be little ecological value in preserving or enhancing habitat on site. CDFG concurs with this finding during a site visit and consultation with the applicant. Therefore, offsite mitigation is proposed. An appropriate offsite mitigation area was identified in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is historical hind dune scrub habitat in Locke-Paddon Park, which is located on the south side of Seaside Ave, across the street from the property to be developed (see Appendix 1 – Map 3). The mitigation site will have extensive invasive species control, and be planted with native dune scrub species including Monterey spineflower and sand gilia. The project will also include environmental education in the form of informative signage within the park, and a brochure available to visitors of the hotel. The site is appropriate because it currently contains remnant colonies of Monterey spineflower.

D. Regulatory Jurisdiction

Lead Agency
City of Marina Planning Department
211 Hillcrest Avenue
Marina, CA 93933

California Coastal Commission
Central Coast Area Office
725 Front Street, Suite 300
Santa Cruz, CA 93960

Application for §2081 permit submitted to:
Robert Floerke
California Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Deborah Hillyard
California Department of Fish and Game
P.O. Box 1388
Morro Bay, CA 93422

E. Short term schedule

Restoration work shall proceed upon approval of the plan and issuance of a §2081 permit. Exotic species control will occur during the fall and winter of 2001, with restoration implementation scheduled to begin the winter of 2002.

II. EXISTING CONDITIONS

A. Vegetation/Habitat Description

The California Native Plant Society Inventory of Rare Vascular Plants of California (2001) and The California Department of Fish and Game California Natural Diversity Database was utilized for identification of known populations of State and Federal listed rare, threatened and endangered plant species on or in the vicinity of the project site. Plant identification was validated utilizing The Jepson Manual (Hickman 1993). Cultivar species were identified utilizing the Sunset Western Garden Book.

The site to be developed is highly degraded remnant upland dune scrub. Hottetot fig (*Carpobrotus edulis*), an invasive iceplant from South Africa, dominates the BT Development property. There are a few scattered silver bush lupines (*Lupinus chamissonis*), California sagebrush (*Artemisia californica*), and mock heather (*Ericameria ericoides*) shrubs on the property. Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) occur in some of the open patches of sand between areas of Hottetot fig. The restoration receiver site is located on upland habitat on the adjacent Locke-Paddon Park. Non-native grasses and forbs that will be controlled prior to planting of

the native dune plants dominate the park site. There are a few scattered coyote brush and mock heather shrubs in the restoration area, as well as areas of native dune swale vegetation and Monterey spineflower that are to remain. These areas are to be protected during exotic species control and during operation of heavy machinery. Further biological information can be found in the Appendices 4-8.

Table 1. - Vascular plant list of the BT Development Property Observed by Dale Hameister on January 10, 2001, and on further visits in March 2001.

Scientific Name	Common Name
<i>Acacia melanoxylon</i> *	blackwood acacia
<i>Anaphalis margaritacea</i>	pearly everlasting
<i>Anthemis cotula</i> *	mayweed (dog fennel)
<i>Artemisia californica</i>	coast sagebrush
<i>Avena fatua</i> *	slender wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Bromus diandrus</i> *	ripgut brome
<i>Camissonia cheiranthifolia</i>	beach primrose
<i>Cardionema ramosissimum</i>	Sandmat
<i>Carpobrotus edulis</i> *	hottentot fig (ice plant)
<i>Ceanothus</i> 'Julia Phelps' **	Julia Phelps' ceanothus cultivar
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower
<i>Conicosia pugioniformis</i> *	Conicosia
<i>Conyza canadensis</i> *	Horseweed
<i>Cortaderia jubata</i> *	Pampas grass
<i>Croton californicus</i>	Croton
<i>Cupressus macrocarpa</i> **	Monterey cypress
<i>Eriogonum giganteum</i> var. <i>giganteum</i> *	Santa Catalina Island buckwheat
<i>Erodium cicutarium</i> *	red-stemmed filaree
<i>Eschscholzia californica</i>	California poppy
<i>Eucalyptus globulus</i> *	blue gum
<i>Fremontodendron californicum</i> X**	flannelbush cultivar
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	sand gilia
<i>Hirschfeldia incana</i> *	summer mustard (<i>Brassica geniculata</i> *)
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	barnyard foxtail
<i>Lessingia filaginifolia</i>	common beach aster
<i>Limonium bonduellii</i> *	statice
<i>Lotus scoparius</i> var. <i>scoparius</i>	deer weed
<i>Lupinus chamissonis</i>	silver beach lupine
<i>Pennisetum clandestinum</i> *	Kikuyu grass
<i>Pinus radiata</i> **	Monterey pine
<i>Plantago cornopus</i> *	cut-leaved plantain
<i>Rumex acetosella</i> *	sheep sorrel
<i>Sonchus asper</i> *	spiny sowthistle
<i>Vulpia bromoides</i> *	six-week fescue
<i>Vulpia microstachys</i> *	Nuttal's fescue

* Introduced Non-native Species

** Introduced Native California Species



Figure 1. The property to be developed, dominated by Hottentot fig (iceplant) and sheep sorrel.



Figure 2. Sand gilia amongst invasive Hottentot fig and native beach aster.



Figure 3. A single silver beach lupine amongst the Hottentot fig.



Figure 4. The restoration site in Locke-Paddon Park.

B. Rare, Threatened, or Endangered Species

Federally Threatened Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and the State Threatened and Federally Endangered sand gilia (*Gilia tenuiflora* ssp. *arenaria*) exist on the site to be developed. State Listing is pursuant to Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered and Threatened species of plants and animals. Federal listing is pursuant to the Federal Endangered Species Act of 1973.

Detailed survey for the California black legless lizard (*Anniella pulchra nigra*), a California Species of Concern, were conducted on the property by Linda Kuhn of ABA Consultants. Ms. Kuhn is one of the local experts on California legless lizards and is permitted to handle them by the California Department of Fish and Game. No lizards were found in the surveys. The lizard survey report is appended (Appendix 9).

C. Level of Existing Disturbance

The native habitats of The City of Marina have historically been impacted by the construction and grading for houses and roads, and exotic species invasions. Habitat on site to be developed is constrained by roads and residential development and dominated by exotic species.

D. Enhancement/Restoration Potential

Restoration will occur on an area of Locke-Paddon Park (MPRPD) that is currently dominated by European annual grasses and forbs. MPRPD staff has approved the location of the restoration area. The topsoil sand of the area to be developed is to be salvaged and applied in a thin layer over the restoration area in order to preserve the existing seed bank of the rare species. After the restoration implementation, the resulting dune scrub area will have a much higher habitat value than the BT Development property that is being mitigated for. The primary benefit of the restoration will be to establish a reproducing, self-sustaining population of each of the listed plant species, which have declined in recent years; gene pool preservation is a required element, and can be accomplished in the course of implementing this project through salvage of topsoil from the hotel site. The secondary benefit will be the creation of upland dune scrub habitat as mitigation for the area to be developed in an area of a public park that is currently dominated by exotics.

III. GOALS

A. Revegetation/Restoration Goals

1. Mitigate impacts to areas containing sensitive plants
2. Eradicate and control exotic non-native pest plants
3. Plant the dominant species represented in the plant community found in the Marina Dunes Area. The plants will be established throughout the Restoration Area.

4. Establish a self-sustaining population of Monterey spine flower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) which if successful would fully mitigate the loss of these species as a result of the proposed hotel development.
5. Monitor and report on the efficacy of the restoration program.
6. Provide environmental education through signage and brochures to enhance the public awareness and sensitivity to the values of preserving dune environments and rare species.

IV. IMPLEMENTATION PLAN AND SPECIFICATIONS

A. Responsible Parties

Party responsible for implementation, monitoring and maintenance:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942
(831) 384-4081

B. Project Constraints

The primary constraints pertaining to native species revegetation are: collection of limited quantities of site-specific listed plant materials, establishment of slow growing, long-lived native species, and large populations of exotic pest plants. Given the understanding of these constraints, the Restoration Contractor will conduct appropriate site preparation and revegetation activities to mitigate for potential constraints.

C. Schedule

The seed collection of listed species and restoration program shall be conducted starting with the issuance of CDFG §2081 permit, Coastal Development Permits, and approval of the Restoration Plan from the City of Marina. Exotic species control will occur throughout the restoration implementation process, with restoration implementation scheduled for the fall of 2001/winter 2002. Additional planting will be done the following fall if needed to reach success criteria.

D. Legless lizards

Patricia Anderson of the California Department of Fish and Game, visited the site to be developed and reviewed the protocol for the searching and, if found, the capturing and relocation of legless lizards.

1. Lizard Protocol Accepted by the City of Marina

The City of Marina City Council has approved the following protocol regarding legless lizards:

Option 3

Prior to grading and site preparation, a survey for potentially occurring legless lizards shall be conducted. The survey method will entail a team of qualified individuals lightly dragging a plastic rake through the duff under shrubs. Method of transport includes the following protocol.

- a. Place each captured lizard in a small (e.g., 12" x 6" x 5" plastic container (with a lid; e.g., Tupperware) that has been filled with sand collected from the site. Place one lizard per container. The lid of the container shall be punctured with small air holes.
- b. Do not place the container in direct sunlight.
- c. Release all lizards in an adjacent receiver site at the base of mature shrubs such as lupine and/or mock heather.
- d. Release lizards onto receiver sites no more than three hours after capture.

2. Additional Lizard Protocol Agreed to by BT Development

Through consultation with Linda Kuhn and herpetologist Dr. Steven Ruth of the Ventana chapter of the Sierra Club, BT Development has agreed to the following additional actions regarding legless lizards.

The protocol to capture and relocate any potentially occurring black legless lizards from the site to be developed prior to construction will be:

A team of eight (8) experienced people, led by Dale Hameister of Rana Creek Habitat Restoration (CDFG Scientific Collecting Permit 801148-03), will clear and extensively search lightly raking with potato rakes and hand searching areas of woody shrubs including silver bush lupines (*Lupinus chamissonis*), California sagebrush (*Artemisia californica*), mock heather (*Ericameria ericoides*), and non-native Santa Catalina buckwheat (*Eriogonum giganteum*). The team will also search selected areas of iceplant. An experienced lizard monitor will also be present during initial grading to recover any potentially occurring legless lizards in areas not search by the eight member team.

If no lizards are found, we recommend proceeding with the construction of the Holiday Inn Express project.

If 1-25 legless lizards are recovered, they will be held by a qualified and experienced personnel in temporarily housing legless lizards, until a suitable release site is approved. The site will be selected based on factors contributing to viable habitat including sand type, organic content of sand, insect fauna, proximity to the project site, and the ability to obtain permission of the property owner. A

survey will not be done to determine the population of lizards at the relocation site. A relocation plan will be prepared and approved by California Department of Fish and Game, and the City of Marina.

If 25- 50 lizards are found a survey will be done in the proposed relocation site to determine if there is potential for exceeding the carrying capacity of legless lizards at the site prior to preparing a relocation plan.

If 50 or more lizards are found, the same protocol as 25-50 will be followed with the addition of a pit tagging program to track the lizards in their new environment.

If any lizards are found, the method of transport include the following protocol:

1. Place each captured lizard in a small (e.g., 12" x 6" x 5" plastic container (with a lid;) that has been filled with sand collected from the site. Place one lizard per container. The lid of the container shall be punctured with small air holes.
2. Do not place the container in direct sunlight.
3. Release all lizards in the approved receiver site at the base of mature dune plants such as lupine and/or mock heather. Lizards are to be released in locations that provide sufficient cover of duff and insect fauna. Lizards are not to be released in groups. Individual lizards are to be released spaced throughout the release site. The reason for this is to avoid over crowding and also the concentration of a single sex of lizard in one site can result in potential breeding problems as they have a small home range.

E. Salvaging, Stockpiling

1. Plants - Non-listed native plants occurring on-site with a high feasibility of successful will be harvested and propagated at a qualified native plant nursery, and/or on-site under the care of a qualified horticulturist and reintroduced to the mitigation site.
2. Soils / Sand – There is the opportunity to relocate some of the sand from the construction site to the mitigation site. The top soil (approximately 6 inches to 1 foot) of sand of the property to be developed is to be removed, stockpiled, and retained. Additional sub-soil sand that is to be removed to provide for the proper grade for the proposed hotel could then be moved to the mitigation site, and placed within the restoration area to increase the mounding typical of natural dunes. The topsoil from the construction site will then be spread over the top of the relocated sub-soil in the restoration area. It is hoped that this will help with the anticipated weed problem. This will also preserve the existing seed bank of Monterey spineflower and sand gilia of the area to be developed and relocated it to the restoration area. As specified in this plan, a qualified biologist will be present during the initial grading and sand removal to recover any potentially occurring black legless lizards.

F. Fencing and Limiting Pedestrian Access to the Restoration Area

Fencing shall be installed around the perimeter of the restoration area and along both sides of the existing paved trails, which go through the restoration area. The fencing shall be approximately 3 feet tall and consist of a single rope or plastic coated cable suspended between 4x4 wood posts at 8 foot centers similar to the fencing used at the dune restoration sites at Marina State Beach and Spanish Bay. Signage indicating to pedestrians to keep out of the sensitive restoration area and that dune scrub restoration is in progress shall be installed at highly visible location on the perimeter of the restoration area and along the trails within the restoration area. Educational signage informing the public about rare species being preserved and the dune scrub habitat will also be installed. A mockup and/or draft design of the signage and fencing shall be approved by The Monterey Peninsula Regional Parks District prior to installation. The existing picnic tables within the restoration area shall be moved to the area just north of the restoration area near Seaside Circle per consultation with MPRPD. There shall be no pedestrian traffic within the restoration area except on existing paved trails.

G. Weed Eradication

Weed control is the most important process for successful establishment of native plants, and will often result in natural regeneration of native plant populations. There are several introduced exotic pest plants that occur in the mitigation site and threaten native plant recruitment. They include slender wild oats (*Avena fatua*), ripgut brome (*Bromus rigidus*), ice plant (*Carpobrotus edulis*), and sheep sorrel (*Rumex acetosella*). The non-native species within the Restoration Area shall not be allowed to seed. This will ensure a continual decline of the non-native species in the Restoration Area, and an eventual depletion of the seed bank of non-native plants.

No spraying shall be done in areas that contain sand gilia, and Monterey spineflower during the growth and flowering period between March and the beginning of June of each year, depending on when all the seed has matured. In areas of sand gilia, and Monterey spineflower, hand pulling will be done to control non-native species.

The specified spray mix is as follows:

Herbicide: active ingredient *glyphosate* (Round-up®, or equal)

Water: clean and free of particulate matter (*glyphosate* adsorbs on clay particles)

Surfactant: Triton Ag 98 or equal

Dye: Blazon agricultural dye

Ingredient rates as specified by manufacturer.

Personnel providing spray services shall be fully trained in such operations, and shall wear all required protective clothing. The spray contractor shall carry all licenses and insurance required by the State of California and all other governmental agencies having jurisdiction. The spray contractor shall also be responsible for notification of all parties regarding application of chemical herbicide, as is required by law.

H. Protection of Native Plant Species within the Restoration Area

1. Protection during herbicide application activities

Prior to the application of herbicide, the spray contractor shall become thoroughly familiar with native plant species that are growing in exotic weed colonies within the restoration area, which are to be protected. The areas of particular concern are the native dune swale areas near the paved trail in the southeastern corner of the restoration area and the area containing Monterey spineflower along the eastern edge of the restoration area. (Appendix1 - Map 3, Oct 19, 2001) The monitoring biologist is required to provide familiarity training using photographs, on-site identification, marking with pin flags or flagging tape, and any other techniques necessary to convey specific identification. The contractor shall thereafter provide any and all appropriate measures necessary to protect identified native plants, such as shielding of plants with rolled plastic sheeting, while adhering to all applicable health and safety codes for worker protection. The biological monitor shall be on-site during spray operations. No spraying shall be done in areas with sand gilia or Monterey spineflower between March and the beginning of June of each year.

2. Protection during heavy equipment operation

Prior to the application of topsoil from the property to be developed to the restoration area as referenced in section IV. E on page 13, the construction contractor shall become thoroughly familiar with native plant species that are growing in exotic weed colonies within the restoration area, which are to be protected. The areas of particular concern are the native dune swale areas near the paved trail in the southeastern corner of the restoration area and the area containing Monterey spineflower along the eastern edge of the restoration area. (Appendix1 - Map 3, Oct 19, 2001) No sand shall be deposited on these areas. These areas are to be fenced with 4 foot green plastic temporary construction fencing prior to heavy equipment operation within the restoration area. The fencing may be removed prior to planting after all the sand is placed and there is no more need for the use of heavy machinery within the restoration area.

3. Protection from feral ducks and geese

The success of the sand gilia establishment is dependent upon the plant's ability to produce seed. Many of the sand gilia of the property to be developed had been grazed during the flowering period by ducks or geese that live and/or visit the pond at Locke-Paddon Park. Because of this, as new sand gilia sprout, wire mesh cages could be used to protect the plants from grazing during the flowering and seeding stages. Cages will be used if the project biologist determines a need to protect the sand gilia from the geese and ducks. The cages could also protect the sand gilia from rabbits and ground squirrels. The cages shall be constructed from fine mesh chicken wire and anchored with u-shaped pins/staples.

I. Plant Materials

All plant material requirements are provided in the following tables. Plant species, application rates, and estimated quantities are provided. Plants shall be propagated from site-specific collection and local ecotypes.

The rare species sand gilia and Monterey spineflower will not be included in the hydroseeding. The entire seed bank of both annual species will be moved to the restoration area. This will be combined with minimal seedling planting of both species in areas of the Restoration Area that are not heavily covered with the topsoil of the site to be developed. Seed for these seedlings will be collected sparingly from local areas.

Table 2 - Plant Materials

Scientific Name	Common Name	Size	Plant Spacing	Quantity	Quantity plus 10% to allow for mortality
<i>Armeria maritima</i>	Sea thrift	6" cone	14" spacing in colonies	200	220
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower	plug	20" spacing in colonies	500	550
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	Sand gilia	plug	20" spacing in colonies	200	220
<i>Leymus mollis</i>	American dunegrass	6" cone	14" spacing in colonies	500	550
<i>Poa douglasii</i>	Dune bluegrass	6" cone	14" spacing in colonies	500	550

Table 3 - Seed

Scientific Name	Common Name	Application Rate (lbs. per acre)	Quantity (lbs.)	Quantity plus 10% to allow for mortality (lbs.)
<i>Achillea millefolium</i>	Common yarrow	1.2	4.3	4.7
<i>Artemisia californica</i>	California sagebrush	4.0	14.2	15.6
<i>Artemisia pycnocephala</i>	Beach sagewort	4.0	14.2	15.6
<i>Cammissonia cheiranthifolia</i>	Beach primrose	3.5	12.4	13.7
<i>Croton californicus</i>	Croton	1.5	5.3	5.9
<i>Ericameria ericoides</i>	Mock heather	5.0	17.8	19.5
<i>Erigeron glaucus</i>	Seaside daisy	5.0	17.8	19.5
<i>Eriogonum parvifolium</i>	Dune buckwheat	5.0	17.8	19.5
<i>Eschscholzia californica</i> var. <i>maritima</i>	Beach poppy	2.0	7.1	7.8
<i>Lessingia filaginifolia</i>	Beach aster	1.5	5.3	5.9
<i>Lotus scoparius</i> var. <i>scoparius</i>	Coast deer weed	1.5	5.3	5.9
<i>Lupinus chamissonis</i>	Silver bush lupine	2.0	7.1	7.8

J. Plant Handling

Plants salvaged from the project site shall be excavated with the entire root structure intact. Plants shall be placed in nursery containers and propagated until transplanted to the revegetation receiver sites.

K. Direct Planting

Nursery grown plants and transplants shall be planted into areas where weed control has been implemented. The plants shall be placed in excavated basins and backfilled. The soils shall be firmly compressed at the base of the plant to preserve moisture. Each plant shall be watered after planting to a soil moisture depth of 14 inches.

L. Hydroseeding

The majority of the planting will be done from seed with a hydroseeder. This is for economic reasons, as the plants will not have to be grown in a nursery. Seed shall be uniformly mixed placing seed, water, mulch, fertilizer, and tackifier into the mix tank. Seed shall be applied in a slurry of seed, mulch, fertilizer and a plantago based tackifier. Mixing time shall not exceed 45 minutes from the time the seed contacts the water until the entire batch is discharged onto the prepared soil. Mix specified seed with 150 pounds per acre "Gro-Power" 12-8-8 slow release fertilizer, if deemed necessary by the restoration contractor, 2,000 lbs./acre wood fiber mulch, and 100 lbs./acre "M" binder tackifier. Fertilizer may not be needed, and often only encourages weeds, as the native dune plants do not need additional nutrients to grow in sandy soil.

V. SITE MAINTENANCE

A. Irrigation

No irrigation shall be used for the establishment and management of vegetation.

B. Inspection During Implementation, Frequency

Inspection shall occur during all phases of the revegetation program. The inspections shall: 1) ensure protection of extant habitat, 2) verify total sq. footage revegetated, 3) determine and report on plant salvage operations, and 4) evaluate the effectiveness of revegetation plan implementation.

C. Fencing Maintenance

Inspections shall include both temporary fencing during restoration implementation, and the permanent fencing along the walking paths after implementation. If there is any damage to the fencing, it shall be reported and repaired.

D. Evaluation and Reporting of Maintenance Activities

Maintenance activities shall be monitored and a report prepared describing the results of the restoration program. These observations will be incorporated into the required monitoring reports.

VI. MONITORING

A. Introduction

The monitoring procedures and performance criteria are based on the goal of fully mitigating the loss of threatened and endangered species as a result of the proposed development. Monitoring shall be done by a qualified biologist to monitor and report on the efficacy of the restoration program and to ensure performance standards and success criteria are met.

Monitoring reports shall include both quantitative and qualitative evaluation. At the least, quantitative measurements shall record a census of listed plants, native plant cover percentages, and exotic plant cover percentages. If the report should identify a failure to meet the performance standards, the report shall include appropriate recommendations for achieving these standards.

All restoration measures shall be implemented within one (1) year of the Coastal Commission's action on the application request, and the issuance of CDFG §2081 permit, or by such other date as is specified. Monitoring is to begin one year after the planting/seeding of the Restoration Area, and continue for at least 5 years after that point. Project monitoring and reporting shall continue until all success criteria have been met. If after 5 years of monitoring, success criteria cannot be met, then the Coastal Commission and DFG should be consulted to reevaluate the reasons for non- success, recommend remedial measures, and/or consider redefining the success criteria.

The objective of the restoration and enhancement is to provide information how to best manage and establish dune scrub vegetation. Monitoring the results will help determine if alternative vegetation establishment and management are needed based on the success or failure of planting and care. Adaptive management will focus on implementation costs, efficacy of exotic plant control, and levels of success or failure of the prescribed management. If prescribed planting or weed control programs fail to achieve anticipated trends or thresholds of success, alternative management will be prescribed.

B. Reporting Results

1. The restoration areas will be monitored by a qualified biologist.
2. The biologist will monitor on a quarterly basis the site conditions and exotic weed coverage.
3. The biologist will monitor the presence and numbers of the listed species in the spring annually.
4. The biologist will monitor the coverage and density of the planted non-listed species annually in the spring.
5. Reports submitted annually by September 15 will include both quantitative evaluation and photo-documentation.
6. If the report should identify a failure to meet any of the stated performance standards or success criteria, or failure to meet any other standards consistent with current professional dune

restoration standards, the report shall include appropriate recommendations for initiating the remedial measures to achieve the standards.

7. All reports shall be signed and dated.

C. Agencies to Receive Reports

All reports specified in this plan shall be submitted for the review and approval of the City of Marina, California Department of Fish and Game, United States Fish and Wildlife Service, and the Coastal Commission.

D. Development of Performance Standards and Success Criteria

Intermediate performance standards and long-term success criteria have been provided in order to achieve listed and non-listed species on site that would allow for the continuance of the habitat.

Areas of the rear dunes of the Marina dunes, both restored and native stands, containing good dune scrub habitat attributes including high species richness (of at least 10), low non-native plant cover (lower than 10%), and high native cover (at least 40%) will be used as a reference.

Sand gilia

The performance standards and success criteria for sand gilia herein are based on the number of plants referred to in the *Sand Gilia Mitigation Plan* (Zander Associates 1999). The Zander Associates plan describes mitigation for removal of 805 sand gilia (*Gilia tenuiflora* ssp. *arenaria*) found within two areas totaling 0.38 acres (1,538 m²). In 1998, Harvey & Stanley Associates found 448 sand gilia plants within four separate areas on the project site totaling 0.14 acres (566 m²). In 2001 Dale Hameister of Rana Creek Habitat Restoration found only 42 sand gilia plants within one area of 0.005 acres (20.9961 m²). The areas mapped during the three sand gilia surveys can be seen on Map 4. This fluctuation of populations may be due to a combination of factors including the variability of the species, impacts from herbivores especially the feral ducks and geese of the pond across the street, and an increase in cover of non-native Hottentot fig on the property.

The success criteria for the sand gilia are based on the density of plants that would result in calculating the highest numbers recorded by Zander (805) divided into the potential sensitive habitat area (1.52 acres or 66,211 ft²) which gives a target plant density of one plant per 82 ft². A plant density of one plant per 82 ft² would result in 1,885 plants for the total restoration area (3.55 acres or 154,638 ft²). This will result in more than doubling the highest recorded sand gilia population of the property to be developed thus fully mitigating that loss if the restoration is successful.

Monterey Spineflower

Zander reported that there were 1,821m² of Monterey spineflower habitat with a density of 10-20 plants per m². This could be more than 18,000 plants. As the spineflower on the site tends to grow only in the open sandy patches between the Hottentot fig, it is unlikely there were that many individuals. During the 2001 surveys, the Monterey spineflower on the property to be developed was surveyed using GPS equipment. Within the 1.52 acre (66,211 ft²) sensitive plant area, 2,500 ft² contained Monterey spineflower.

The success criteria for the Monterey spineflower are based on the density info from Zander and the available habitat estimated (2,500 ft² or 235 m²). This would result in a baseline of 2,350-4,700 plants, or an average of 3,525 (density times available habitat) for the 1.52 acres. The resulting density would be about 1 plant per 19 ft² (3,525 plants within the 66,211 ft² sensitive habitat area). Multiplied out for the 3.55 acres Restoration Area (154,638 ft²) would result in success criteria of 8,232 plants.

E. Performance Standards

During the first year the seeded and planted native plants will compete with a large seedbank of exotic species. Therefore, performance standards target survivorship of total numbers of plants planted and effective maintenance. In addition, these standards act as thresholds that trigger remedial measures.

1. During the first and second years of restoration, the planting shall result in an average plant density of one (1) Sand gilia per 123 ft² averaged over the entire planting area, which equals approximately 3.55 acres. This is two thirds of the target density. Calculating this target density for the whole 3.55 acre restoration area, intermediate success shall be determined when the population equals 1,257 in size.
2. During the first and second years of restoration, the planting shall result in an average plant density of one (1) Monterey spineflower per 28 ft² averaged over the entire planting area, which equals approximately 3.55 acres. This is two thirds of the highest density of the site to be developed. Calculating this target density for the whole 3.55 acre restoration area, intermediate success shall be determined when the population equals 5,488 plants in size. The plants currently in the restoration area will be included in this calculation.
3. During the first year of restoration the percent cover of non-listed native plants will be no lower than 20%.
4. During the second year of restoration the percent cover of non-listed native plants will be no lower than 30%.
5. During the first and second years of restoration, exotic weed control shall show less than 5% cover.

F. Success Criteria

Vegetation is not constant. Over time, climatic conditions and variable plant reproductively will affect the ecological outcome. Our goal is to establish self-sustaining vegetation and reproductive populations of the listed species. Given that natural populations are highly variable, success criteria will target minimum population size and minimum vegetation cover; these standards also act as thresholds that trigger remedial measures.

1. Beginning the third year of restoration and continuing until success criteria have been met in three consecutive years without the need for replanting, a minimum sustainable population size of 1,885 sand gilia will be established and self perpetuating. Evidence of sand gilia reproduction and natural recruitment shall be present.
2. Beginning the third year of restoration, and continuing until success criteria have been met in three consecutive years without the need for replanting, a minimum sustainable population size of 8,232 Monterey spineflower will be maintained. Evidence of natural recruitment shall be present.
3. Overall native cover shall be at least 40% after 3 years.
4. Beginning in the third year of restoration cover of non-native plants shall not exceed 1% of restoration area; this standard must be met for three consecutive years. Non-native plants shall not be allowed to flower/set seed.
5. Individuals of sand gilia shall be permanently protected from herbivores until such time as a population of 1,885 individuals is sustained without protecting individual plants from effects of grazing by rabbits and/or geese from the nearby pond.
6. Erosion and trampling are not apparent.
7. Fences and signs are in good condition.

G. Monitoring Methodology

The goal of monitoring the dune scrub vegetation is to determine if success criteria are being met. All monitoring shall be done by a qualified biologist.

Monitoring Procedures

1. To measure vegetative cover, point-intercept line transect data shall be collected from at least 10 transects of 50 meters each, with 50 points on each transect. A long tape (150-200 meters) shall be placed across the Restoration Area. At a random interval, 50-meter transects will be placed perpendicular to the 150-meter tape. A random number table can be used to determine (1) the point on the 150-meter tape at which each 50-meter transect intercepts the tape; and (2) the point on the 50-meter tape at which it crosses the 150-meter tape. No placement shall be done such that the transect extends beyond the Restoration Area. For each 50-meter transect, a

pin shall be dropped each meter, and each species encountered by the pin shall be recorded. For each pin drop which does not encounter vegetation, the point will be recorded as a "hit" on either litter or sand.

The data will be summarized to include: the number of hits on each native plant species (by species); the number of hits total which encountered native plant species (this would equal the sum of all the hits by species); the number of hits on each non-native plant species (by species). In addition, the number of hits (total) which encountered one or more species of native plants; the number of hits on litter; the number hits on bare sand. The sum of the last three (the number of hits which encountered one or more species of native plants, the number of hits on litter, the number of hits on bare sand) should total 50.

a. Sample size determination

After 10 transects have been sampled, the mean cover of native non-listed plant species will be calculated (the number of pin drops which resulted in hitting one or more species of native plants); and the standard deviation calculated. Those values will be used to determine the number of samples needed to estimate the mean cover of native non-listed species with 95% confidence intervals that are within 10 % of the estimated true value, using the formula:

$$n = \frac{(Z_{\alpha})^2 (s)^2}{(B)^2}$$

where: n = the uncorrected sample size

Z_{α} = standard normal coefficient for 95% confidence level (1.96)

s = standard deviation

B = desired precision level (10% of the sample mean)

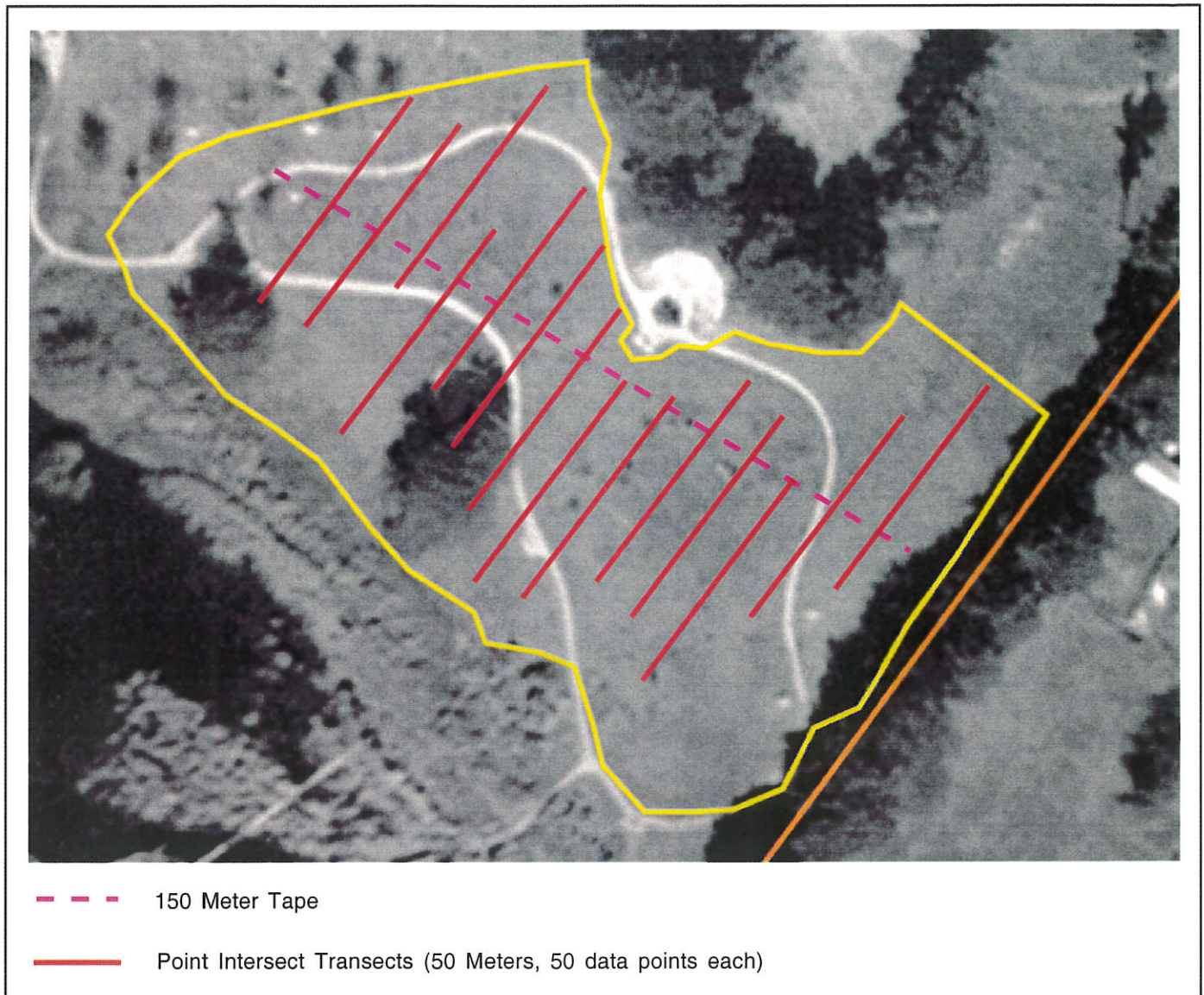


Figure 5. Potential sampling pattern, with 50m intercept transects taken randomly along the 150 -200 meter tape.

2. A census of the two listed species shall be conducted. This will include counting each individual plant within the Restoration Area during the spring flowering/seeding time.
3. Damage from natural causes (i.e. erosion or herbivores) and humans (i.e. trampling) shall be described and appropriate remedies suggested.
4. Photo points shall be established and photo shall be taken at each monitoring visit.
5. The conditions of the cages, fences, and signs shall be monitored.
6. Any erosion, both from wind and rain will be assessed.

Listed Species

The goal of monitoring the listed species is to determine if success criteria regarding numbers of individuals of the listed species are being met. Counting the individuals of both listed species will take place annually beginning one year after the planting; all individuals within the restoration area will be counted. Visual inspection of protective cages will occur quarterly. As both of these species are annuals, the numbers are expected to fluctuate from year to year.

Site Integrity

The site will be inspected quarterly to determine that impacts to the restoration area are not occurring, and protective measures are intact.

H. Analysis of Monitoring Data

The data gathered from the point intercept method will be used to determine the percent cover of native vs. non-native species, and bare sand or litter.

Once data from transects has been summarized, an estimate of the mean cover of native non-listed species and mean cover of non-native species will be calculated; and 95% confidence intervals will be calculated for each mean. Mean cover of native non-listed species is the number of pin drops per transect which resulted in hitting one or more native non-listed plant species. Mean cover of non-native plant species is the number of pin drops per transect which resulted in hitting one or more non-native plant species.

Performance standards have been met when mean cover by native non-listed species is greater than 20% in the first year and greater than 30% in the second year; and when mean cover by non-native species is less than 5% in the first or second year. Success criteria have been met when the estimated mean cover by native non-listed species is greater than 40% for three consecutive years; and the estimated mean cover of non-native species is less than 1% for three consecutive years.

I. Remedial Measures as they relate to Performance Standards

1. During the first and second years of restoration, if the planting does not result in an average plant density of one (1) sand gilia per 123 ft² averaged over the entire planting area and if the population drops below 1,257 in size, then remedial seed collection, propagation, and planting shall take place.
2. During the first and second years of restoration, if the planting does not result in an average plant density of one (1) Monterey spine flower per 28 ft² averaged over the entire planting area and the population drops below 5,488 in size, then remedial seed collection, propagation, and planting shall take place.
3. During the first second year of restoration, if the planting does not result in 20% cover of non-listed native plants, or 30% during the second year, then remedial seed collection, propagation, and planting shall take place.

4. If during the first and second years of restoration, exotic weed control shows more than 5% cover, then immediate weed control activities shall take place.
5. If at any time during construction and restoration the restoration site is impacted by construction, unauthorized access, trespass, or other unauthorized activities, the applicant shall take all steps necessary to remedy the impacts including but not limited to: installation of permanent fencing, notification to MPRPD, and CDFG if trespass or impacts occur, and increasing the monitoring of the site.

J. Remedial Measures as they relate to Success Criteria

1. If by the third year, a minimum sustainable population of 1,885 sand gilia are not established and reproducing and there is no evidence of sand gilia seedlings from planted seeds, then collection, propagation, and planting shall be repeated until this success criterion is met. If by the fifth year, the success criteria cannot be achieved, the applicant shall consult with CDFG.
2. If by the third of year, a minimum sustainable population of 8,232 Monterey spine flower are not established and reproducing and there is no evidence of spine flower seedlings from planted plants, then collection, propagation, and planting shall be repeated until this success criterion is met. If by the fifth year, the success criteria cannot be achieved, the applicant shall consult with CDFG.
3. If after 3 years, overall native cover does not equal at least 40% for three consecutive years, then remedial collection, propagation, and planting shall occur.
4. If after the third year of restoration, if cover of non-native plants exceed 1% of restoration area, then the non-native plants shall be completely removed. Non-native plants identified shall not be allowed to flower and produce seed.
5. If the restoration site is impacted by construction, unauthorized access, trespass, or other unauthorized activities, the applicant shall take all steps necessary to remedy the impacts including but not limited to; installation of permanent fencing, notification to CDFG if trespass or impacts occurred, and increasing the monitoring of the site.
6. If protective cages fail to protect individuals of sand gilia from grazing, additional protection or repair of cages shall be conducted.
7. If fences or signs are damaged or failing, they will be repaired.

V. ASSURANCES

A. Funding Source

This project, including propagation, monitoring, and maintenance program will be bonded to the estimated costs for all restoration activities until such time as the activities are completed to the

satisfaction of The City of Marina, Monterey Regional Parks District, CDFG, and The Coastal Commission. Typically the owner will submit a Certificate of Deposit or other type of surety in a form subject to approval of the City of Marina at least three weeks prior to final inspection. The amount of deposit will be equal to the estimated cost of maintenance and monitoring of the mitigation project over the term of the project. If the owner does not meet the obligation in a timely fashion, the City shall have the Authority to use the surety to implement this mitigation plan.

B. Performance Agreement

A restoration and maintenance agreement shall be developed between the person and organization implementing the restoration and monitoring program and the owner/agent. The agreement shall contain the terms and conditions as set forth in the specifications herein, and an annual budget. A copy of the agreement shall be submitted to City of Marina, California Department of Fish and Game, and the Coastal Commission.

C. Long-term Measures and Responsibility

The party responsible for protection measures and for the 5 years of monitoring is B.T. Development Company L.L.C. After the success criteria are met, Monterey Peninsula Regional Parks District will be responsible for the maintenance of the restoration area.

D. Financial Surety

This project, including propagation, restoration, monitoring and maintenance program, will be bonded to the estimated costs for all restoration activities until such time as the activities are completed to the satisfaction of City of Marina, California Department of Fish and Game, and the Coastal Commission's Executive Director. The owner will submit a Certificate of Deposit or other type of surety in a form subject to approval of the City of Marina. The amount of deposit will be equal to the estimated cost of maintenance and monitoring of the mitigation project over the five-year term of the project. If the owner does not meet the obligation in a timely fashion, the City shall have the authority to use the surety to implement this mitigation plan.

References

- California Department of Fish and Game. *Natural Diversity Database, Special Animals*. January 2001.
- California Department of Fish and Game. *Natural Diversity Database, Special Vascular Plants and Bryophytes, and Lichens List*. January 2001.
- California Department of Fish and Game. *California Endangered Species Act*. 1984.
- The California Native Plant Society Inventory of Rare Vascular Plants of California. 2000.
- City of Marina. *Project Approval Certificate*. April 16, 2001.
- City of Marina. *Staff Report*. October 12, 2000.
- Earth Metrics Incorporated. Environmental Impact Report for the Proposed Marina Landing Shopping Center Project. 1988.
- Elizinga, Caryl L. Ph.D., Dniel W. Salzer, and John Willoughby. Measuring & Monitoring Plant Populations. Bureau of Land Management. Denver, CO. 1998
- Firma. *The Dune Habitat Restoration Plan for the Marina Dunes Resort Hotel*. 2000.
- Harvey and Stanely Associates, Inc, *Rare Plant Survey Report*. 1988.
- Hickman, James C. ed. 1996. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley.
- Hillyard, Deborah. California Department of Fish and Game. *Personal Communication*. 2001
- U.S. Fish & Wildlife Service, *Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly*. 1998.
- Zander and Associates, *Biological Resource Assessment*. 1999.
- Zander and Associates, *Sand Gilia Mitigation Plan*. 1999.

Appendix 1 - Maps

Map 1 – Vicinity Map

Map 2 – Property Map

Map 3 – Dune Scrub Restoration Plan

Map 4 – Rare Species Map

Map 5 – Legless Lizard Survey Map



Pacific
Ocean

Highway 1

Del Monte Blvd

Reservation Road

City of Marina



Legend

Aerial Photo - December 1999

-  BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
-  Dune Scrub Restoration Area (3.55 acres)
-  Locke-Paddon Park

Map 1 - Vicinity Map
November 12, 2001



RANA CREEK
HABITAT RESTORATION

Holiday Inn Express Project



Aerial Photograph - June 2000

Legend

- City of Marina Parcel Lines
- BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
- Dune Scrub Restoration Area (3.55 acres)
- Locke-Paddon Park



Map 2 - Property Map
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District



200 0 200 400 600 800 1000 Feet

Aerial Photograph - June 2000

Legend

- Sensitive Habitat on the BT Development Company L.L.C. Property and Easements - 1.52 acres
- BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
- Dune Scrub Restoration Area - 3.55 acres
- Locke-Paddon Park
- Monterey Spineflower (*Chorizanthe pungens* var. *pungens*) within restoration area to be protected from heavy equipment
- Carex dominated native swale to be protected from heavy equipment



Map 3 - Dune Scrub Restoration Plan
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District



Aerial Photo - December 1999

100 0 100 200 Feet



Legend

- Monterey Spineflower (*Chorizanthe pungens* var. *pungens*) Rana Creek Habitat Restoration 2001
- Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Rana Creek Habitat Restoration 2001
- Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Zander Associates, 1999
- Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) Harvey and Stanley Associates, 1988
- Sensitive Habitat on the BT Development Company L.L.C. Property and Easements - 1.52 acres
- BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres



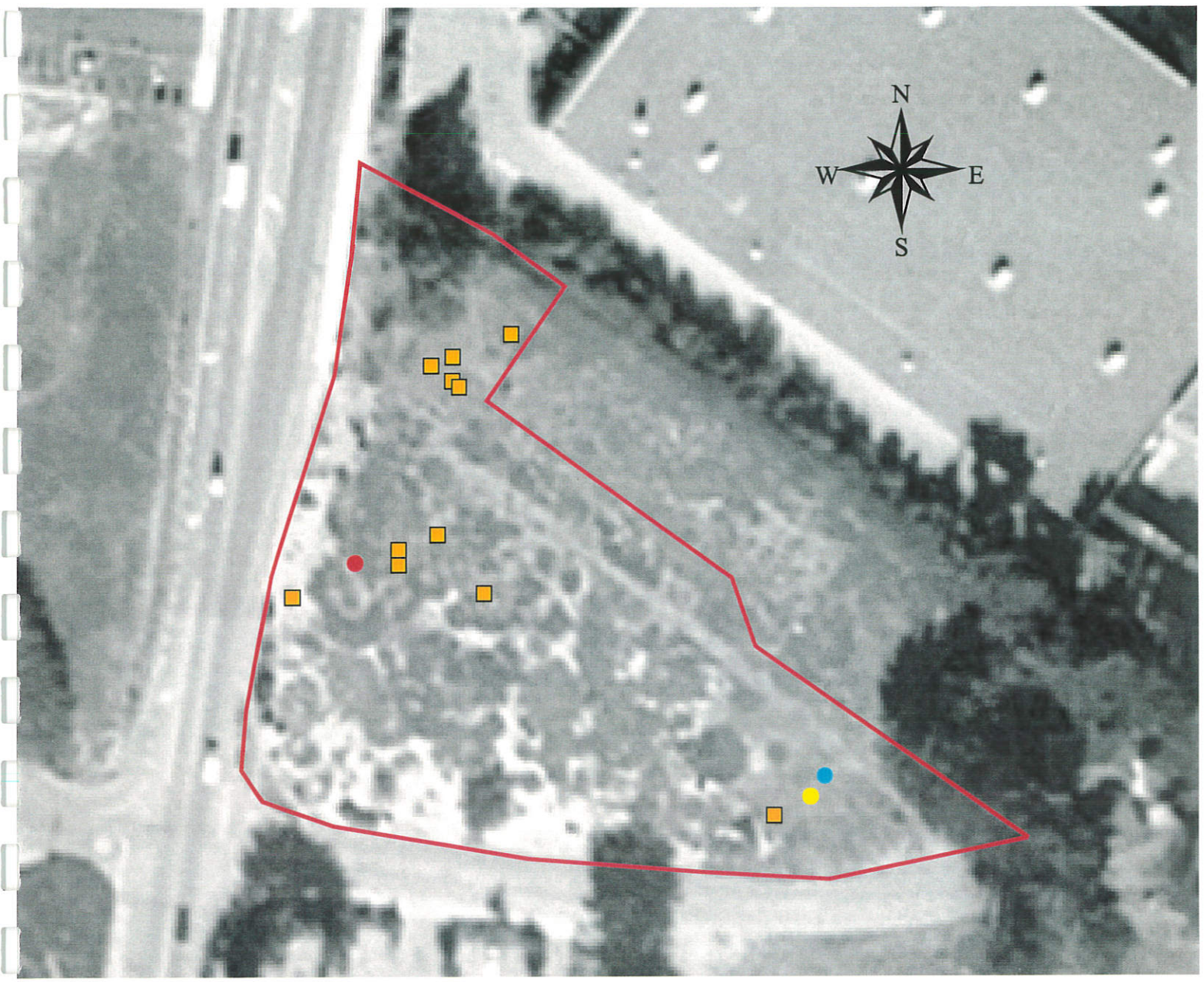
Map 4 - Rare Species Map
November 12, 2001

Holiday Inn Express Project



RANA CREEK
HABITAT RESTORATION

Locke-Paddon Park
Monterey Peninsula Regional Parks District



Aerial Photo - December 1999

Legend

- BT Development Company L.L.C. Property with Slope and Road Easements - 1.78 acres
- Lizard Survey 1
- Lizard Survey 2
- Lizard Survey 3
- Lizard Rake Locations

**No Legless Lizards
Were Found.**

Map 5 - Legless Lizard Survey Map
November 12, 2001

Holiday Inn Express Project



**RANA CREEK
HABITAT RESTORATION**

**Locke-Paddon Park
Monterey Peninsula Regional Parks District**

Appendix 2

Chorizanthë pungens var. *pungens* Occurrence Table

From The U.S. Fish and Wildlife Service
*Recovery Plan for Seven Coastal Plants and the
Myrtle's Silverspot Butterfly*, 1998

Table 3. Summary of Occurrence Data for *Chorizanthe pungens* var. *pungens*

Occurrence¹ and Location	Approximate Size (hectares)²	Number of Individuals	Ownership
NDDB No. 3 (NDDB Nos. 11,22, 23) Ft. Ord, Monterey County	—	Herbarium sheets (1919, 1988[2])	to transfer from DOD
NDDB No. 4 Point Pinos, Monterey County	62.3 hectares (153.9 acres)	Herbarium sheet (no date)	Unknown
NDDB No. 5 Cypress Pt., Monterey Co.	—	Herbarium sheet (1940)	Unknown
NDDB No. 6 Arroyo Seco, Monterey Co.	—	Herbarium sheet (1920)	Unknown
NDDB No. 7 Manzanita Park, Monterey County	12.1 hectares (29.9 acres)	Herbarium sheet (1989)	County of Monterey
NDDB No. 8 Naval Postgraduate School, Monterey County	11.3 hectares (27.9 acres)	— (1992)	U.S. Department of Defense (DOD)
NDDB No. 10 Pacific Grove, Monterey County	—	Herbarium sheet (1908)	Unknown
NDDB No. 12 Pajaro River, Monterey County	—	Herbarium sheet (1936)	Unknown
NDDB No. 13 Seaside, Monterey County	—	Herbarium sheet (1950)	Unknown
NDDB No. 14 Watsonville Junction, Monterey County	—	Herbarium sheet (1936)	Unknown
NDDB No. 16 Marina Dunes, Monterey County	4.5 hectares (11.1 acres)	Map (1987)	Private
NDDB No. 17 Marina Dunes, Monterey Co	—	Map 1987)	Private
NDDB No. 18 Marina Dunes, Monterey Co	5.7 hectares (14.1 acres)	Map (1987)	Private

Table 3. Summary of Occurrence Data for *Chorizanthe pungens* var. *pungens* (Cont.)

Occurrence¹ and Location	Approximate Size (hectares)²	Number of Individuals	Ownership
NDDB No. 19 Manresa State Beach, Santa Cruz County	—	50 (1986)	DPR
NDDB No. 20 Castroville, Monterey Co.	—	Herbarium sheet (1929)	Unknown
NDDB No. 21 Moss Landing, Monterey County	23.5 hectares (58.1 acres)	Herbarium sheet (1952)	Unknown
NDDB No. 24 Del Rey Oaks, Monterey County	—	Herbarium sheet (1988)	Unknown
NDDB No. 25 Marina Dunes, Monterey County	—	Map (1987)	Private
NDDB No. 26 San Simeon, San Luis Obispo Co.	—	— (1842)	Unknown
Fort Ord Monterey County	4,224 hectares (10,456 acres)	14,000,000± (1992)	DOD
Sunset State Beach, Santa Cruz County	10.0 hectares (24.7 acres)	—	DPR
Day Valley, Santa Cruz County	<0.1 hectare (<0.25 acre)	100–1,000 (1994)	Private
Freedom Blvd., Santa Cruz County	2.0 hectares. (4.9 acres)	1,000+ (1994)	Private
East Bellmar Drive, Santa Cruz County	0.1 hectares (0.25 acre)	10,000 (1994)	Private
Cox Road, Santa Cruz County	<0.1 hectares (0.25 acre)	100 (1994)	Private
Marina State Beach, Monterey County	10.0 hectares (24.7 acres)	1,000+ (1994)	Marina State Beach (DPR)
TOTAL	6,402+ hectares. (26,837+ acres)	14,012,000+	

¹ Occurrences are identified by numbers listed in the 1997 CDFG NDDB when available.

² A dash (—) indicates no data are available at this time.

Appendix 3

Gilia tenuiflora ssp. arenaria

Occurrence Table

From The U.S. Fish and Wildlife Service
Recovery Plan for Seven Coastal Plants and the
Myrtle's Silverspot Butterfly, 1998

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria*

Occurrence¹ and Location	Approximate Size (hectares)²	Number of Individuals	Ownership
NDDB No. 1 Spanish Bay Golf Course, Monterey County	8.0 hectares (19.8 acres)	700–1,000 (1993)	Pebble Beach Company
NDDB No. 2 Naval Postgraduate School Dunes, City of Monterey	11.0 hectares (27.2 acres)	1498 (1991) 1950 (1986) 8–13,000 (1993)	DOD, U.S. Navy
NDDB No. 3 Tioga Ave., City of Sand City	—	10,000 (1986) 5,000 (1987) 25,000 (1993)	Private
NDDB No. 4 Marina State Beach, Monterey County	10.0 hectares (24.7 acres)	10,000 (1985) 300 (1986) 20 (1992) 325 (1993)	DPR
NDDB No. 5 Salinas River State Beach, Monterey County	10.0 hectares (24.7 acres)	<10,000 (1985) 10,000 (1986) 1,665 (1987) 13,500 (1993)	DPR
NDDB No. 6 Spanish Bay Golf Course, Monterey County	—	Extirpated	Pebble Beach Company
NDDB No. 10 Del Rey Oaks, Monterey County	—	50 (1985) Extirpated (1996)	Unknown
NDDB No. 11 Spanish Bay Golf Course, Monterey County	—	Extirpated	Pebble Beach Company, transplanted occurrence,
NDDB No. 12 Fort Ord, Monterey County	—	Map (1992)	DOD
NDDB No. 13–19 Fort Ord, Monterey County	—	Map (1992)	DOD
NDDB No. 20 Fort Ord, Monterey County	(420 acres)	42,600 (1993) 2 million (1995)	DOD

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria* (Continued).

Occurrence¹ and Location	Approximate Size (hectares)²	Number of Individuals	Ownership
NDDDB No. 21 Fort Ord, Monterey County	(9.4 acres)	515 (1993)	DOD
NDDDB No. 22 Fort Ord, Monterey County	—	20 (1992)	DOD
NDDDB No. 23 Reservation/Seaside Monterey County	0.01 hectares (0.02 acre)	500 (1994)	Private
NDDDB No. 24–26 Marina/Reservation Road Monterey County	—	Report (1987)	—
NDDDB No. 27 Marina Dunes Monterey County	5.9 hectares (14.8 acres)	2,295 (1987)	Private
NDDDB No. 28 Marina, Monterey County	—	Report (1987)	—
NDDDB No. 29 Mulligan Hill, Salinas River Lagoon, Monterey County	4.0 hectares (9.9 acres)	3,000–5,000 (1993)	Private (Scattini and Sons)
NDDDB No. 30 Watertower Hill, Moss Landing, Monterey County	4.0 hectares (9.9 acres)	400–600 (1993) 200–500 (1994)	Private

Table 8. Summary of Occurrence Data for *Gilia tenuiflora* ssp. *arenaria* (Continued).

Occurrence ¹ and Location	Approximate Size (hectares) ²	Number of Individuals	Ownership
NDDB No. 31 Fort Ord/Imjin, Monterey County	13.7 hectares (34.1 acres)	698 (1993)	DOD
NDDB No. 32 Asilomar State Park, Monterey County	5.0 hectares (12.4 acres)	550 (1993)	DPR
NDDB No. 33 Sunset State Beach, Monterey County	4.1 acres	5,000 (1995)	DPR
Sand Dollar Shopping Center, Monterey County	—	<200 (1994) (experimental)	Private: conservation easement
TOTAL	1,833.6+ hectares (4,531.2+ acres)	110,435+	

¹ Occurrences are identified by numbers listed in the 1997 CDFG NDDB where they exist.

² A dash (—) indicates no data are available at this time.

Appendix 4

Appended Biological Assessment for the Northwest Corner of the Property of Bart Bruno

Prepared by
Dale Hameister
Rana Creek Habitat Restoration
January 22, 2001

Appended Biological Assessment for the Northwest Corner of the Property of Bart Bruno (APN 331-111- 007)

Prepared for:
B.T. Development Company L.L.C.
P.O. Box 2317
Monterey, CA 93942

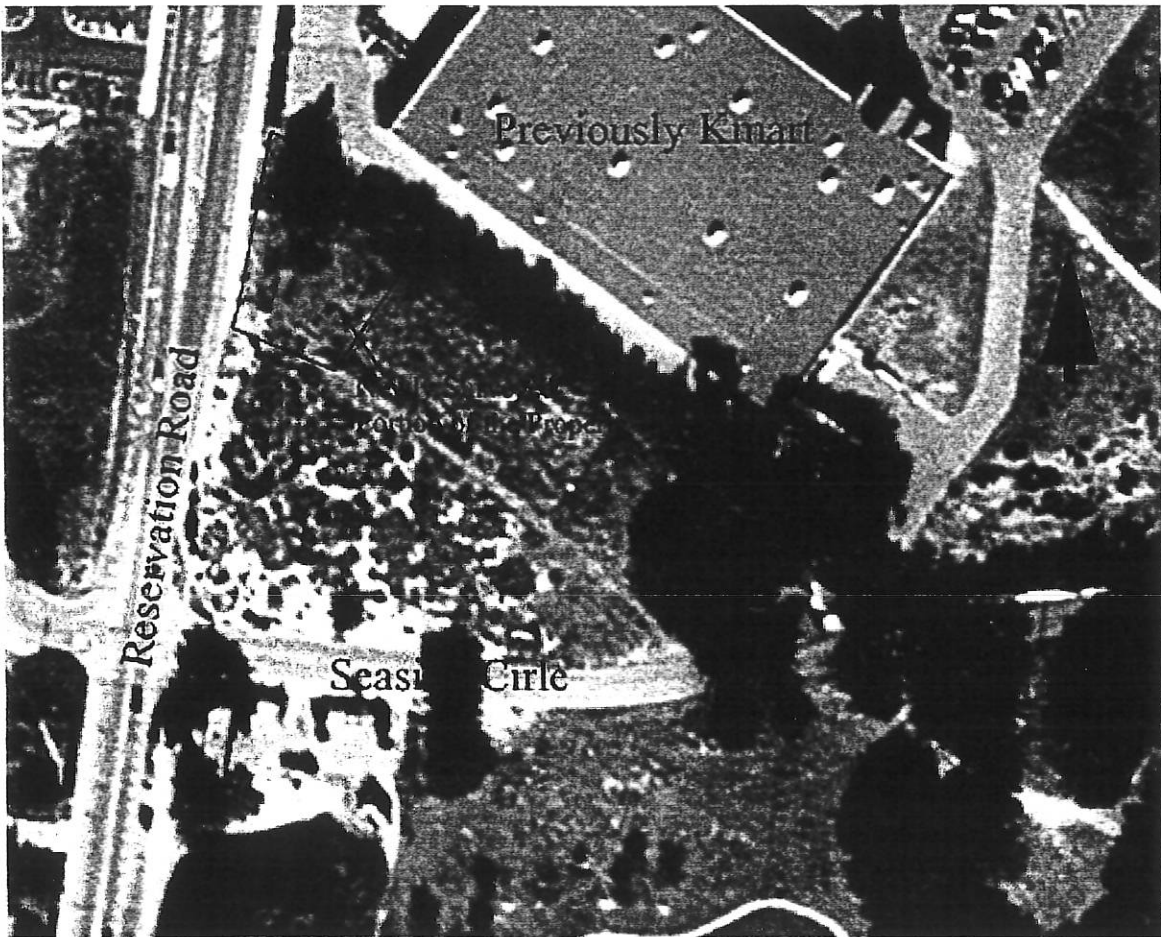
Prepared by
Dale Hameister
Rana Creek Habitat Restoration
January 22, 2001



I. SUMMARY

This appended additional biological assessment is to support the California Department of Fish and Game §2081 permit application for the property of Bart Bruno at the corner of Reservation Road and Seaside Circle in Marina, CA (APN 331-111- 007). There is a small area at the northwest corner of the property that was not included in the initial survey. The area is at the western edge of Sub A Lot 39 and bordering Reservation Road. This survey focuses on the new area as well as giving an updated species list of the entire property.

The applicant proposes to develop the property, which is situated within Monterey County and therefore requires a biological assessment prior to approval of construction and/or development activity. A botanical survey was conducted January 10, 2001 by Dale Hameister of Rana Creek Habitat Restoration.



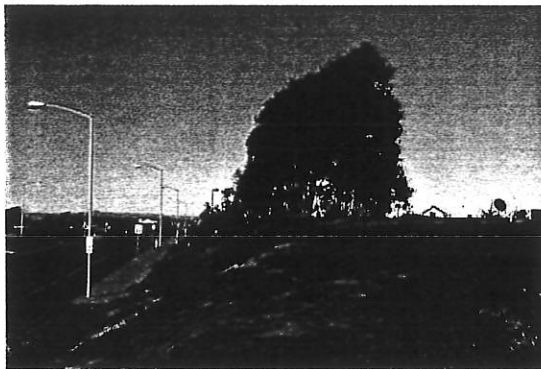
December 1999 Aerial photo of the property.

II. METHODS

The California Native Plant Society Inventory of Rare Vascular Plants of California (1994) and The California Department of Fish and Game California Natural Diversity Data Base was utilized for identification of known populations of State and Federal listed rare, threatened and endangered plant species on or in the vicinity of the project site. Plant identification was validated utilizing The Jepson Manual (Hickman 1993). Cultivar species were identified utilizing the Sunset Western Garden Book. The survey method was to walk over the entire property. A plant list was recorded.

III. VEGETATION

The vegetation of the parcel as a whole is highly degraded and dominated by invasive exotic species. The property is dominated by hottentot fig (*Carpobrotus edulis*). The area that had not previously been surveyed contains a small stand of blue eucalyptus (*Eucalyptus globulus*) and large patches of Kikuyu grass (*Pennisetum clandestinum*) both of which are extremely invasive non-native species. There are 3 large adult eucalyptus trees, and approximately 60 smaller trees. This is a sign of the invasive spreading nature of this Australian species. The previously identified Federally listed rare plants on the property, Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora* ssp. *arenaria*), were not present on the newly survey area. Remnants of last season's growth of spineflowers were present in the center of the greater property. Sand gillia was not found during the January 10, 2001 survey. Both of these rare plants are annuals and it may be too early in the season to determine their presence.



The newly surveyed northwest corner of the property and the understory of the eucalyptus dominated by hottentot fig.

IV. WILDLIFE

There is a pond to the south of the property that provides habitat for waterfowl, and is also a popular location for people to come feed the birds. Because of this there are several species that fly over the site, but do not necessary utilized the property as there is low habitat value and little food for most bird species. During the site visit, species of bird sited including California gull (*Larus californicus*), brewer's black bird (*Euphagus*

cyaenoccephalus), mallard duck (*Anas platyrhynchos*), and turkey vulture (*Cathartes aura*) were observed flying over the site. Other species seen in the parking lot across include domestic goose (*Anser "domesticus"*), American coot (*Fulica atra*), and Heermann's gull (*Larus heermanni*). There were a few California ground squirrel burrows present on the property, however none were in the newly surveyed area and no squirrels were seen during site visits. No amphibians were found at the site, and there are no areas suitable for breeding amphibians.

V. RARE, THREATENED OR ENDANGERED SPECIES

State Listing is pursuant to Section 1904 (Native Plant Protection Act of 1977) and Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. Federal listing is pursuant with the Federal Endangered Species Act of 1973. CEQA requires an inventory of plants listed as rare or endangered by the Inventory of Rare and Endangered Vascular Plants of California (CNPS 1994). In addition, the California Department of Fish and Game Natural Diversity Data Base was consulted for Monterey County.

Appropriate habitat and edaphic conditions were analyzed throughout the proposed building site. Prioritization of the survey locations was determined by 1) presence of suitable habitat, 2) associated species, and 3) geo-physical and soil characteristics. Species that were looked specifically for include: Yadon's rein orchid (*Piperia yadonii*), Seaside's birdsbeak (*Cordylanthus rigidus* ssp. *littoralis*), Monterey spine flower (*Chorizanthe pungens* var. *pungens*), Eastman's golden fleese, (*Ericameria fasciculata*), Sand gilia (*Gilia tenuiflora* ssp. *arenaria*), Monterey manzanita (*Arctostaphylos tomentosa*), and sandmat manzanita (*Arctostaphylos pumila*). These plants are found in other locations in Monterey County and are associated with sandy soils.

Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and sand gilia (*Gilia tenuiflora* ssp. *arenaria*), were not present on the newly surveyed area. Remnants of last season's growth of spineflowers were present in the center of the greater property. Sand gilia was not found during the January 10, 2001 survey. Both of these rare plants are annuals and it may be too early in the season to determine their presence.

The property was also surveyed for suitable habitat for "at risk" amphibians including Red-legged Frog (*Rana aurora draytonii*), the Yellow-legged Frog (*Rana boylei*), the California Tiger Salamander (*Ambystoma californiense*), and Santa Cruz long-toed Salamander (*Ambystoma macrodactylum croceum*). None of these species were found during the survey and most likely do not breed on the property, as there is no standing water.

VI. Results

The federally listed threatened species Monterey spineflower (*Chorizanthe pungens* var. *pungens*) is present on the greater property, but was not found on the newly surveyed northwest corner. (U.S. Fish and Wildlife Service ruling 50 CFR Part 17, RIN 1018--AB73).

VII. Conclusion

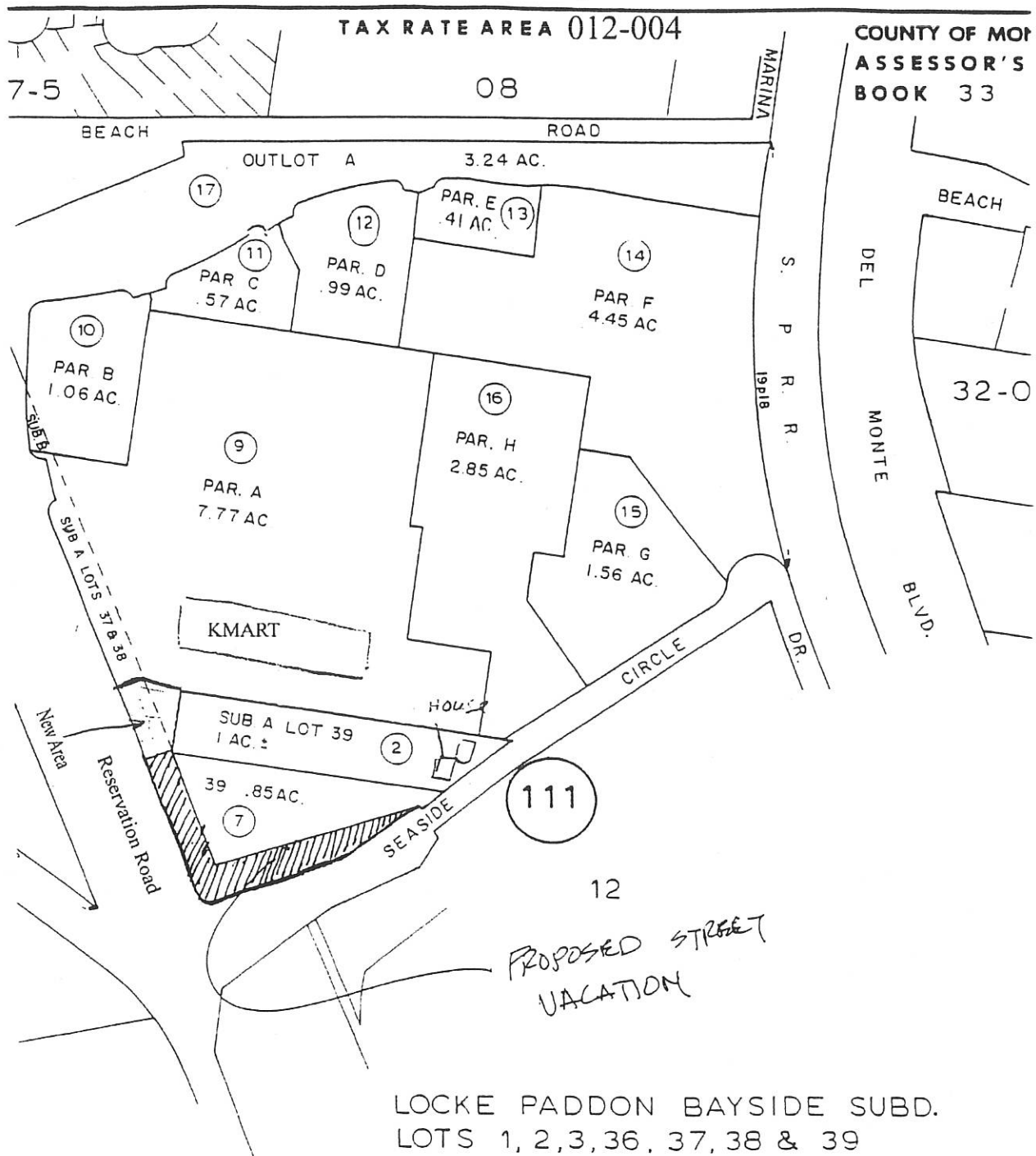
The property is highly degraded and dominated by invasive non-native species. No additional rare species were found on the newly survey portion of the property.

Vascular Plant List from the January 9, 2001 site visit.

Scientific Name	Common Name
<i>Acacia melanoxylon</i> *	blackwood acacia
<i>Anthemis cotula</i> *	mayweed (dog fennel)
<i>Artemisia californica</i>	coast sagebrush
<i>Avena fatua</i> *	slender wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Brassica nigra</i> *	black mustard
<i>Bromus diandrus</i> *	ripgut brome
<i>Cardionema ramosissimum</i>	sandmat
<i>Carpobrotus edulis</i> *	hottentot fig (ice plant)
<i>Ceanothus</i> 'Julia Phelps' **	'Julia Phelps' ceanothus cultivar
<i>Conicosia pugioniformis</i> *	conicosia
<i>Conyza canadensis</i> *	horseweed
<i>Cortaderia jubata</i> *	Pampas grass
<i>Croton californicus</i>	croton
<i>Cupressus macrocarpa</i> **	Monterey cypress
<i>Erodium cicutarium</i> *	red-stemmed filaree
<i>Eucalyptus globulus</i> *	blue gum
<i>Fremontodendron californicum</i> X**	flannelbush cultivar
<i>Lessingia filaginifolia</i>	common beach aster
<i>Limonium bonduellii</i> *	statice
<i>Lotus scoparius</i> var. <i>scoparius</i>	deer weed
<i>Pennisetum clandestinum</i> *	Kikuyu grass
<i>Pinus radiata</i> **	Monterey pine
<i>Plantago cornopus</i> *	cut-leaved plantain
<i>Rumex acetosella</i> *	sheep sorrel
<i>Sonchus asper</i> *	spiny sowthistle

* Introduced Non-native Species

** Introduced Native California Species



Appendix 5

Revised Mitigation Plan

Prepared by
Paul Kephart
Rana Creek Habitat Restoration
December 1999

Introduction

This mitigation plan describes revisions made to Sand Gilia Mitigation Plan (Zander Associates 1999). The plan describes mitigation for removal of 850 plants of federally Endangered and State threatened sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and in addition 900 spine flower (*Chorizanthe pungens* var. *pungens*) plants overlooked in previous surveys. The plan also provides detailed monitoring procedures, success criteria, and remedial measures absent from the previous plan as discussed with California Department of Fish and Game Plant Ecologist, Debra Hillard.

The Bruno project is located in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the K-mart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is approximately 0.85 acre at the top of a sandy knoll. The City of Marina's property is approximately 0.65 acre and it comprises the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue.

The existing habitat is comprised of remnant inland leeward dunes mostly invaded by annual grasses and ice plant. The habitat is surrounded by urban growth and bounded by streets and development. Removal of the sand gilia and spine flower would occur for construction of a proposed subdivision on the Bruno project site. Onsite mitigation is infeasible given the limited size and location of the property. There would be little ecological value in preserving or enhancing habitat on site. CDFG concurs with this finding during a site visit and consultation with the applicant. Therefore, offsite mitigation is proposed. An appropriate offsite mitigation area was determined in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is hind dune habitat on the Marina Dunes Open Space Preserve at the end of Dunes Drive in Marina, California (see photos appended). The MPRPD is currently restoring dune habitat in this area and the proposed mitigation site would add to the overall restoration acreage.

Goals and Objectives

1. Replace the number of sand gilia and spine flower individuals removed for development of the Bruno project site.
2. Achieve no net loss of sand gilia and spine flower.
3. Enhance approximately 0.75 acre of hind dune habitat on the Marina Dunes Open Space Preserve.

Mitigation Plan

The offsite mitigation area is located on the Marina Dunes Open Space Preserve at the end of Dunes Drive in the City of Marina. The mitigation area is approximately one mile from the Bruno project site. Vegetation composition on the mitigation site is similar to that of the Bruno site. Elements of two plant communities typical of the general area are present on the Bruno site, as well as the mitigation area.

The mitigation receiver site is comprised of bare sand/ice plant mix/scattered coastal scrub, and ruderal/disturbed. Although a larger area of the mitigation site is occupied by native shrubs such as mock heather (*Ericameria ericoides*) and coyote brush (*Baccharis pilularis* var. *consanguinea*), there is still a substantial amount of ice plant and other non-native species on the site.

To meet the proposed mitigation goals, approximately 1600 sand gilia and 1600 spine flower individuals will be propagated from seed collected in the vicinity and will be planted in the 0.75-acre mitigation area. Non-native plant species will be removed from the mitigation area to create appropriate planting areas for the targeted species. All of these activities will be supervised by a restoration specialist and will comply with measures required by the California Department of Fish and Game.

Plant Material Collection and Propagation

Sand gilia and spine flower will be collected from locally known populations in the vicinity of the mitigation area in the Marina Dunes. A sufficient quantity of seed will be collected and grown at Rana Creek Habitat Restoration Nursery. Plants will be grown in Super Stubby containers and will be sown in November or December for outplanting in February/March.

Site Preparation

The mitigation site will be prepared by removing non-native plant species within the 0.75 acre area. This will be accomplished with the use of herbicide and weeding tools in the areas devoid of native plants and hand pulling in other area occupied by native species. Non-native plant species in the mitigation area included: ice plant (*Carpobrotus* sp.), ripgut brome (*Bromus diandrus*), and wild radish (*Papaver sativa*).

Herbicide spraying and subsequent hand weeding shall occur prior to any planting of sand gilia. A qualified herbicide applicator with a strong knowledge of native plants will be chosen for any spraying that occurs on the mitigation site. Crews of laborers shall be used for hand weeding in the more sensitive areas where non-native crowd out the native species, and use of herbicide is impractical. The site shall be fenced to limit human access and signs posted to inform the public.

a survivorship of 85% of planted individuals. Assess density of recruiting individuals each year. Recruiting individuals shall equal at a minimum 1 plant per 400 sq. feet.

3. Monitor associated species cover, including exotic species and naturally recruiting native species. Maintain and annotate a list of all vascular plants on the site each year. Restoration shall show less than 10% cover of exotic species each year.

Monitoring Procedures

1. Impacts to site: Once the protective fence and signs are installed, visually inspect the perimeter of the mitigation area for adequacy of protective measures. Inspection shall occur not less than weekly during construction activities.
2. Monitor density, reproductive success and recruitment of the State and Federally listed species Sand gilia (*Gilia tenuiflora ssp. arenaria*), and Monterey spineflower (*Chorizanthe pungens var. pungens*).

Monitor associated species cover, including exotic species and bare sand.

In spring, estimate absolute cover for all species (and bare ground) within the receiver site area. Maintain and annotate a species list for each area for each year. Absolute cover for each species, according to Daubenmire cover classes, shall be recorded for each plot; absolute cover estimates should also be done for bare sand and exotics, if applicable.

Performance Criteria

Listed in Table A. are performance criteria for the State and Federally listed species Sand gilia (*Gilia tenuiflora ssp. arenaria*) and Monterey spineflower (*Chorizanthe pungens var. pungens*). The numbers correspond to the numbers of the monitoring goals (A. above) and monitoring procedures (B. above).

Analysis of Results

Assess number of individuals of the State and Federally listed Sand gilia (*Gilia tenuiflora ssp. arenaria*) and Monterey spineflower (*Chorizanthe pungens var. pungens*) surviving and reproducing. Assess cover of associated species, and bare sand using the mid-point value for the cover class of each species.

Performance Criteria:

Implementation of Restoration Measures: Monitoring and Performance Standards. All restoration measures shall be implemented within one (1) year of the CDFG's action on the application/amendment request or by such other date as is specified by the CDFG.

Intermediate Performance Standards

During the first and second years, the initial restoration performance standards target survivorship of specific numbers of plants installed, effective maintenance, and weed control.

1. During the first and second years of restoration, the planting shall result in an average plant density of one (1) sand gilia per 2 square ft. averaged over the entire planting area that equals approximately 32,670 square feet. Therefore, intermediate success shall be determined when the planted population equals 1660 in size.
2. During the first and second years of restoration, exotic weed control shall show less than 1 exotic plant per sq. meter.
3. During the first and second years of restoration, the planted individuals shall be protected throughout the restoration site.

Long-term- performance standards

Vegetation is not constant. Over time, climatic conditions and variable plant reproductively, will effect the ecological outcome. Our goal is to establish self-sustaining vegetation and reproductive populations of the listed species. Given that natural populations are highly variable, long-term performance standards target minimum population size that triggers remedial measures.

1. During the third, four, and fifth years of restoration, a minimum sustainable population size of 581 sand gilia will be established and self perpetuate the population. Evidence of naturally requiting seedlings shall be surviving and reproducing and represent no less than 35% of planted individuals.
2. During the third, four, and fifth years of restoration, exotic weed control shall show less than 1 exotic plant per sq. meter.
3. The site shall be permanently protected from impacts related to access, recreation, land use, or any other cause.

Remedial measures:

1. During the first and second years of restoration, if the population of planted individuals does not equal or exceed 1,660, then remedial collection, propagation, and planting shall occur.
2. During the first and second years of restoration, if exotic weeds exceed 1 exotic weed plant per meter, then exotic weed control shall be implemented.
3. If protection measures (i.e. signage and temporary fencing is not effective, install permanent protection around the site and/or plants.

TABLE A, PERFORMANCE CRITERIA

PARAMETER	METHOD OF MONITORING	FREQUENCY AND TIMING	PERFORMANCE CRITERIA	REMEDIAL MEASURE
No.1 Site protection	Inspect site and protective measures	Any site visit	Site protected from impacts-	Protections in place: no remediation needed- protections not in place repair fence/replace signs
No.2 State and Federally listed species Sand gilia (<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>) and Monterey spineflower (<i>Chorizanthe pungens</i> var. <i>pungens</i>) surviving and reproducing no less than 85% of planted individuals.	Census of individual seedlings and reproduction plants. Visual examination of flowering, seed set, seed production.	Twice annually- spring-summer (April-June) Spring and summer (April-June)	Numbers of Listed Species in restoration area without addition of seed/plants equivalent to plant survivorship and recruitment specified,	If falls below plant spacing, density, and numbers: reinitiate consultation with DFG for recovery.
2a. One plant at a density of 1 per 400 sq. feet.	Percent cover estimates	Spring (April-June)	Plants flowering, setting seed, and dispersing seed. Natural recruitment occurring.	Cover/number below targeted goal : repeat seed collection, propagation, and planting program; if below 3yr average for two consecutive years, reinitiate consultation with DFG
3a Exotic species not interfering with planted and restored areas.	Visual inspection	Any site visit	Exotic species > 10% and/or interfering with seaside bird's-beak	Exotics < 10%: no action Exotics > 10% or interfering: implement exotic plant removal. Update with any new observation

Remedial Actions

Remedial actions shall consist of the following:

1. If access and/or vandalism cause impacts to the receiver site, maintain and/or increase protective fencing and signing measures.
2. If more than 10% cover of non-native inhibiting weeds are present, hand-remove invasive plants.
3. If plant density falls below stated levels, reinitiate collected and planting program.

Reporting results

Restoration monitoring and reporting shall continue on an annual basis until the minimum standards have been achieved. These standards may be modified after (2) years, subject to prior approval from the Department of Fish and Game and the City of Marina, if the coastal biologist determines that the preceding standards cannot be feasibly maintained due to adverse natural conditions on the site. All reports shall be signed and dated.

Agencies to Receive Reports

All reports specified in this Order shall be submitted for the review and approval of the City of Marina, Monterey Peninsula Regional Parks District, California Department of Fish and Game, United States Fish and Wildlife Service. Such agencies shall have twenty (20) working days from the day of receipt of any report to inform the consulting biologist who prepared the report in writing that the report is not approved and to explain what needs to be done to correct any deficiencies. If such written objection is not sent within such period by any agency, the report will be determined to have been approved by that agency.

Maintenance Measures

Maintenance measures will consist of annual reduction of all exotic plants by hand weed control. Trash and litter will be removed from the site. Maintenance activities shall occur over the five-year period.

A restoration and maintenance agreement shall be developed between the person and organization implementing the maintenance program and the owner/agent. The agreement shall contain the terms and conditions as set forth in the maintenance measures and specifications, and an annual budget. A copy of the agreement shall be submitted to City of Marina, California Department of Fish and Game, and the United States Fish and Wildlife Service.

Protection Measures

Protection measures during the term of permit shall consist of 1) fencing, 2) signage, and 3) maintaining weed free conditions.

Contingency Plan

If the mitigation area appears that it will not the success criteria outlined above in any particular monitoring year, corrective actions may be recommended in the annual monitoring report. Corrective actions may include more intensive non-native plant eradication or significant replanting. At the end of the fifth year, the monitoring report will summarize the previous reports and evaluate the success of the project against the performance standards. Any areas that do not meet the success criteria will be remedies and, as appropriate, monitored until they are shown to meet the performance standards.

Responsibility and Funding

Monterey Peninsula Engineering will be responsible for funding the mitigation plan and monitoring and maintenance for five years following implementation. The funding will provide for the collection and propagation of sand gilia seed and spine flower, site preparation (weeding, herbicide application), plant installation, monitoring and maintenance for five years, and contingency measures, if required.

Appendix 6

Biological Resource Assessment

Prepared by
Kevin Merk
Zander Associates
March 2, 1999

ZANDER ASSOCIATES

Environmental Consultants

March 2, 1999

Mr. Bart Bruno
Monterey Peninsula Engineering
192 Healy Avenue
Marina, CA 93933

**Biological Resource Assessment
Bruno Project
Marina, California**

Dear Bart:

At your request, Zander Associates has completed an assessment of the existing biological resource conditions for your project site in Marina, California and we have evaluated the potential effects of the proposed project on those resources. This letter report provides the results of our assessment and evaluation.

The Bruno project site is located within the City of Marina on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the Kmart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is an approximately 0.85 acre area at the top of a sandy knoll with a southwesterly slope aspect. The City of Marina's property is composed of the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue. This parcel is approximately 0.65 acre.

Zander Associates conducted a reconnaissance-level field survey of the site on April 21, 1998 to characterize and map existing vegetation, and assess the potential for sensitive plant and animal species to occur on the site. Prior to our site visit, we reviewed existing information on biological resources in the project vicinity. Sources included the California Natural Diversity Data Base (CNDDB) (California Department of Fish and Game, 1998) for recorded locations of sensitive species on the Marina and Seaside quadrangles, and a Rare Plant Survey Report for the Marina Landing Development prepared by Harvey and Stanley Associates in 1988.

The field survey was conducted by systematically traversing the project area on foot. All plants observed on the project site were identified to species (Table 1). For any sensitive species located, a thorough assessment of the occurrence area was done to determine the numbers of individuals and their distribution. Following is a discussion of the results of our survey.

Mr. Bart Bruno
March 2, 1999
Page 2

Zander Associates

Existing Conditions

Elements of two plant communities typical of the general area are present on the project site (Figure 2): 1) bare sand / ice plant mix / scattered coastal scrub, and 2) ruderal / disturbed. The majority of the Bruno parcel is devoid of trees and shrubs, but there is a small cluster of California sagewort (*Artemisia californica*) and mock heather (*Ericameria ericoides*) near the southern boundary of the Bruno parcel. There are two Monterey cypress trees (*Cupressus macrocarpa*) on the City of Marina's parcel, as well as patchy occurrences of California sagewort and silver-bush lupine (*Lupinus chamissonis*).

The bare sand areas on the project site are separated by well developed patches of ice plant (*Carpobrotus edulis*), other non-native vegetation, and scattered patches of coastal scrub. The native plant species found in these areas include deer weed (*Lotus scoparius*), California croton (*Croton californica*), sand mat (*Cardionema ramosissima*), and common corethrogyne (*Corethrogyne filaginifolia*). Non-native plant species, other than ice plant, include scarlet pimpernel (*Anagalis arvensis*), sheep sorrel (*Rumex acetosella*), and sand spurry (*Spergula arvensis*). The sandy cut slopes on the City of Marina's parcel support a mixture of native and non-native species. Native plant species found in this area include silver bush lupine (*Lupinus chamissonis*), California sagewort, and California poppy (*Eschscholtzia californica*). Non-native plant species that have colonized these slopes include giant buckwheat (*Eriogonum giganteum*), statice (*Limonium sinuatum*), and woolly cat's ears (*Hypochaeris radicata*).

Disturbed areas also exist within the project boundaries and extend further north towards the Kmart shopping center. These disturbed areas are associated with an old access road that enters the site from Seaside Avenue and runs along the northern project boundary. This relatively small portion of the project site is densely vegetated with various non-native annual grasses and forbs including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), rattail fescue (*Vulpia myuros*), and red-stemmed filaree (*Erodium cicutarium*).

The project site provides habitat for wildlife species adapted to open sand and disturbed plant communities. Burrowing rodents such as the California ground squirrel (*Spermophilus beecheyi*) were identified during our site visit. Other rodents such as the pocket gopher (*Thomomys umbrinus*), and the house mouse (*Mus musculus*) could inhabit the dense growth of ice plant or disturbed vegetation. In more open areas, reptiles such as the western fence lizard (*Sceloporus occidentalis*) and northern alligator lizard (*Gerrhonotus coeruleus*) can be found. Birds such as Brewer's blackbird (*Euphagus cyanocephalus*), white-crowned sparrow (*Zonotrichia leucophrys*), and killdeer (*Charadrius vociferus*) would also be expected to forage on the site.

Sensitive Species

For the purpose of this assessment, sensitive species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act; those considered "species of concern" by the USFWS; those listed or proposed for listing as rare, threatened, or

Mr. Bart Bruno

March 2, 1999

Page 3

Zander Associates

endangered by the California Department of Fish and Game (CDFG) under the California Endangered Species Act; animals designated as "Species of Special Concern" by the CDFG; and plants occurring on lists 1 and 2 of the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 1994).

Based on our site survey and review of information on biological resources in the project vicinity, we have determined that the project site supports two sensitive plant species, sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and could potentially provide habitat for two sensitive animal species, the black legless lizard (*Anniella pulchra nigra*) and California horned lizard (*Phrynosoma coronatum frontale*). These species are discussed below.

Sand Gilia

Sand gilia is a federally listed endangered species and a state listed threatened species. It is a small, erect annual plant in the phlox family that typically blooms from March to May. Sand gilia prefers stabilized sandy soils in open, yet wind-sheltered areas. Previous physical disturbance to the sand seems to encourage germination in some areas, and healthy sand gilia populations may be found along old paths, in old vehicle tracks, or in areas where trenching has occurred. At present, this species is found in scattered populations in coastal dune scrub and maritime chaparral communities from Moss Landing to the Monterey Peninsula, and there is a large population of sand gilia on the former Fort Ord property (U.S. Army Corps of Engineers, 1992). Sand gilia was listed by both the federal and state governments because of its small number of known populations, limited distribution, and potential threat to its populations from development.

The project site was surveyed for rare plants in 1988 by Harvey and Stanley Associates. This survey was conducted after the Marina Landing project EIR (Earth Metrics, 1988) reported that the southwest knoll of the site contains "habitat similar to nearby locations where sand gilia populations have been reported." The Harvey and Stanley Associates' report (April 10, 1988) documented 448 individuals of sand gilia in four separate locations on the project site.

Approximately 805 sand gilia individuals were found occupying about 0.38 acre of the Bruno project site at the time of our field survey (Figure 3). About 85% of the individuals were in flower, and density levels varied from low (0-10 plants/m²) to high (>30 plants/m²).

Monterey spineflower

Monterey spineflower is a federally listed threatened species and a CNPS list 1B species. It is a small, prostrate annual of the buckwheat family. Monterey spineflower occurs scattered on sandy soils within coastal dune, coastal scrub, grassland, maritime chaparral, and oak woodland communities in the Monterey Bay region. Significant populations of Monterey spineflower representing upwards of 70 percent of the range of the plant were documented at the former Fort Ord (U.S. Army Corps of Engineers 1992).

Mr. Bart Bruno
March 2, 1999
Page 4

Zander Associates

Monterey spineflower appears to be a recent colonizer of the bare sand areas on the Bruno project site. None of the previous studies completed on the property identified Monterey spineflower. However, this species of spineflower was only recently listed as threatened (1994) and prior to that, it did not have any formal listing status. We observed Monterey spineflower in the central portion of the Bruno parcel during our April 1998 survey. Approximately 0.45 acre of medium density Monterey spineflower at a density of 10-20 plants/m² was estimated to be present on the project site.

Black Legless Lizard

This species was previously proposed for federal listing as threatened or endangered, but was withdrawn from proposed status on August 12, 1998. The black legless lizard is currently considered a "species of concern" by the USFWS, and is a CDFG Species of Special Concern. Black legless lizards live in a variety of vegetation types in dunes and sandy areas, and are most abundant in dune scrub habitats where native vegetation is present. They are fossorial animals that burrow in sand and leaf litter beneath plants growing in these habitats and feed on insects and other invertebrates. Some plant cover needs to be present as food for insects that, in turn, serve as food for the black legless lizards. Although legless lizards have also been found along the edges of ice plant mats within dune ecosystems, ice plant mats are not considered suitable habitat for legless lizards.

Areas on the project site with coastal scrub vegetation could potentially provide habitat for this species. However, because of the low density of this vegetation relative to ice plant mats and bare sand areas, and because the site is effectively isolated by surrounding development from any significant habitat areas for this species, we conclude that the project site would, at best, provide only marginal habitat for a small number of black legless lizards.

California Horned Lizard

The California horned lizard is a USFWS species of concern and a CDFG Species of Special Concern. This species lives in sandy areas with sparse shrub cover, and feeds primarily on ants and other small insects. Horned lizards rely on camouflage for protection and often remain motionless at the approach of a potential predator.

Although we did not detect this species during our site reconnaissance, areas on the project site with scrub vegetation and adjacent bare sand areas could provide habitat for this species. As with the legless lizard, the site is considered relatively marginal habitat for the California horned lizard because of the surrounding development and resulting isolation from other suitable habitat areas.

Potential Impacts

The following discussion of project impacts is based on the December 1998 Site Plan for a Portion of Lot 39 Locke-Paddon Bayside Subdivision prepared by Monterey Bay Engineers, Inc. The total area of the project site is approximately 1.5 acres.

Mr. Bart Bruno
March 2, 1999
Page 5

Zander Associates

Construction of the Bruno project as proposed will alter the current topography of the site and result in the removal of all existing vegetation. The bare sand / ice plant mix / coastal scrub and disturbed plant communities that occur on the project site are common in the region and provide limited biological resource value because of the predominance of ice plant and other non-native species, and the low density of native vegetation. Therefore, removal of 1.5 acres of these vegetation types would not be considered a significant impact. However, because there are sensitive plant species present within these communities, and these species occupy a substantial portion of the project site, removal of these plants would be considered a significant impact.

Approximately 0.38 acre of sand gilia in varying densities will be removed for the construction of the project. Because sand gilia is a federally and state listed species, this removal would be considered a significant impact. Approximately 0.45 acre of medium density Monterey spineflower will be removed for the construction of the project. Because Monterey spineflower is a federally listed threatened species, as well as a CNPS list 1B species, removal of these plants would also be considered a significant impact. However, from a regional and cumulative perspective, the loss of the limited number of sand gilia and Monterey spineflower plants on the Bruno property would not substantially affect survival of the species, particularly considering the large areas of sand gilia and Monterey spineflower habitat that are permanently protected on the former Fort Ord.

Grading and construction activities on the project site could potentially affect black legless lizards or California horned lizards, if they occur on the site. Since the site provides only marginal habitat for these species, removal of this habitat is not considered a significant impact. In the unlikely event that an individual black legless lizard is encountered on the site during construction activities, methods can be employed to salvage the individuals as described further in the following mitigation recommendations.

Recommended Mitigation

To compensate for the loss of sand gilia and Monterey spineflower occurrences on the project site, we recommend a two part program consisting of 1) salvage and 2) offsite habitat enhancement and revegetation with these species. In consultation with the CDFG and Monterey Peninsula Engineering, Zander Associates would undertake an effort to salvage the seeds of sand gilia from the Bruno project site. Salvage would consist of collection of sand gilia seed from the project site for storage at the Rancho Santa Ana Botanic Garden to preserve this population's genetic diversity, and collection of sand gilia seed from natural occurrences found in the vicinity of the proposed mitigation area for the reintroduction effort.

Offsite habitat enhancement is recommended at an appropriate location with similar site characteristics (i.e., vegetation and habitat) as that of the project site. Initial discussions with the CDFG (Deborah Hillyard, 5/1/98) indicated that offsite mitigation was a possibility. On that basis, Zander Associates pursued discussions with Monterey Peninsula Regional Park District (MPRPD) to utilize a portion of its property at the end of Dunes Drive in the Marina Dunes Open Space Preserve in the City of Marina as a receptor site for this offsite mitigation. MPRPD

Mr. Bart Bruno
March 2, 1999
Page 6

Zander Associates

expressed an interest in collaborating to enhance an approximate 0.75 acre of hind dune habitat at its Marina Dunes Open Space Preserve (Figure 4). The proposed restoration would provide opportunities to enhance currently degraded flandrian dune scrub, and re-establish populations of sand gilia and Monterey spineflower in permanently protected conservation areas.

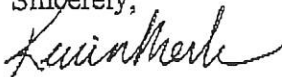
Enhancement activities on the designated mitigation area would consist of removal of non-native vegetation and establishment of sand gilia. Monterey spineflower is expected to colonize the mitigation area naturally once non-native plant species are removed because there is a substantial seed source for the species in nearby areas. Therefore, we do not recommend replanting of Monterey spineflower on the mitigation area at this time. A detailed mitigation proposal is currently being prepared and will be submitted to you under separate cover.

To minimize the risk of direct impacts to black legless lizards or California horned lizards during construction, we recommend that a qualified biological monitor be present on the site during the initial site clearing and grading activities. Construction personnel should be oriented prior to the onset of grading activities to proper monitoring and salvage procedures for legless lizards and horned lizard. If any individuals of these species are found on the project site, they should be captured and placed in suitable containers for temporary holding, and the CDFG should then be contacted to determine an appropriate site for relocating captured animals.

Implementation of these mitigation recommendations would mitigate all potential impacts on biological resources resulting from the project to a less-than-significant level.

If you have any questions regarding this report please feel free to contact me.

Sincerely,

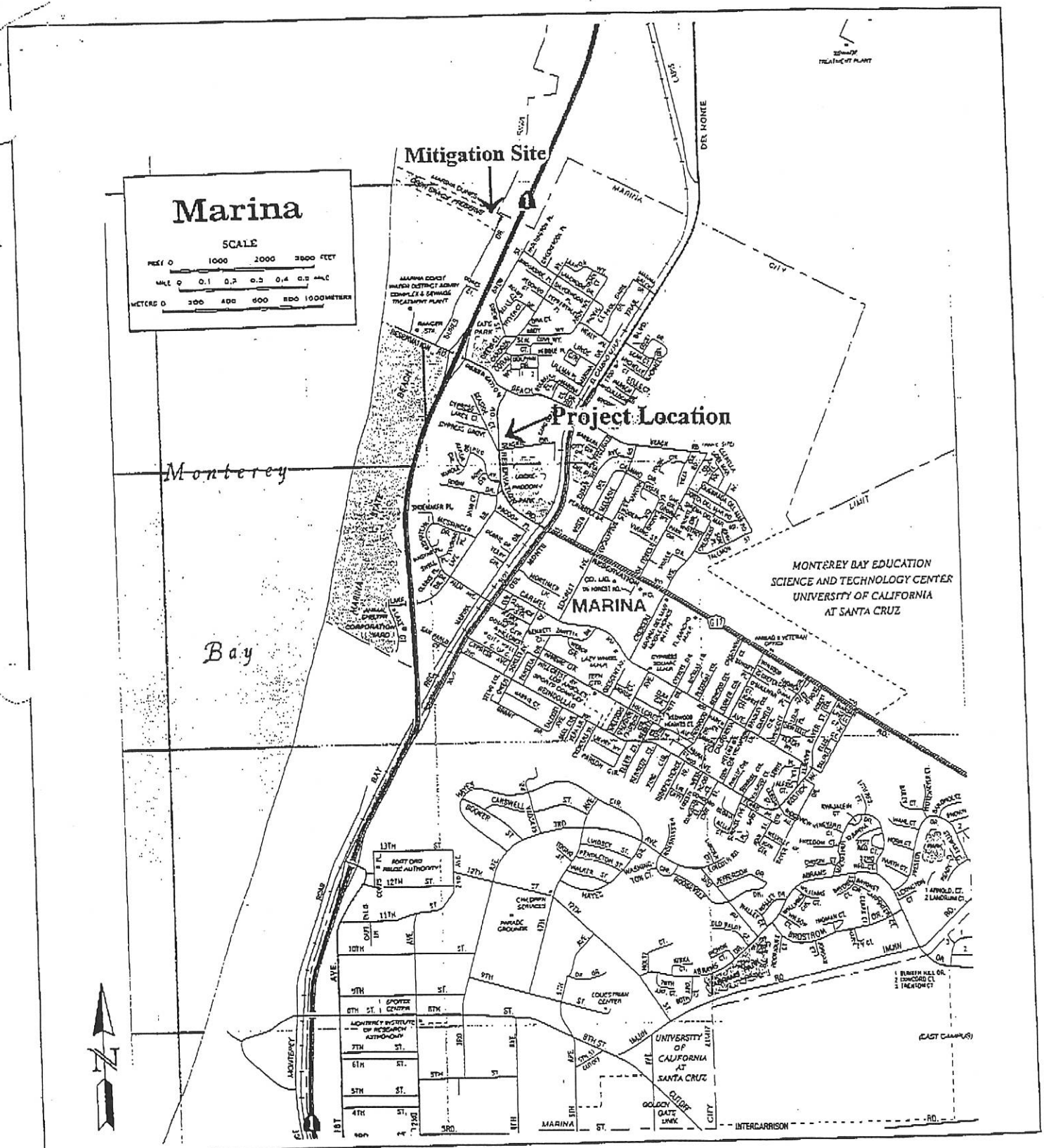


Kevin Merk
Project Biologist

Zander Associates

Table 1: Plant species observed on the Bruno project site, April 21, 1998.

Scientific Name	Common Name
TREES AND SHRUBS:	
<i>Artemisia californica</i>	California sagewort
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote brush
<i>Croton californica</i>	California croton
<i>Cupressus macrocarpa</i>	Monterey cypress
<i>Ericameria ericoides</i>	mock heather
<i>Eriogonum giganteum</i>	Channel Islands buckwheat
<i>Lupinus chamissonis</i>	silver beach lupine
HERBS:	
<i>Amsinkia intermedia</i>	fire weed
<i>Anagalis arvensis</i>	scarlet pimpernel
<i>Calandrinia ciliata</i>	red maids
<i>Camissonia cheiranthifolia</i>	dune primrose
<i>Camissonia micrantha</i>	small primrose
<i>Cardionema ramosissima</i>	sand mat
<i>Carpobrotus edulis</i>	ice plant
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's clover
<i>Chorethrogone filaginifolia</i>	common corethrogyne
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower
<i>Cryptantha leiocarpa</i>	coast cryptantha
<i>Cuscuta</i> sp.	dodder
<i>Erodium botrys</i>	storksbill
<i>Erodium cicutarium</i>	red-stemmed filaree
<i>Eschscholzia californica</i>	California poppy
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	sand gilia
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hypochaeris radicata</i>	woolly cat's ears
<i>Limonium sinuatum</i>	statice
<i>Linaria canadensis</i>	toad flax
<i>Lotus scoparius</i>	deer weed
<i>Lupinus nanus</i>	sky lupine
<i>Marah fabaceus</i>	wild cucumber
<i>Nemophila menziesii</i>	baby blue eyes
<i>Phacelia distans</i>	common phacelia
<i>Plantago erecta</i>	California plantain
<i>Raphanus sativa</i>	wild radish
<i>Rumex acetosella</i>	sheep sorrel
<i>Silene gallica</i>	windmill pink
<i>Spergula arvensis</i>	sand spurry
GRASSES:	
<i>Avena barbata</i>	slender wild oats
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus hordeaceus</i>	soft chess
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	barnyard foxtail
<i>Pennisetum clandestinum</i>	kikuyu grass
<i>Vulpia myuros</i>	rat-tail fescue
<i>Vulpia octoflora</i>	slender fescue



ZANDER ASSOCIATES

Environmental Consultants

Site Location
Bruno Project
Marina, California

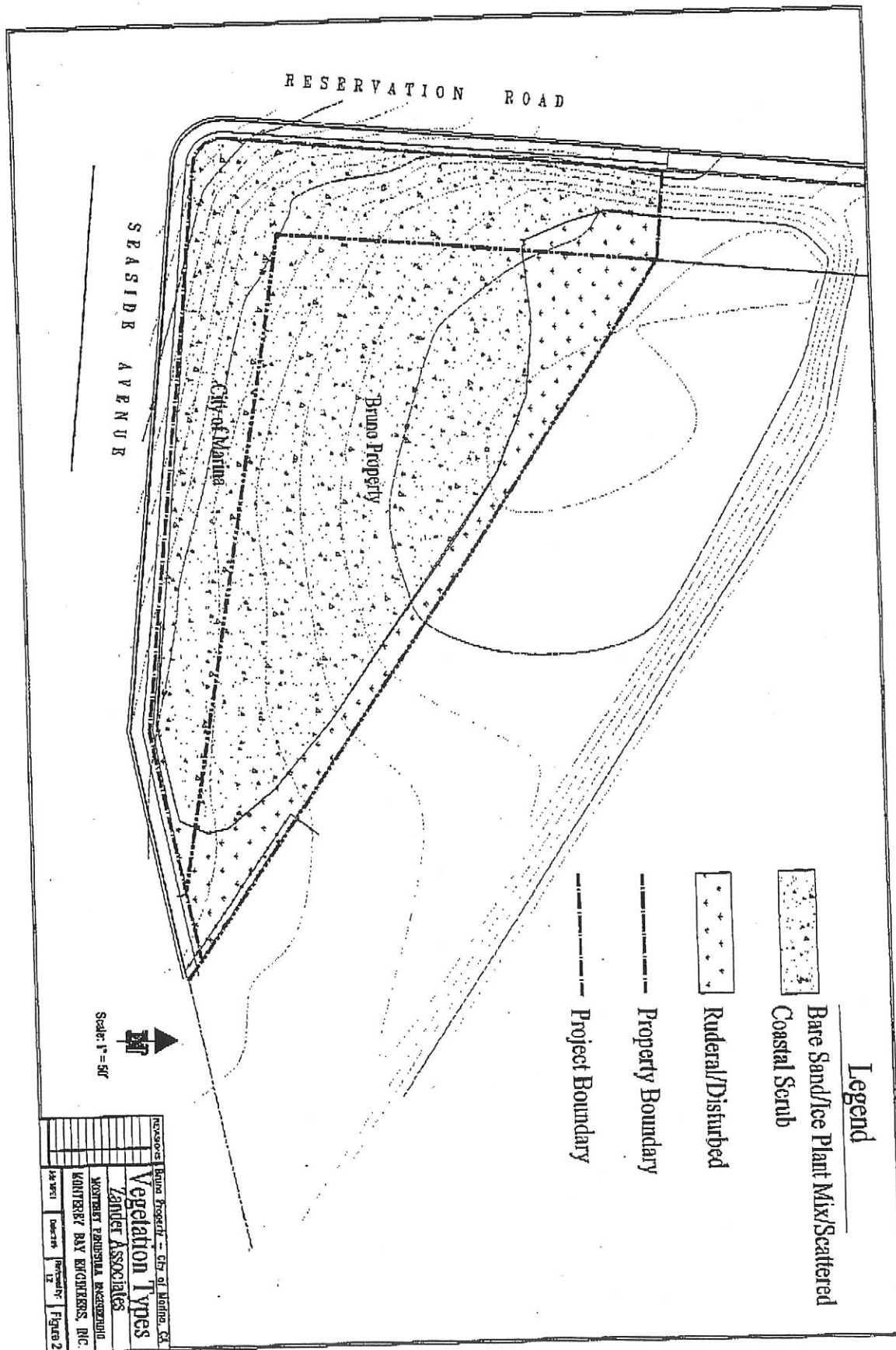
FIGURE

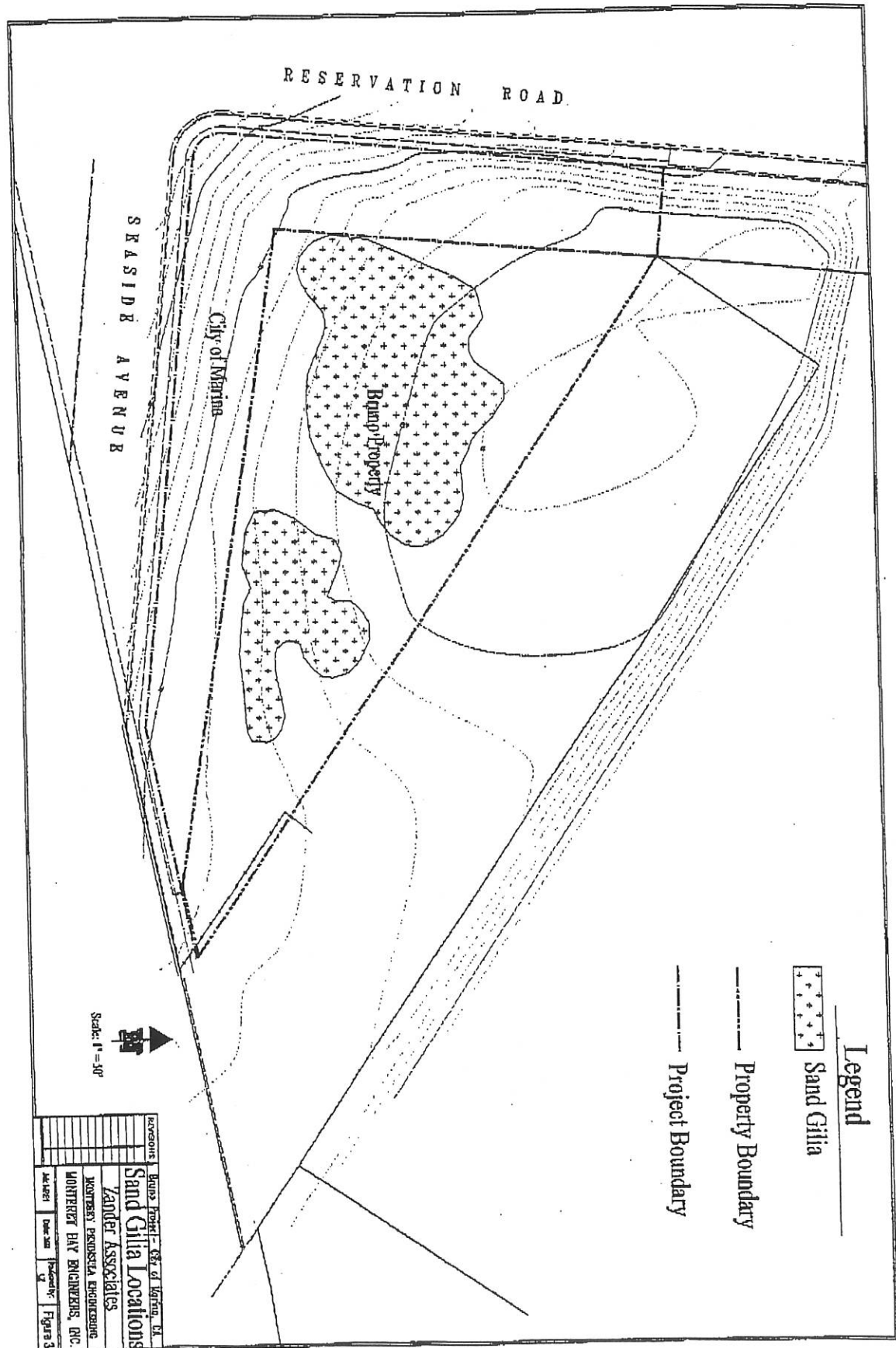
1

JOB NUMBER
MPE1

REVIEWED BY
LZ

DATE
2/99





ZANDER ASSOCIATES

Environmental Consultants

Mitigation Site at Monterey Peninsula Regional Park District/Marina Dunes Open Space Preserve

Bruno Project

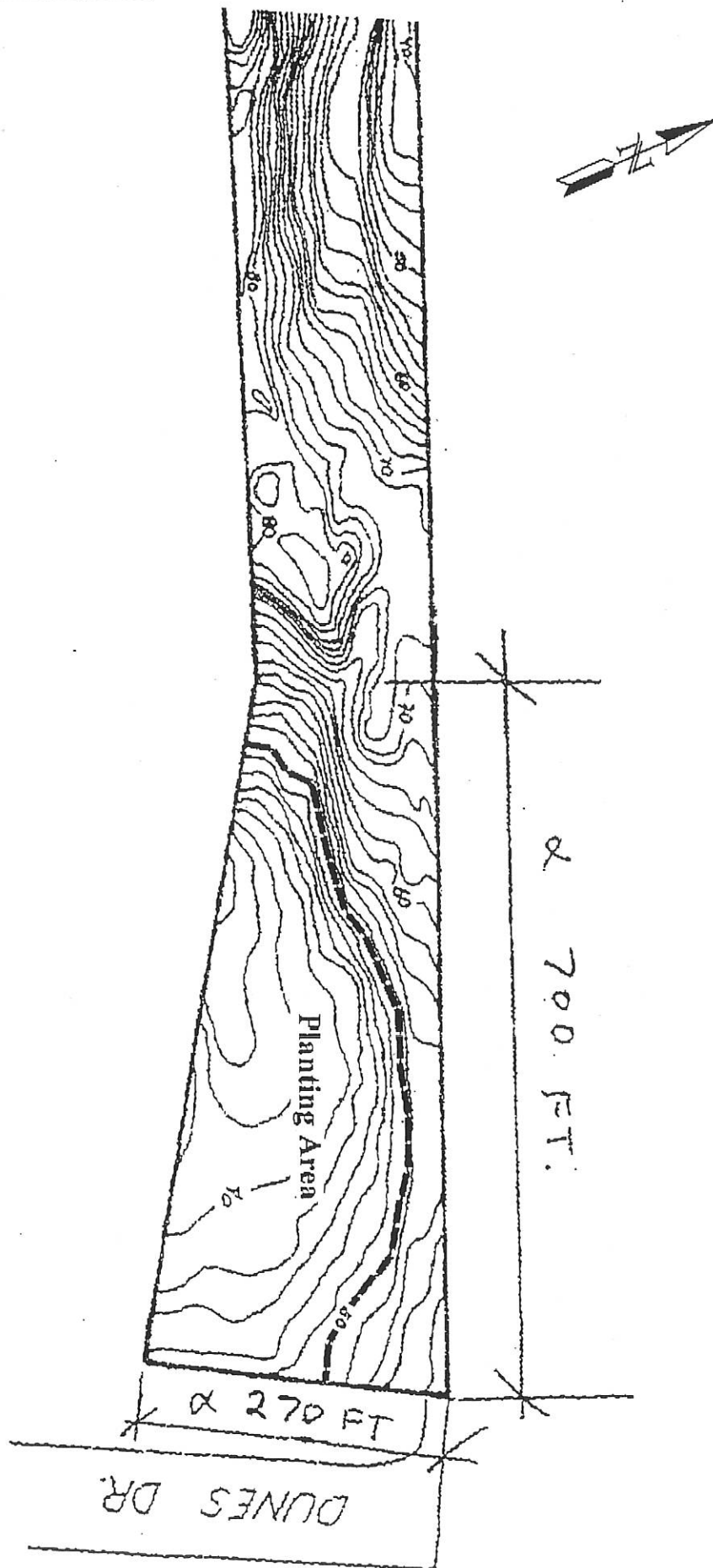
Marina, California

FIGURE
4

JOB NUMBER
MPE1

REVIEWED BY
LZ

DATE
2/99



Appendix 7

Sand Gilia Mitigation Plan

Prepared by
Zander Associates
April 5, 1999

**Sand Gilia Mitigation Plan
Bruno Project
Marina, California**

Prepared for:
Monterey Peninsula Engineering
192 Healy Avenue
Marina, California 93933

Prepared by:
Zander Associates
150 Ford Way, Suite 101
Novato, California 94945

April 5, 1999

1.0 Introduction

This plan describes mitigation for removal of approximately 805 plants of the federally Endangered and state Threatened sand gilia (*Gilia tenuiflora* ssp. *arenaria*) from the Bruno project site. The Bruno project is located in the City of Marina, California on the northeast corner of Reservation Road and Seaside Avenue (Figure 1). The project is bounded by the Kmart shopping center to the north, Seaside Avenue to the south, a residential property to the east, and Reservation Road to the west. The project site consists of two adjacent parcels: the Bruno parcel and property owned by the City of Marina. The Bruno property is approximately 0.85 acre at the top of a sandy knoll. The City of Marina's property is approximately 0.65 acre and it comprises the cut slopes below the sandy knoll that slope down to Reservation Road and Seaside Avenue.

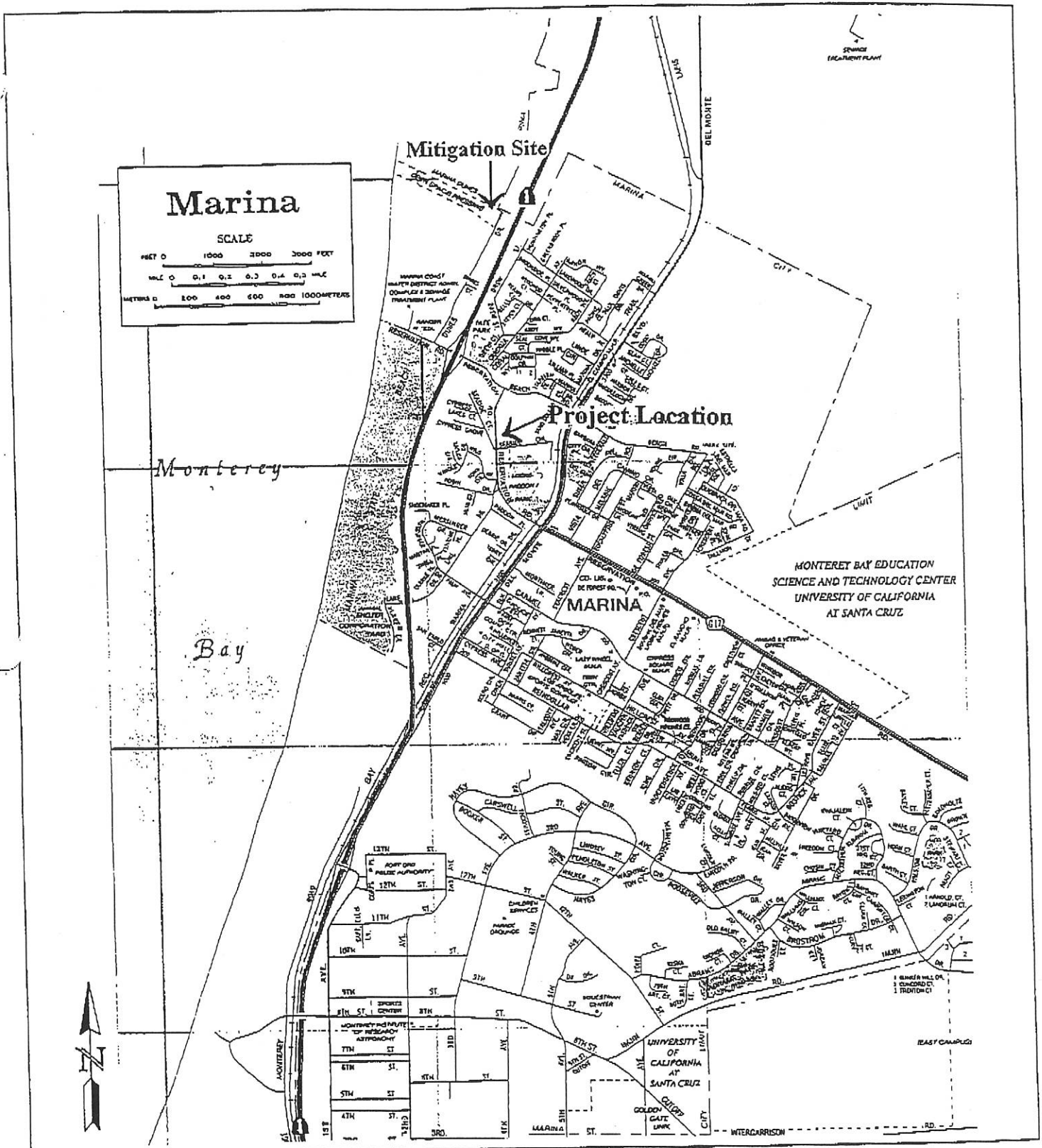
Removal of the sand gilia would occur for construction of a proposed subdivision on the Bruno project site. No sand gilia occurs on the City of Marina property. Onsite mitigation is infeasible given the limited size and location of the property and so offsite mitigation was explored. An appropriate offsite mitigation area was determined in collaboration with the Monterey Peninsula Regional Park District (MPRPD). The off-site area selected is hind dune habitat on the Marina Dunes Open Space Preserve at the end of Dunes Drive in Marina, California. The MPRPD is currently restoring dune habitat in this area and the proposed mitigation site would add to the overall restoration acreage.

The goal of this mitigation and restoration plan is two-fold: 1) replace the number of sand gilia individuals removed for development of the Bruno project site and achieve no-net-loss of sand gilia as a result, and 2) enhance approximately 0.75 acre of hind dune habitat on the Marina Dunes Open Space Preserve. The following mitigation plan provides the details for how this goal will be achieved.

2.0 Mitigation Plan

As previously discussed, the offsite mitigation area is located on the Marina Dunes Open Space Preserve at the end of Dunes Drive in the City of Marina. The mitigation area is approximately one mile from the Bruno project site. Vegetation composition on the mitigation site is similar to that of the Bruno site. Elements of two plant communities typical of the general area are present on the Bruno project site, as well as the mitigation area (Figure 2): 1) bare sand / ice plant mix / scattered coastal scrub, and 2) ruderal / disturbed. Although a larger area of the mitigation site is occupied by native shrubs like mock heather (*Ericameria ericoides*) and coyote brush (*Baccharis pilularis* var. *consanguinea*), there is still a substantial amount of ice plant and other non-native species on the site.

To meet the proposed mitigation goals, approximately 1600 sand gilia individuals will be propagated from seed collected in the vicinity and will be planted in the approximately 0.75 acre mitigation area. Non-native plant species will be removed from the mitigation area to create appropriate planting areas for the sand gilia. All of these activities will be supervised by a restoration specialist and will comply with measures required by the California Department of

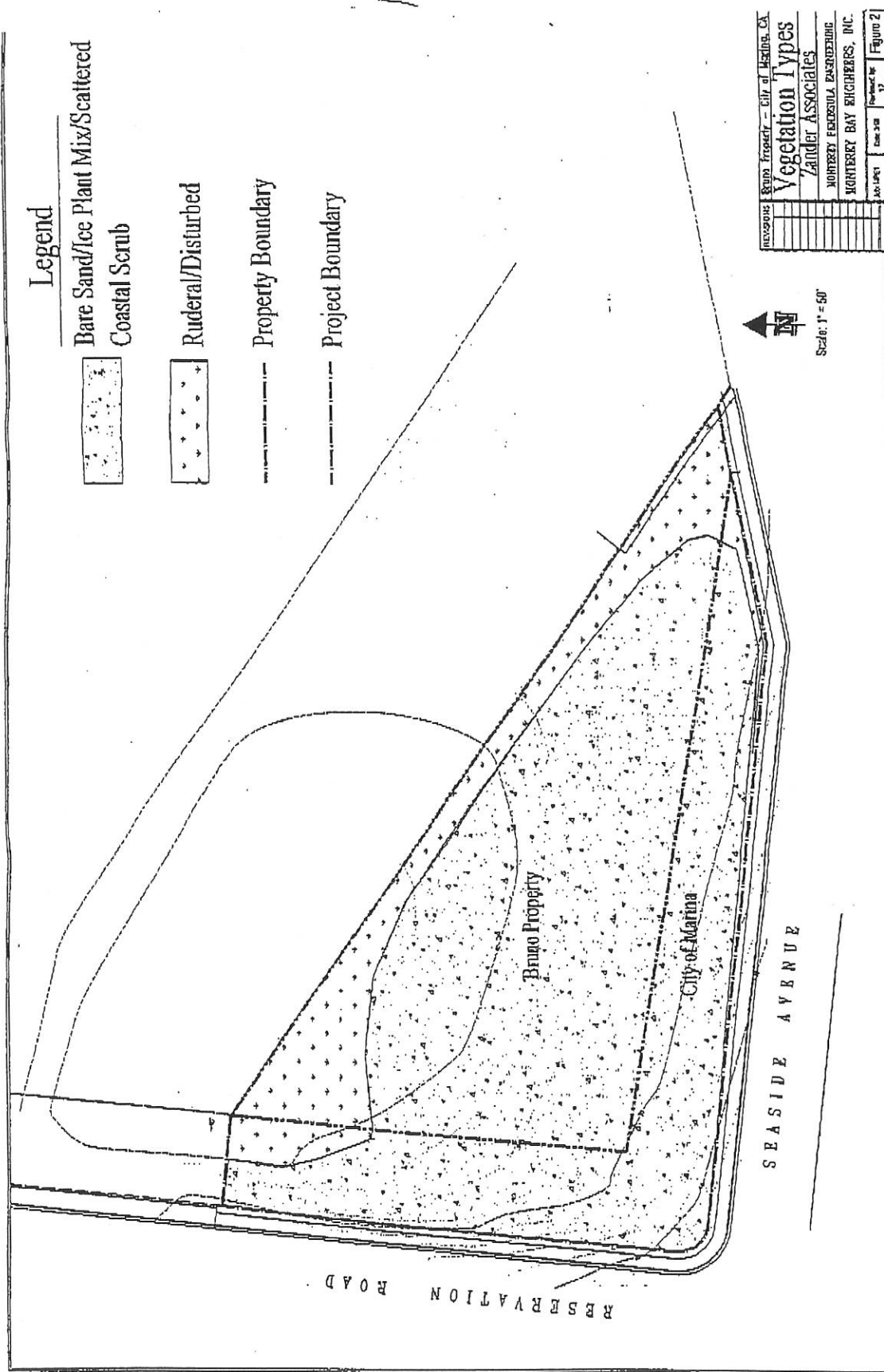


ZANDER ASSOCIATES

Environmental Consultants

Site Location
 Bruno Project
 Marina, California

FIGURE
 1



Zander Associates

status of the new population against an established population.

Annual monitoring reports will be prepared in the early summer, and submitted to the CDFG and the City of Marina by August 1 of each monitoring year. The reports will include the number of sand gilia individuals present on the site, and evaluation of the status of the population against the reference population and a general habitat assessment for the entire 0.75 acre.

Success of the revegetation effort will be assessed annually. The project will be determined successful if at the end of the five-year monitoring period, the introduced sand gilia population consists of a minimum of 805 individual plants and reflects the dynamics at the naturally occurring sand gilia population at the reference site.

Contingency Plan

If the mitigation area appears that it will not meet the success criteria outlined above in any particular monitoring year, corrective actions may be recommended in the annual monitoring report. Corrective actions may include more intensive non-native plant eradication or significant replanting. At the end of the third year, the monitoring report will summarize the previous reports and evaluate the success of the project against the performance standards. Any areas that do not meet the success criteria will be remedied and, as appropriate, monitored until they are shown to meet the performance standards.

Responsibility and Funding

Monterey Peninsula Engineering will be responsible for funding implementation of the mitigation plan and monitoring and maintenance for five years following implementation. The funding will provide for the collection and propagation of sand gilia seed, site preparation (weeding, herbicide application), plant installation, monitoring and maintenance for five years, and contingency measures, if required.

Appendix 8

Rare Plant Survey Report

Prepared by
. Kathleen Lyons
Harvey & Stanley Associates
April 10, 1988

property owner, Gail ZAFKAN
8/6/90



HARVEY AND STANLEY ASSOCIATES, INC.

ECOLOGICAL CONSULTANTS • ENVIRONMENTAL PLANNERS • RESOURCE MANAGERS

MAIN OFFICE:
906 ELIZABETH ST., P.O. DRAWER E
ALVISO, CA 95002
(408) 263-1814

CENTRAL COAST OFFICE:
6001 BUTLER LANE, SUITE #1
SCOTTS VALLEY, CA 95066
(408) 438-4102

RECEIVED

APR 16 1998

RARE PLANT SURVEY REPORT

FOR

MARINA LANDING DEVELOPMENT

MARINA, CALIFORNIA

PREPARED FOR

Mr. Ron Sissen
COATS CONSULTING

PREPARED BY

HARVEY AND STANLEY ASSOCIATES

Kathleen B. Lyons, Botanist

David
Cuddiham
Wildlife
Biologist

File No. 407.01

April 10, 1988

CITY OF MARINA

APR 18 1988

PLANNING DEPT.

MARINA LANDING RARE PLANT SURVEY

INTRODUCTION AND METHODS

A field reconnaissance of the Marina Landing project site was performed on March 31, 1988, such that the potential presence of the Monterey Bay slender-flowered or sand gilia (Gilia tenuiflora ssp. arenaria) could be determined. As reported in the project EIR the southwest knoll of the site contains "habitat similar to nearby locations where sand gilia populations have been reported" (Earth Metrics, 1988). A detailed survey of this area was performed.

The southwest knoll of the project site and the side slopes adjacent to Reservation Road and Seaside Avenue were visually inspected for the occurrence of the sand gilia. A series of parallel transects approximately 6 feet (2 meters) apart were established along the side slopes of the two roads. The upper knoll area was surveyed in a similar manner by the establishment of parallel transects run in a N-S orientation from the dirt access road to the project property line.

All plants observed during the survey were identified to genus and the majority to species. When an individual of sand gilia was located a detailed survey of the population area was performed such that the distribution and number of individuals could be determined.

RESULTS

Individuals of sand gilia were identified within the upper knoll area of the project site. One hundred and forty-eight (148) individuals were found growing in four areas. The areas, composed of bare sand substrate, were separated from one another by large patches of hottentot fig (Carpobrotus sp.). The location and extent of these areas is portrayed in Figure 1. The majority of the sand gilia plants (98%) were in flower and were easily visible.

TABLE 1. Size of area and number of individuals of sand gilia (*Gilia tenuiflora* ssp. *arenaria*), Marina Landing, Marina, CA.

AREA	SIZE (approx. sq. feet)	# individuals of Sand Gilia
1	1,776	144
2	3,616	264
3	368	36
4	328	4
TOTAL	6,088 sq. ft.	448 individuals

A copy of the California Native Species Field Survey Form to be filed with the California Natural Diversity Data Base (California Dept. of Fish and Game) is shown as Figure 2.

POTENTIAL IMPACTS AND RECOMMENDATIONS

Potential threats to the sand gilia population on the project site include to the following:

1) Potential disturbance from adjacent land uses. Human and or domesticated animal use of the knoll area may disturb the sand gilia population by trampling and may disturb the sand substrate.

Recommendation: The Marina Landing conceptual site plan shows this area as "vacant land", therefore disturbance to the sand gilia population is not expected. If, however, grading is to occur nearby, such as immediately adjacent to the residential inholding property, care should be taken such that drainage patterns of the knoll area are not altered and there is no placement of fill or excavated material onto the rare plant habitat sites. Do not encourage access to the knoll area by the placement of trails or roadways immediately adjacent to the sand gilia populations. A

low type of fencing around the area may be desirable to control access.

2) Spread of hottentot fig. The potential spread of hottentot fig throughout the knoll site may eliminate suitable habitat for the sand gilia.

Recommendation: An enhancement plan for the knoll area could be established that would control the expected spread of hottentot fig into the existing sand gilia population areas. The removal would need to be performed with care such that existing plants and habitat are not adversely impacted.

FIGURE 2. CALIFORNIA NATIVE PLANT FIELD SURVEY FORM

Transmitted form for field data collection on populations of California native plants submitted to the California Native Plant Society Data Base, collected by the California Native Plant Society and Southern California Botanical Association, approved by the California Native Plant Society Committee and the California Department of Fish and Game.

OFFICE USE ONLY

Document Code _____ Taxon Code _____
Index Code _____ Occurrence # _____
Quad Code _____

IN ORDER FOR US TO HANDLE THIS FORM PLEASE COMPLETE ALL ENTRIES IN THE BASIC DATA SECTION ABOVE THE HEAVY LINE IF YOU HAVE TIME. WE WOULD APPRECIATE YOUR ENTERING ALL INFORMATION NOW AVAILABLE TO YOU WITHIN THE DETAILED SECTION BELOW THE HEAVY LINE. YOU DO NOT HAVE TO COMPLETE ALL ENTRIES IN THE DETAILED SECTION. YOU MAY USE THE BACK FOR COMMENTS.

BASIC DATA

Scientific Name (no codes): GILIA TENUIFLORA SSP. ARENARIA
Date of Field Work: 31 day 3 mo 1988 yr County: MONTEREY Collection: X Yes No (# GLIF 1)
Location: NE CORNER OF JUNCTION OF SEASIDE AVENUE AND RESERVATION ROAD
MARINA, CALIFORNIA
Reporter: KATHLEEN LYONS, HARVEY AND STANLEY Phone: 408 438-4102
Address: 6001 BUTLER LANE #1, SCOTTS VALLEY, CA 95066

1. LOCATION

A. Is this a new location record? X Yes No UnknownIs this a subsequent visit? X Yes NoB. Plant found? X Yes No If not, reason:C. Quad Name: MARINAT 11S R 1E % of % SecT 7N R 15 % of % Sec

D. Owner (Name/Address/Phone):

E. Attach, or sketch on back, a map indicating the exact site, scale, and proximity to a prominent feature on quad sheet.

2. SPECIES BIOLOGY (Check one or more, and fill in percentages)

A. Phenology

B. Number of Plants

C. Population Area

D. Age Class

X In leaf1-10< 1 m² (= yd²)0 % SeedlingsX In bud11-501-5 m²0 % ImmatureX In flower51-1005-10 m²100 % 1st yr0 In fruitX 101-100010-100 m²0 % Mature0 Fall regreen1001-10,000X 100m²=1 ha0 % Senescent0 Dormant10,001+1 ha + (= 2.5 ac)0 %E. Compared to your last visit to this site Number of Plants moresamelowerPopulation Area largersamesmallerAge Classes samedifferent

F. Give reasons for changes

3. HABITAT (Describe site and check one or more, or fill in blanks)

A. Description

COASTAL SCRUB VEGETATION ON SOUTH-WEST FACING SLOPE, SAND
SUBSTRATE

B. Aspect

C. Slope

D. Topographic Position

E. Light

F. Moisture

0 NX Slight, 0°-20°0 CrestX Open0 Inundated0 E0 Moderate, 20°-45°X Upper Slope0 Filtered0 SaturatedX S0 Extreme, 45°+0 Mid-Slope0 Shade0 MoistX W0 Vertical0 Lower SlopeX Dry0 Flat0 BottomG. Elevation: 34-43'

(ftm) to

ftm

H. Microhabitat Relief

0 X 1

I. Substrate/Soils

SANDY

J. Plant Communities/Associated Species/Inu of Same Genus

LOTUS SCOPARIUS, ORTHOCARPUS SP., CARDIONEMA RAMOSISSIMUM

K. Disturbance/Viable Threat

POTENTIAL DEVELOPMENT, SPREAD OF ICEPLANT (CARBOBROTUS SP.)

4. DETERMINATION (Check one or more, fill in blanks)

A. How was plant identified?

X Keyed in a Flora (title MUNZ AND KECK)0 Compared with Specimen0 Compared with Photo/Drawing (source _____)0 By another person (name _____)0 Other (_____)

5. PHOTOGRAPHS (Check one or more)

A. Subject

B. Type

0 Plant0 St0 Habitat0 P0 Diagnostic Feature0 OtherC. May we obtain duplicates, at our cost? 0 Yes No

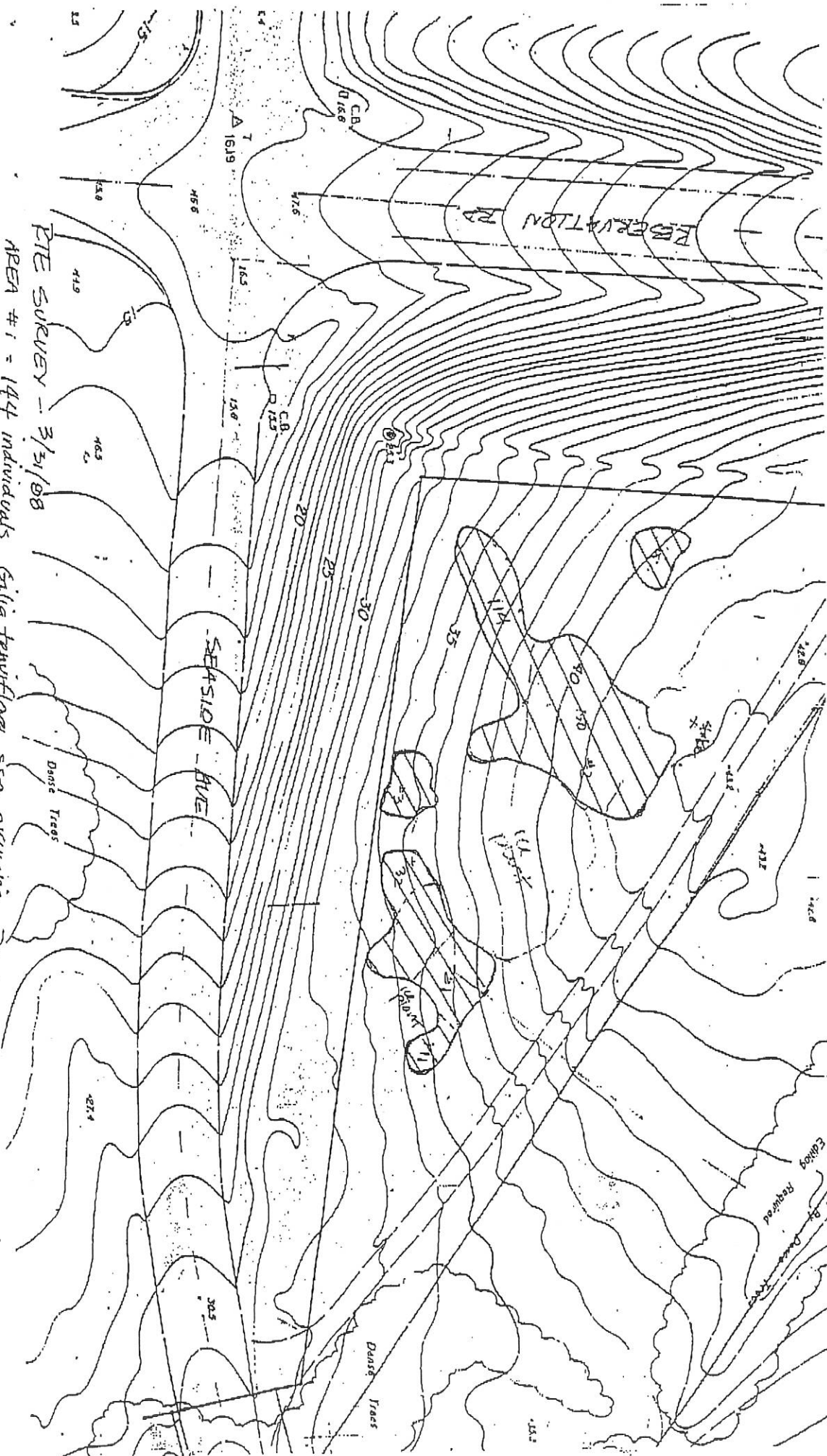
B. If collection was made, give collector's name and number, and repository for each specimen

D. OTHER KNOWLEDGEABLE INDIVIDUALS (Name/Address/Phone)

MAIL ROOM CALIFORNIA NATURAL DIVERSITY DATA BASE, c/o DEPARTMENT OF FISH AND GAME, 1416 NINTH ST., SACRAMENTO, CA 95814

DETAILED INFORMATION

RITE SURVEY - 3/31/88
 AREA #1 = 144 individuals
 #2 = 111
Gilia tenuiflora ssp. *arizonae*
 Lx 1



Appendix 9

Legless Lizard Survey

Prepared by
. Linda Kuhnz
ABA Consultants
March 26, 2001

ABA Consultants

P.O. Box 1151, Capitola CA 95010

Environmental Research, Assessment & Planning
VOX: (831) 479-0277 FAX: (831) 465-0123 aba1@ix.netcom.com

March 26, 2001

Prepared for:

Rana Creek Habitat Restoration
Paul Kephart
35351 E. Carmel Valley Road
Carmel Valley, CA 93924

Holiday Inn Express Project
189 Seaside Circle
Marina, CA

The following is a report of our findings regarding the California legless lizard (*Anniella pulchra*) surveys conducted in March 20 and 22, 2001 on this parcel.

Survey One: March 20, 2001 11:00

Sunny, 71° F

The site contains homogeneous yellow sand with a low to moderate amount of organic material. It was uniformly cool and moist at 0.5 cm depth. The surface contour was even with obvious swales (areas of moisture accumulation) present.

Task 1: Because Monterey spineflower (*Chorizanthe p. pungens*) and sand gilia (*Gilia tenuiflora arenaria*) (threatened and endangered species) are present on the site and must not be disturbed, we first surveyed the entire site to establish where they occurred. We wanted to determine if our sampling protocols would allow for sufficient data collection without disturbing these sensitive species. Our restoration biologist, Peter Slattery, who has more than five years of experience with these two plant species, was present to make this determination and assist with mapping the current distribution of them. A plant species list for the entire site was compiled.

The two sensitive plant species incompletely covered the site. *Chorizanthe* was very patchily distributed in four areas. *Gilia* was confined to an approximately 13x23 foot area with about a dozen small colonies (1-12 rosettes each). These areas were flagged, mapped by Rana Creek personnel using a GPS, and were easily avoided during lizard searches. Photographs were obtained.

Task 2: We searched for legless lizards in three 2.5 m diameter plots and by haphazardly spot raking. Searchers were extensively trained and experienced in the collection and handling of legless lizards. All searchers have permits issued by the California Department of Fish and Game that allows the handling of this protected species. Linda Kuhn was the senior biologist present. Search locations were stratified to sample

representative microhabitats within the site, and based on the likelihood of finding lizards. Prior to searching plots, we made a list of the individual plant species present within them and took multiple photographs to document the absence of sensitive species. After searches, we restored any disturbed materials and duff layers, as close as possible to pre-sampling conditions. Photographs were taken of the post-surveyed plots.

Plot 1

The first plot was located on the eastern side of the parcel, 18 feet away from the nearest sensitive plant, and contained a small silver bush lupine (*Lupinus chamissonis*). About 50% of the plot was covered by the lupine bush, with ~25% ripgut brome (*Bromus diandrus*), ~25 % sheep sorrel (*Rumex acetosella*), plus small percentages of deer weed (*Lotus scoparius* var. *scoparius*) and California cucumber (*Marah fabaceus*).

Three searchers looked for lizards within the plot boundary, both on the surface, under dried vegetation or objects that might provide cover, and then quickly dug to a depth of 15-25 cm below the surface. This moderate-impact, fixed-area survey involved removing patches of annual vegetation and pushing aside but not uprooting larger perennial plants. No tools (rakes, shovels, trowels, etc.) were used during this survey.

Plot 2

This plot was located on the western edge of the parcel, 32 feet away from the nearest sensitive plant, and contained a small silver bush lupine. About 40% of the plot was covered by the lupine bush, with ~20% iceplant, ~5% ripgut brome, plus small percentages of fillaree (*Erodium cicutarium*), sheep sorrel (*Rumex acetosella*), fescue (*Vulpia* sp.), and deer weed (*Lotus scoparius* var. *scoparius*).

Two searchers looked for lizards in the manner described above.

Plot 3

This plot was located to the south east, 38 feet away from the nearest sensitive plant and contained grasses and forbs (sheep sorrel, ripgut, iceplant, dead iceplant, California poppy (*Eschscholzia californica*), and croton (*Croton californicus*).

Two searchers looked for lizards in the manner described for plot 1.

No legless lizards were located. Four people walked the site to establish the location of sensitive plant species prior to the searches. Due to this footfall disturbance, we decided to continue the survey on a subsequent day.

Survey Two: March 22, 2001 12:00**High clouds, 62° F**

No foot-fall disturbance occurred prior to the survey, and only the two searchers approached un-searched areas. Numbers and types of insect fauna were noted.

Plot 3 was searched again with the moderate impact survey method.

Next, starting from the south west, searchers systematically walked the site, carefully searching under every wooden object and spot raking. Spot raking involved low-impact searching in twelve 0.5 m diameter areas to a depth of ~10 cm. Again, sensitive plants were avoided.

Plots 1 and 2 were searched again with the moderate impact survey method.

No legless lizards were located. Nearly every piece of wood had a large number of argentine ants underneath it. Some workers report that these ants serve as food items for immature legless lizards, while others believe that these aggressive ants may discourage adult lizards from inhabiting an area. During our searches, we found few legless lizard prey items (several insect larvae, three beetles, two spiders and a large cricket). Six manhours were spent exclusively on directed lizard searching during the two surveys. Approximately 59 m² was searched with the moderate-impact methods, and ~10-11 m² was searched using low-impact methods.

Other Findings and Conclusions

In previous surveys, we used these methods to search fixed-area plots prior to recovering discrete, enclosed populations of legless lizards by removing all vegetation and raking the plot to depletion. At very low densities (~1 animal/100 m²) no legless lizards were detected with these fixed-area sampling methods. In past studies at slightly higher densities (8 to 12 animals/100 m²), we found 5 to 9 animals with moderate-impact area searches and 3 to 7 animals with the low-impact method. In plots supporting the highest estimated population densities (40 to 58 individuals/100 m²), we found 7 to 13 animals with moderate-impact sampling while 3 to 8 were found with the low-impact method.

Important microhabitats to consider when designing a sampling protocol for legless lizards include the type and organic content of the soil, the amount of moisture and temperature of soil, and vegetation. Vegetation plays a large role in mediating moisture and temperature changes, and most importantly influences the type and amount of insect prey available to lizards. The sand on this parcel is similar to the yellow sand (in grain size and texture) on Moss Landing Hill, which supports a large population of legless lizards. Due to the uniform sand, moisture, and temperature conditions, only vegetation microhabitats were considered for this site.

The dominant plant species on the parcel was iceplant (*Carpobrotus edulis*; ≥ 50%). There were five small silver lupine bushes capable of producing leaf-litter, and thus were

considered possible habitat. Ripgut is prevalent in the north west section of the site and present throughout. None of the California sagebrush (*Artemisia californica*) produced enough leaf litter to be considered good habitat (we spot raked under several of them).

Other studies have shown that bush lupines may provide habitat for large numbers of lizards (up to 17/bush). Average-quality habitats usually contain grass and forbs, while iceplant generally provides poor habitat. Legless lizards are known to feed on a variety of insects and insect larvae, which appear to be in very low abundance at this site.

Given the low quality vegetation and depauperate insect fauna, a legless lizard population, if present, would be very limited. However, because these animals are cryptic, living underground nearly exclusively, they quite possibly could have been present but avoided detection by searchers. High impact and extended searches were not feasible due to the presence of threatened and endangered plant species. There was one legless lizard sighting reported here recently and despite the fact that the habitat is not very good, it could support a small yet viable population.

Recommendations

It is the policy of the Department of Fish and Game to error on the side of safety when the presence of protected species is possible, thus some mitigation measures are advisable. We suggest that prior to any construction and with the approval of the California Department of Fish and Game (CDF&G),

- Each lupine bush, and the surrounding 2 m around it, should be systematically searched using high impact methods (removal of all vegetation, including the lupine bush) by a biologist permitted to collect *Anniella pulchra*.
- A biological monitor (permitted to collect *Anniella pulchra*) should be present during the first full day of grading on this site. A grading method that first removes the top 4-6 inches of soil should be used. The monitor should actively search this soil as it is moved and collect any lizards uncovered by these activities. If legless lizards are found, the monitor should continue searching until the whole parcel is graded in this manner.
- If legless lizards are recovered, they should be held in captivity pending an approved (CDF&G) relocation plan.

Appendix 10

Correspondence with Monterey Peninsula Regional Parks District

1. Letter dated May 17, 2001 to MPRPD from Dale Hameister of Rana Creek Habitat Restoration
2. Letter Dated May 18, 2001 from MPRPD to Dale Hameister of Rana Creek Habitat Restoration

RANA CREEK

HABITAT RESTORATION



May 17, 2001

To: Tim Jensen
Special Projects & Planning Manager
Monterey Peninsula Regional Park District
60 Garden Court, Suite 325
Monterey, CA 93940-5341

CC: Bart Bruno
BT Development Group
P.O. Box 2317
Monterey, CA 93942

City of Marina Planning Department
211 Hillcrest Avenue
Marina, CA 93933

Rob Floreke
California Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Dear Mr. Jensen,

On behalf of our client, BT Development Group and to satisfy requirements of California Department of Fish and Game, and U.S. Fish and Wildlife, we respectfully request a written agreement for the use of 2.79 acres of the Monterey Peninsula Regional Park District's Locke Paddon Park for use as a mitigation and restoration site. The proposed restoration project mitigates for the development of a Holiday Inn Express, parking area, and driveway as approved by the Marina City Council and certified by the City of Marina Project Approval Certificate dated April 16, 2001. Mitigation will entail exotic species control, planting of sand gilia, Monterey spineflower and associated upland dune scrub species at Locke Paddon Park, five (5) years of monitoring and maintenance, and public education in the form of signage in the planting areas. BT Development Group will be financially responsible for the implementation, monitoring and maintenance of the restoration plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale Hameister", with a long horizontal flourish extending to the right.

Dale Hameister
Biological Consultant



monterey peninsula regional park district

60 Garden Court, Suite 325 • Monterey, California 93940-5341

May 18, 2001

Mr. Dale Hameister
Rana Creek Habitat Restoration
35351 East Carmel Valley Road
Carmel Valley, California, 93924

BOARD OF DIRECTORS

Jennifer Lagier - Ward 1

pcmc@igc.org
Marina, northern Ft. Ord

Ben Post - Ward 2

ben@post-tech.net
Seaside, Sand City

Judi Lehman - Ward 3

jlehman@redshift.com
Monterey, Del Rey Oaks,
southern Ft. Ord

Mary Dainton - Ward 4

marydainton@juno.com
Pacific Grove, New Monterey
northern Pebble Beach

Zad Leavy - Ward 5

zadleavy@compuserve.com
Carmel, Carmel Valley, Big
Sur, southern Pebble Beach

General Manager

Joseph D. Donofrio
donofrio@mprpd.org

Re: Mitigation Request for Holiday Inn Express, Marina

Dear Mr. Hameister:

In response to your correspondence dated May 17, 2001, the District is willing to offer lands owned by the District at Locke-Paddon Wetlands as a receiver site for your proposed mitigation of gilia (*Gilia tenuiflora*) and spineflower (*Chorizanthe pungens* var. *pungens*) impacts associated with the Holiday Inn Express project in Marina.

Locke-Paddon Wetlands is one of the District's earlier (1982) open space acquisition projects and, as a condition of Coastal Conservancy grant-funding approval, a Wetlands Enhancement Plan was required and completed that year. The plan recommended coastal habitat restoration among other environmental improvements. In 1994, in fulfillment of a Coastal Commission requirement, and with Coastal Conservancy grant funds, a Marina Coastal Vernal Ponds Management Plan was completed. This plan's recommendations reiterated the earlier 1982 plan recommendations.

The proposal forwarded by Rana Creek Habitat Restoration and Mr. Bruno, the project proponent, appears to support and implement a long overdue habitat enhancement program at Locke-Paddon - a program fully supported by the District and the two aforementioned plans. Pending the state Department of Fish and Game's response to Locke-Paddon as an appropriate site for the proposed mitigation, the District continues to extend the offer of its lands at Locke-Paddon as a potential receiver site for spineflower, gilia, and coastal scrub habitat restoration.

Sincerely,

JOSEPH DONOFRIO
General Manager

C:\Tjensen\PLANNING\North Coast\HIE - Mitigation Site.doc3:50 PM5/18/01

THIS MAP IS INTENDED TO BE USED FOR
PROPERTY TAX ASSESSMENT PURPOSES ONLY.

TAX CODE AREA

12-04

32-04

32-05

Scale 1 in. = 100 ft.

SEASIDE

AVE.

MARINA DRIVE

S.P.R.R.

DEL MONTE BLVD.

RESERVATION RD
LAKE DRIVE

LOCKE-PADDON
BAYSIDE of M.C.L.
LOTS 40, 41, 42 & 43

SUB. A
⑨
2.683 AC.

⑦

⑩
1.428 AC.
SUB. B

⑪
.361
AC.
SUB. C

⑫

④
1.94 AC.

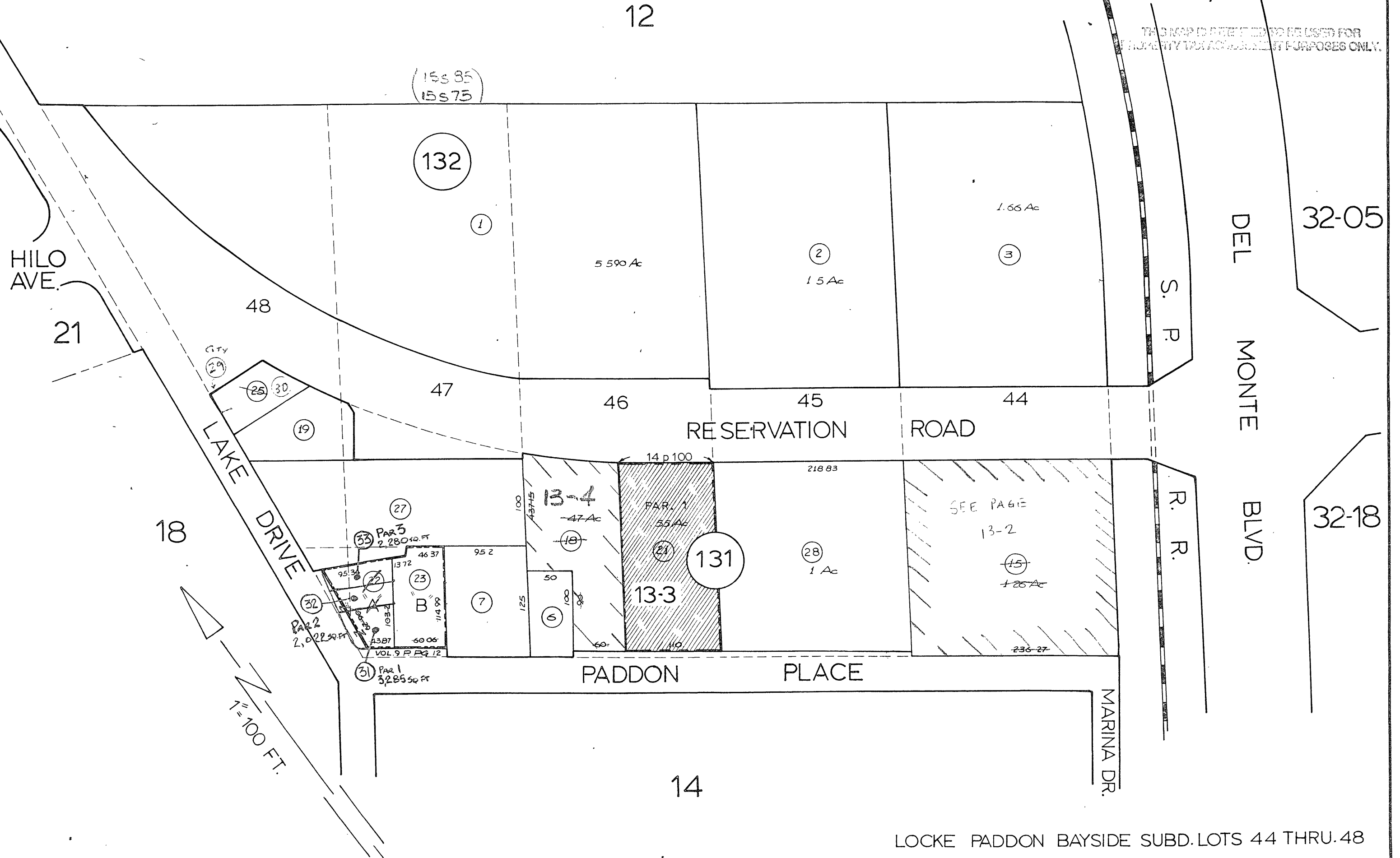
⑥

②

6.685 AC.

5.5 AC.

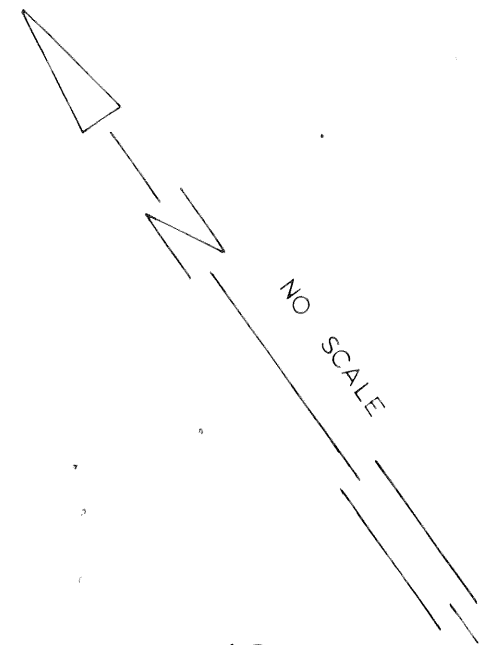
THIS MAP IS PREPARED TO BE USED FOR
PROPERTY TAX ASSESSMENT PURPOSES ONLY.



TAX RATE AREA

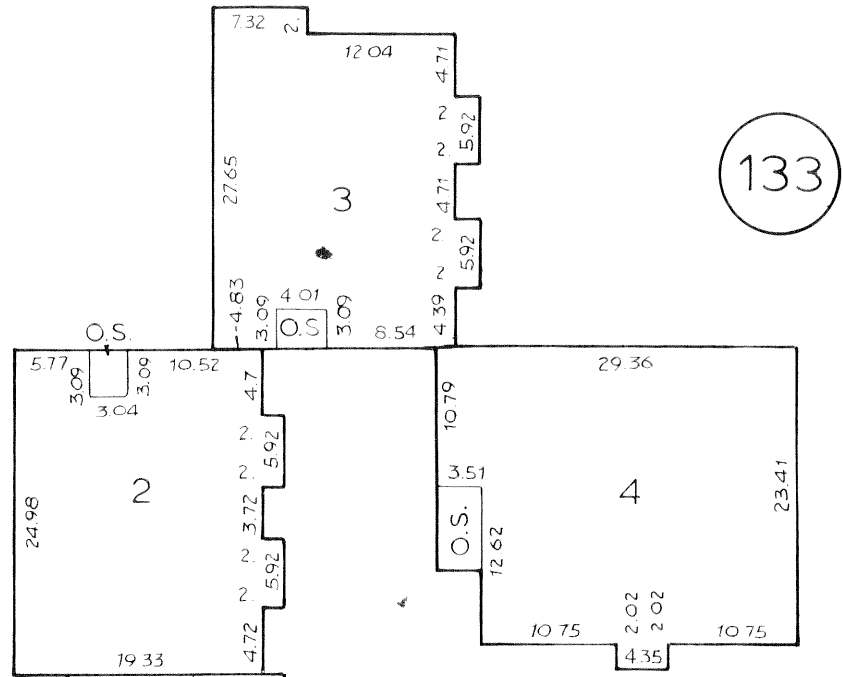
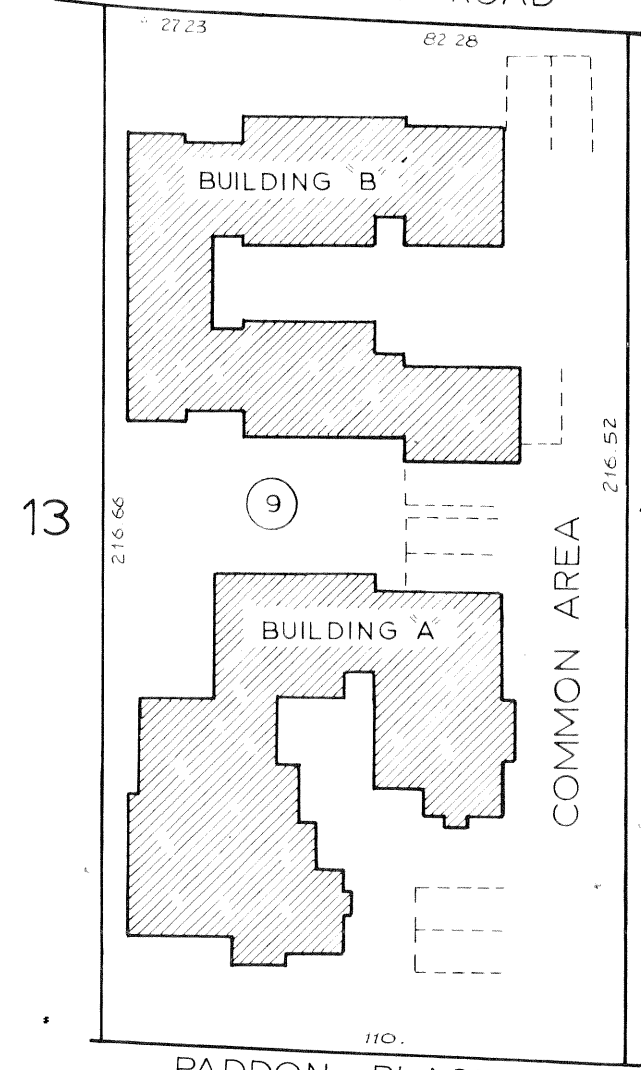
THIS MAP IS ESTIMATED TO BE USED
PROPERTY TAX PURPOSES ONLY

NOTE:
E. ENTRY
G. GARAGES
O.S. OPEN SPACE

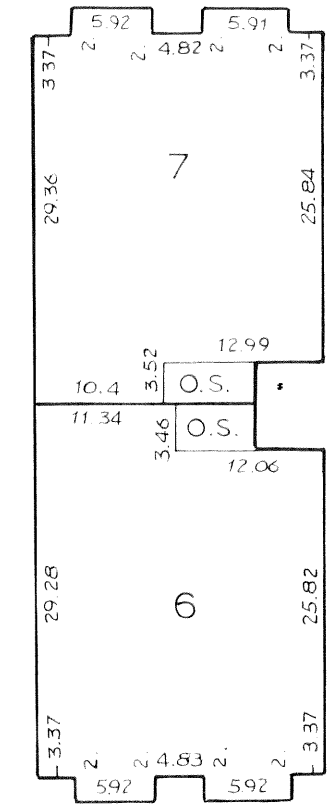


133

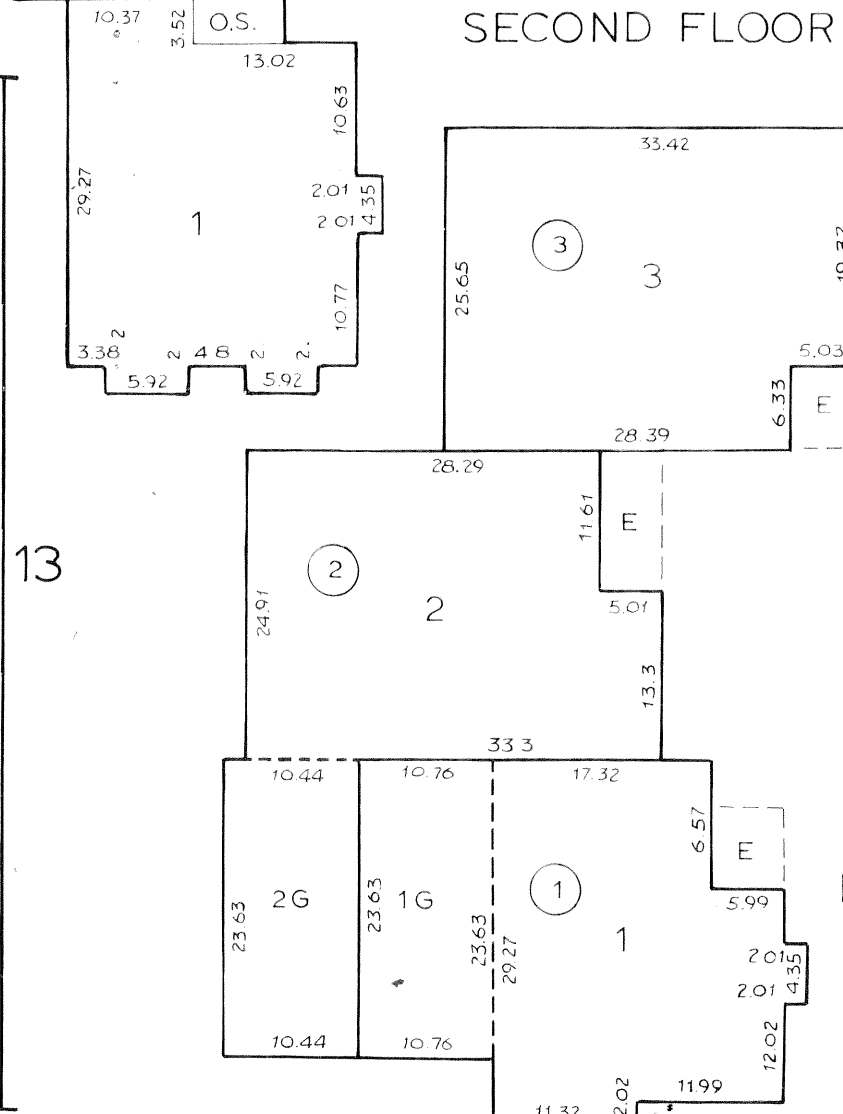
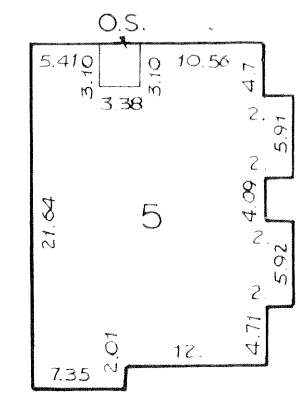
13
RESERVATION ROAD



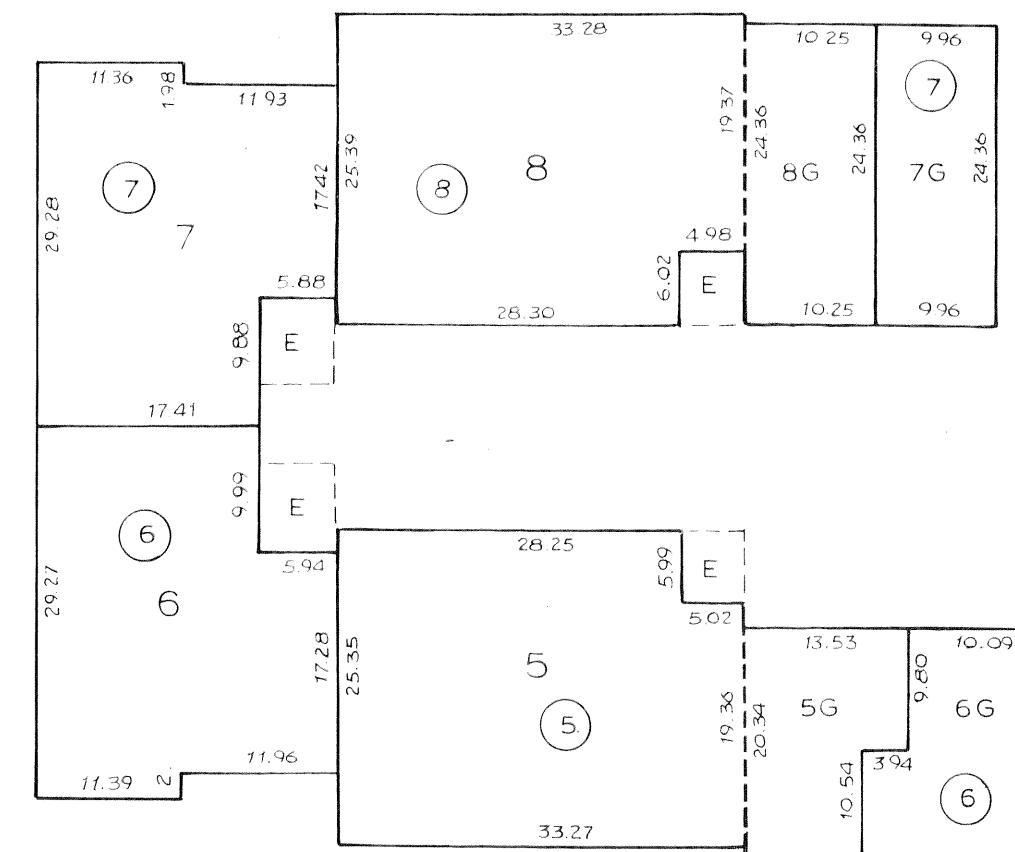
SECOND FLOOR



SECOND FLOOR

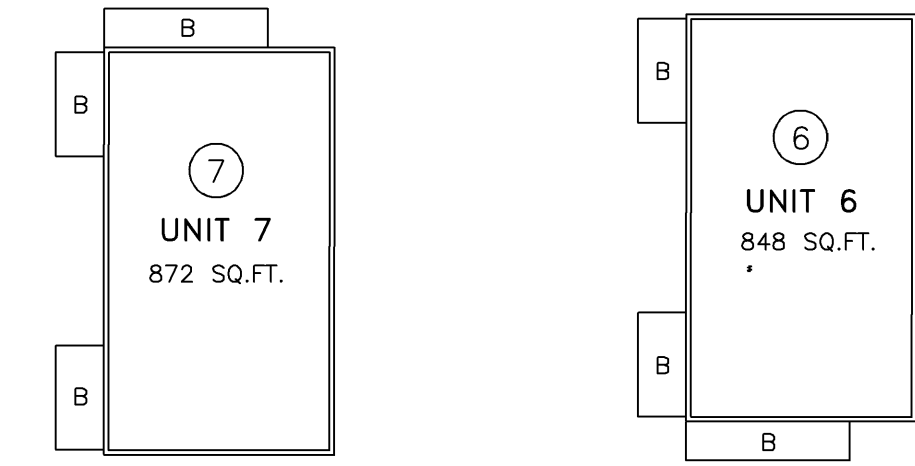
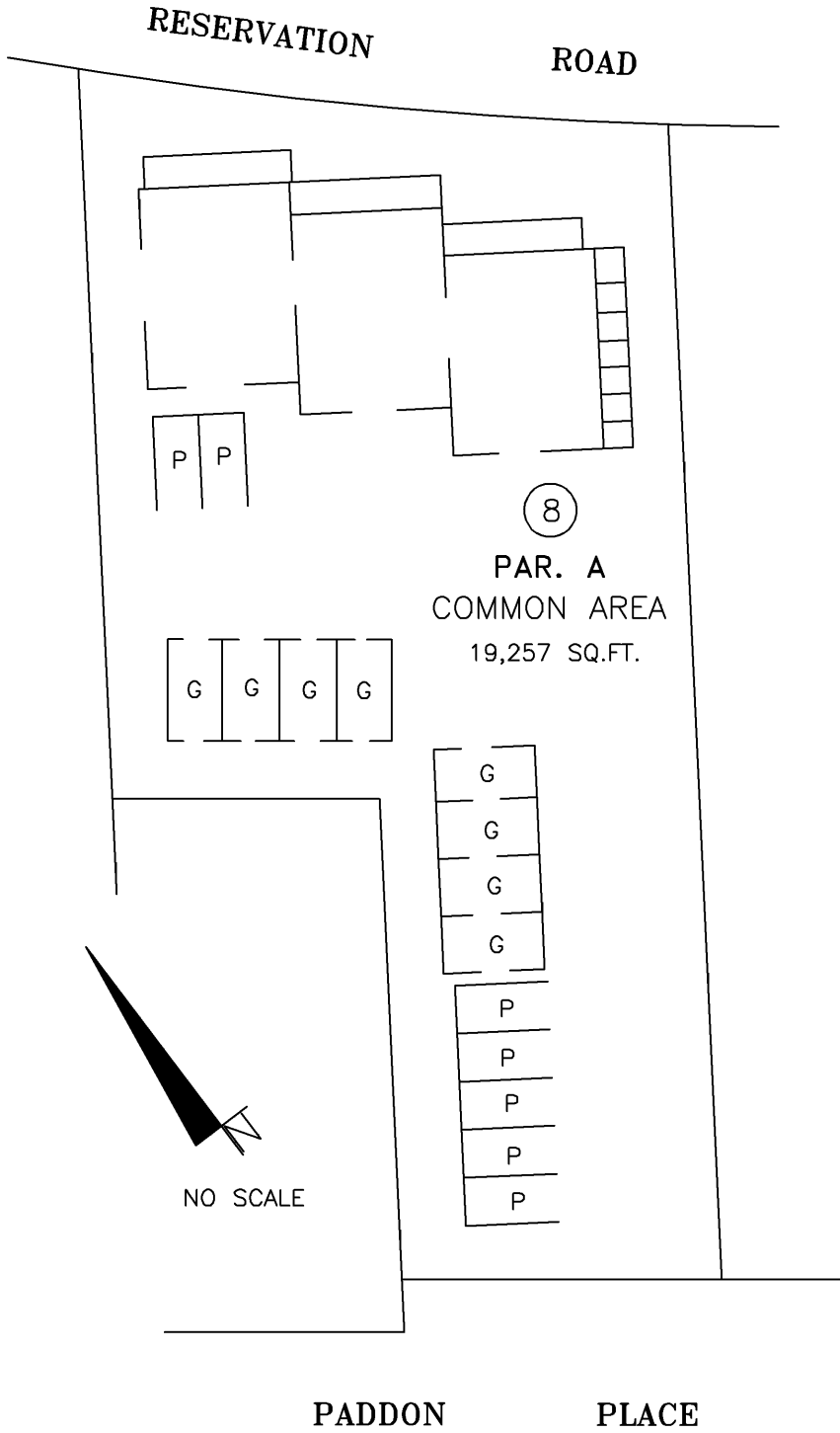


BUILDING A
FIRST FLOOR



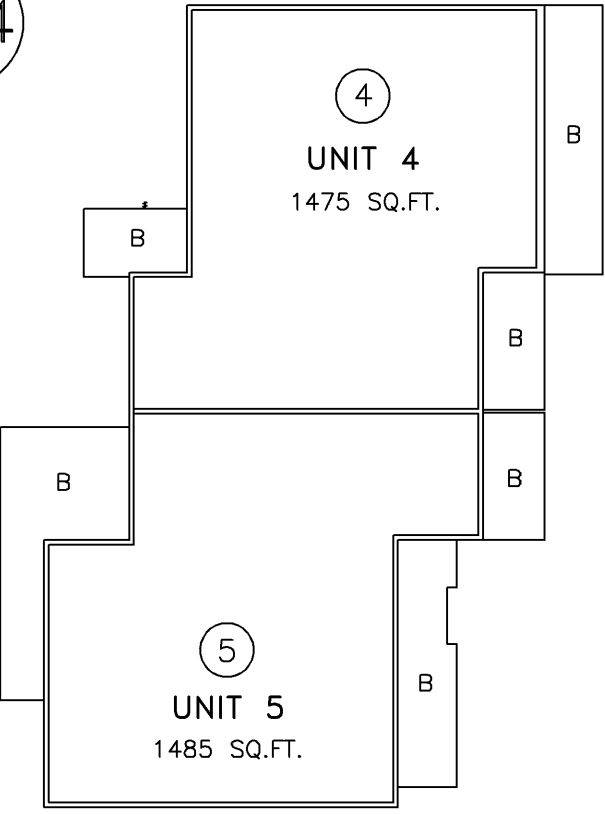
BUILDING B
FIRST FLOOR

TAX CODE AREA

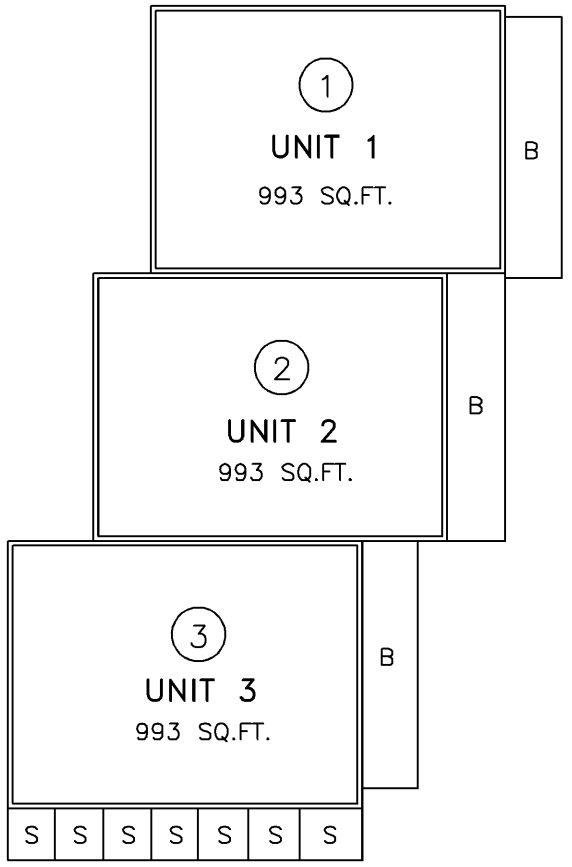


SECOND LEVEL

134



SECOND LEVEL

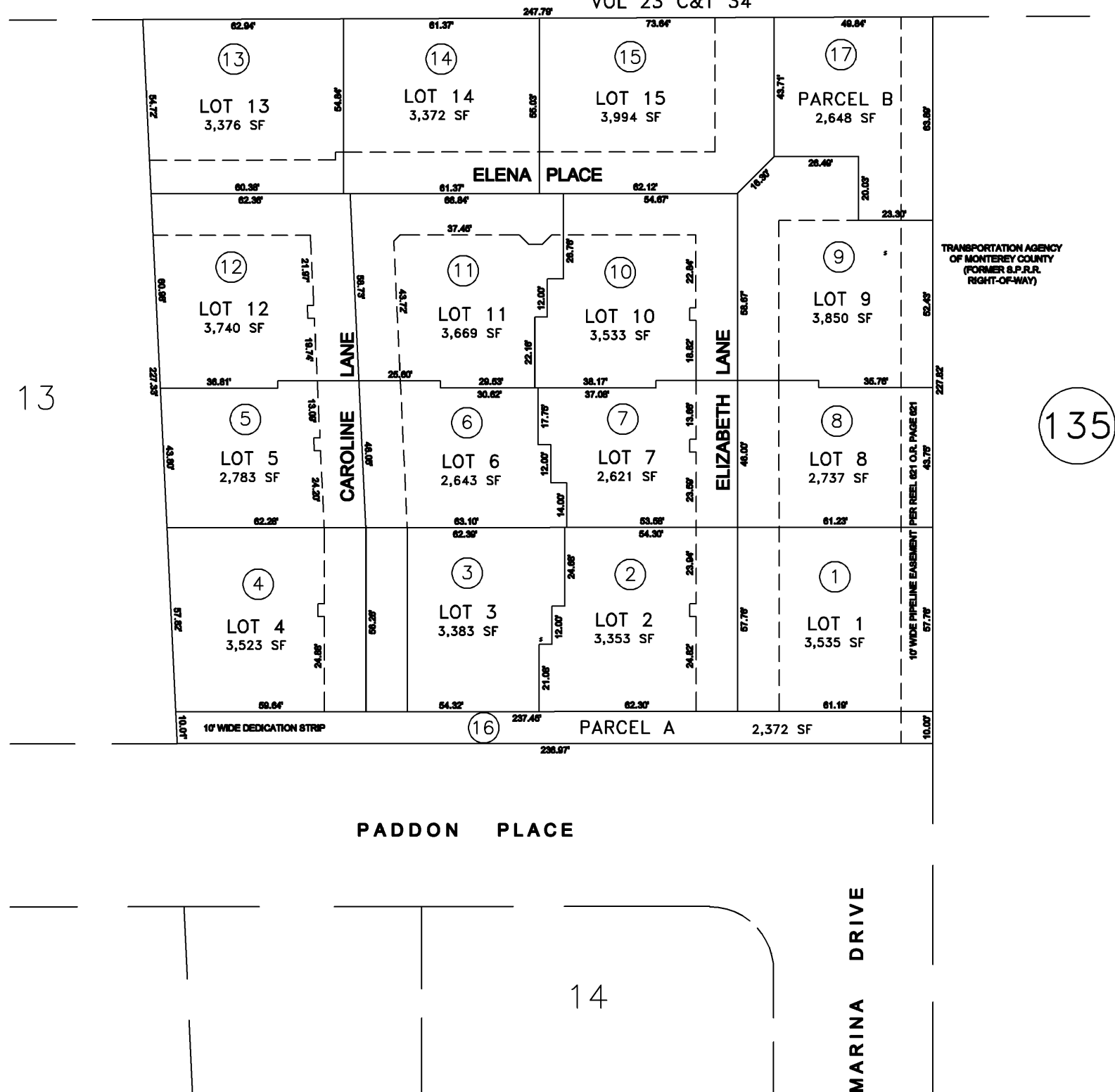


GROUND LEVEL

NOTE:
B = BALCONY
G = GARAGE
P = PARKING
S = STORAGE

TRACT NO. 1405
PADDON PLACE CONDOMINIUMS
RECORDED 10-31-03

VOL 23 C&T 34



TRACT NO. 1470
LOCKE PADDON POINT
RECORDED 7-21-06

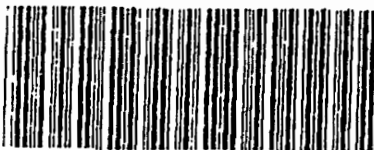
RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
Esc 1722707JCB
AND WHEN RECORDED MAIL THIS DEED AND, UNLESS OTHERWISE
SHOWN BELOW, MAIL TAX STATEMENT TO:

Joseph F. Pitta
Monterey County Recorder
Recorded at the request of
Chicago Title

CRROBERTA
12/10/2001
8:00:00

Name Public Works Department
City of Marina
Street Address 211 Hillcrest Avenue
City & State Marina, CA 93933
Zip

DOCUMENT: 2001103581



2001103581

Titles: 1/ Pages: 4

Fees... 17.00

Taxes...

Other...

AMT PAID \$17.00

Title Order No. _____ Escrow No. _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

T 355 Legal (2-04)

Grant Deed

THE UNDERSIGNED GRANTOR(S) DECLARE(S)

DOCUMENTARY TRANSFER TAX IS \$ exempt

☐ _____ unincorporated area ☒ City of Marina

Parcel No. 033-121-007

☒ computed on full value of interest or property conveyed, or

☐ computed on full value less value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged.

MONTEREY PENINSULA REGIONAL PARK DISTRICT, a public entity

hereby GRANT(S) to

The CITY OF MARINA, a Municipal Corporation

the following described real property in the City of Marina
county of Monterey, state of California:

See Exhibits "A" and "B" attached hereto and made a part hereof by reference.

The property conveyed herein is intended to be developed by Grantee as a public facility, limited to an auditorium, community center, class room / community center, class room / community meeting room, or library. If Grantee fails to undertake construction of such public facility within four years of the close of escrow, unless said time period has been extended by mutual consent of Grantor and Grantee, Grantor shall have right, at its sole discretion, following sixty (60) days notice to Grantee to cure said default or defect, to buy the property from Grantee for the same price which Grantee paid Grantor (i.e., \$357,550 three hundred fifty seven thousand, five hundred fifty dollars and no interest added).

Dated December 5, 2001

STATE OF CALIFORNIA
COUNTY OF Monterey } S.S.

On December 7, 2001 before me,

Jacqueline C. Balesteri

a Notary Public in and for said County and State, personally appeared
JOSEPH DONOFRIO

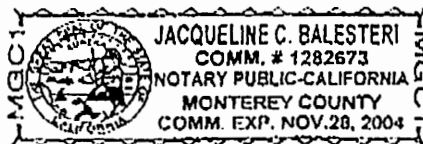
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Signature Jacqueline C. Balesteri

MONTEREY PENINSULA REGIONAL PARK DISTRICT,
a public entity

JOSEPH DONOFRIO, General Manager



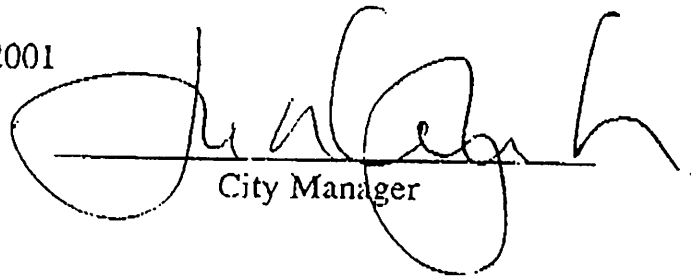
(This area for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SHOWN, MAIL AS DIRECTED ABOVE

CERTIFICATE OF ACCEPTANCE
OF
GRANT DEED

This is to certify that the interest in real property conveyed by the attached Grant Deed, acknowledged on December 5, 2001, from Monterey Peninsula regional Park District to the City of Marina, a California municipal corporation, is hereby accepted by the undersigned City Manager on behalf of the City of Marina pursuant to authority conferred by resolution of the City Council, adopted on November 1, 1988, the Grantee consents to recordation thereof by its duly authorized officer and Grantee accepts the condition subsequent contained in said Deed relating to Grantor's right of repurchase in the event of Grantee's failure to undertake construction as described in the Grant Deed.

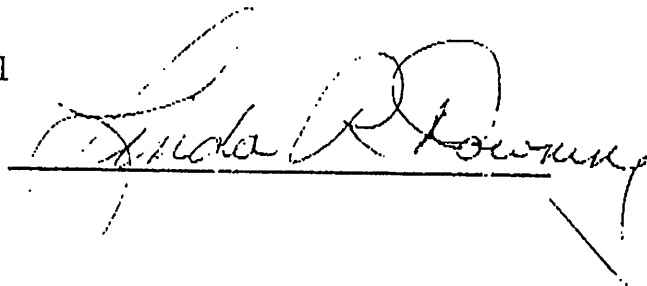
Dated: December 5, 2001

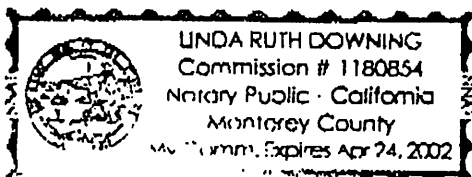

City Manager

STATE OF CALIFORNIA)
) ss
COUNTY OF MONTEREY)

On December 5, 2001, before the undersigned, a Notary Public in and for said County and State, personally appeared John R. Longley personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument as City Manager of the City of Marina and acknowledged to me that said municipal corporation executed it.

Dated: December 5, 2001





B.T. DEVELOPMENT

HEROD

MARINA LANDING

VOLUME 19 PARCEL MAPS PAGE 18

P.O.B.

SEASIDE

CIRCLE N 83° 44' 33" E

362.04'

N 80° 36' 38" E, 204.03'

91.34'

REMAINDER PARCEL
1.789 ACRES

TOTAL SITE = 4.472 ACRES

S 80° 36' 17" W, 391.69'

MARINA LIBRARY SITE
2.683 ACRES

R = 303.00'
Δ = 95° 24' 40"
L = 504.56'

LOT 40

LOT 41

MONTEREY PENINSULA
REGIONAL PARK DISTRICT

R = 303.00'
Δ = 95° 24' 40"
L = 504.56'

LOT 42

N 53° 43' W
112.65'

ISAKSON
LOT 43



LAST REVISED OCTOBER 3, 2001

PREPARED BY
MONTEREY BAY ENGINEERS, INC.
607 Charles Ave Suite B
Seaside, California 93955

EXHIBIT "B"

LOCKE-PADDON BAYSIDE
SUBDIVISION OF M.C.L.
VOLUME 2 MAPS & GRANTS PAGE 15

END OF DOCUMENT

SCALE: 1" = 100'

UNION PACIFIC
RAIL ROAD

DE LA MONTE BLVD.

Exhibit "A"

Legal Description of the Marina Public Library site

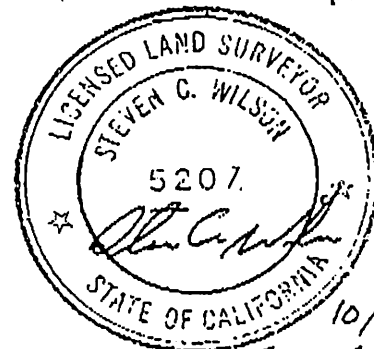
A portion of Lots 41 and 42 as shown on that map entitled "Locke-Paddon Company's Bayside Subdivision of Monterey City Lands" filed February 8, 1916 in Volume 2 of Maps and Ranches (Outside Lands) at Page 15, records of Monterey County, California; also being a portion of that property described in that deed to the Monterey Peninsula Regional Park District, a public entity, recorded April 25, 1991 in Reel 2634 of Official Records of Monterey County, California at Page 348, situate in the City of Marina, County of Monterey, State of California, being more particularly described as follows:

beginning at the intersection of the southerly sideline of Seaside Circle (shown on map as Seaside Avenue, 40 feet wide) with the westerly sideline of Marina Drive (30 feet wide) as shown on said map; thence from said point of beginning,

- 1) along the westerly side line of Marina Drive the following, six courses, 87.39 feet along the arc of a curve to the left described from a radius point which bears South $79^{\circ} 10' 01''$ East, 1455.17 feet, through a central angle of $3^{\circ} 26' 27''$; thence,
- 2) 10.56 feet along the arc of a curve to the left described from a radius point which bears South $82^{\circ} 36' 28''$ East, 1512.47 feet, through a central angle of $0^{\circ} 24' 00''$; thence,
- 3) 31.47 feet along the arc of a curve to the left described from a radius point which bears South $83^{\circ} 00' 28''$ East, 1717.09 feet, through a central angle of $1^{\circ} 03' 00''$; thence,
- 4) 31.26 feet along the arc of a curve to the left described from a radius point which bears South $84^{\circ} 03' 28''$ East, 1989.91 feet, through a central angle of $0^{\circ} 54' 00''$; thence,
- 5) 31.05 feet along the arc of a curve to the left described from a radius point which bears South $84^{\circ} 57' 28''$ East, 2371.88 feet, through a central angle of $0^{\circ} 45' 00''$; thence,
- 6) 24.34 feet along the arc of a curve to the left described from a radius point which bears South $85^{\circ} 42' 27''$ East, 2944.83 feet, through a central angle of $0^{\circ} 28' 25''$ to the intersection with the southeasterly line of said Lot 42; thence,
- 7) along said southeasterly line of Lot 42, South $36^{\circ} 17' 00''$ West, 340.00 feet; thence,
- 8) leaving said southeasterly line, North $53^{\circ} 43' 00''$ West, 112.65 feet; thence,
- 9) North $6^{\circ} 15' 27''$ West, 384.59 feet to a point on the said southerly line of Seaside Circle; thence,
- 10) along the southerly line of Seaside Circle, North $83^{\circ} 44' 33''$ East, 362.04 feet to said point of beginning.

Containing 116,887 square feet, or 2.683 acres.

Bearings are based upon Zone 4 of the California Coordinate System of 1927 (CCS-27) as shown on State Highway Map Book 5, Page 127.



10/05/2001
END 6/20/2002

LEASE

This lease is made August 3, 1987, 1987, between the Monterey Peninsula Regional Park District ("Landlord"), a special district of the State of California, whose address is P.O. Box 935, Carmel Valley, CA 93924, and the City of Marina ("Tenant"), a California municipal corporation whose address is 211 Hillcrest Ave., Marina, CA 93933. Landlord and Tenant, in consideration of the mutual promises contained herein, agree as follows:

1. **Recitals.** Landlord and Tenant wish to preserve, improve and enhance certain wetlands located in the City of Marina in accordance with the City of Marina Revised Wetlands Enhancement Plan adopted by the City in February 1987. Tenant is willing to perform the work necessary to implement said Plan; Landlord intends to apply for reimbursement for \$100,000 toward the costs of said work from the funds available under the California Park Bond Act of 1986.

2. **Premises.** Landlord leases to Tenant, and Tenant leases from Landlord that certain real property consisting of approximately 12.3 acres of land within the City of Marina, California, described as A.P. Nos. 033-132-01 and 033-121-06, and more particularly described on Exhibit A attached hereto and hereby incorporated herein by reference.

3. **Term.** The term shall commence August 3, 1987, and shall expire August 2, 2012.

4. **Rent.** Tenant shall pay to Landlord as rent, the sum of \$1.00, to be paid in advance on the first day of commencement of the term. All rent shall be paid to Landlord at the address shown in the first paragraph of this lease.

5. **Use.** Tenant shall use the premises as a park and for habitat enhancement; provided, however, that Tenant's use shall comply with the Wetlands Enhancement Plan, as revised by the City of Marina in February 1987, or as later additionally amended.

6. **Maintenance.** Tenant at its cost shall maintain, in good condition, all portions of the premises, including, without limitation, all Tenant's personal property. Tenant shall keep the leased premises and structures in a neat and safe condition and repair, satisfactory to Landlord.

7. **Tenant Improvements.** Tenant intends to use its best efforts to make those improvements implementing the aforementioned Wetlands Enhancement Plan, but shall not make any other alterations or improvements to the premises without Landlord's consent. If Tenant is not in default of any provisions of this lease, Tenant shall have the right to remove from the premises immediately before the expiration of the term any improvements and alterations Tenant has made on the premises, and Tenant at its cost shall promptly restore any damage caused by the removal.

8. **Obtaining Zoning and Other Permits.** Tenant, at its cost shall petition all appropriate government agencies for the purpose of obtaining all permits necessary for the conduct of Tenant's intended use of the premises.

9. **Utilities and Services.** Tenant shall make all arrangements for and pay for all utilities and services furnished to or used by it, and all connection charges.

10. **Indemnity.** Tenant shall hold Landlord harmless from all damages arising out of any damage to any person or property occurring in, on, or about the premises, except that Landlord shall be liable to Tenant for damage resulting from the acts or omission of Landlord or its authorized representatives. The parties acknowledge that there is an agreement (recorded in Reel 2085, Page 534, on April 15, 1987 in the official records of Monterey County, California) between Landlord and Walton Radio which under certain circumstances may obligate Walton Radio to indemnify Landlord. A party's obligation under this paragraph to indemnify and hold the other party harmless shall be limited to the sum that exceeds the amount of insurance proceeds, if any, received by the party being indemnified.

11. **Public Liability and Property Damage Insurance.** Tenant at its cost shall maintain adequate public liability and property damage insurance, insuring against all liability of Tenant and its authorized representatives arising out of and in connection with Tenant's use or occupancy of the premises.

All public liability insurance, and property damage insurance shall insure performance by Tenant of the indemnity provisions of paragraph 10. Each party shall be named as additional insured on the other's policy, and both policies shall contain cross-liability endorsements.

12. **Assignment.** Tenant shall not assign this lease.

13. **Default.** Failure to perform any provision of this lease, if the failure to perform is not cured within 30 days after notice has been given to Tenant, shall constitute a default by Tenant. Landlord's remedies, in the event Tenant commits a

default shall include, in addition to any remedies now or later allowed by law, the right to terminate Tenant's right to possession of the premises at any time, by giving notice to Tenant of said termination of possession.

14. **Entry on Premises.** Landlord and its authorized representatives shall have the right to enter the premises at all reasonable times for the purpose of maintenance, safety inspection, and posting of notices.

15. **Notice.** All notices shall be deemed properly delivered if in writing and delivered personally or mailed first class, postage prepaid to the parties as shown in the opening paragraph of this lease.

16. **Attorney Fees.** If either party becomes a party to any arbitration or litigation concerning this lease, the premises, or the building or other improvements located on the premises, by reason of any act or omission of the other party or its authorized representatives, and not by any act or omission of the party that becomes a party to that arbitration or litigation or any act or omission of its authorized representatives, the party that causes the other party to become involved in the arbitration or litigation shall be liable to that party for reasonable attorneys fees and court costs incurred by it in the arbitration or litigation.

If either party commences an action against the other party arising out of or in connection with this lease, the prevailing party shall be entitled to have and recover from the losing party reasonable attorneys fees and costs of suit.

17. **Entire agreement.** This lease contains all the agreements of the parties and cannot be amended or modified except by a written agreement.

18. **Severability.** The unenforceability, invalidity, or illegality of any provision shall not render the other provisions unenforceable, invalid, or illegal.

LANDLORD

TENANT

MONTEREY PENINSULA REGIONAL
PARK DISTRICT

CITY OF MARINA

BY:


Sean Flavin

President, Board of Directors

BY:


Mayor George Takafashi

157304
DESCRIPTION

DESCRIPTION

REEL 2085 PAGE 539

PARCEL 1:

Certain real property situate in the City of Marina, Monterey County, California, being a portion of Lots 40, 41, 42, 46, 47 and 48, as shown on the map entitled, "Locke Paddon Company's Bayside Subdivision of Monterey City Lands," recorded in Volume 2 of Maps and Grants (Outside Lands) at Page 15, particularly described as follows:

BEGINNING at a point on the northeasterly line of Reservation Road, as said Road is shown on that certain map entitled, "Right of Way Map, Marina to Merritt St. at Castroville, 85.8/R92.8," Sheet No. 6D of 30 Sheets, on file with the California Department of Transportation, District 5, San Luis Obispo, said point being at the intersection of said northeasterly line of Reservation Road with the southeasterly line of said Lot 46; and running thence along said northeasterly line of Reservation Road

(1) N. 51° 09' 20" W., 207.47 feet; thence

(2) Non-Tangentially, from a tangent which bears N. 42° 02' 09" W., 620.38 feet along the arc of a curve concave to the northeast having a radius of 808 feet through a central angle of 43° 59' 29" (long chord bears N. 20° 02' 24 1/2" W., 605.25 feet) to the intersection of said northeasterly line of Reservation Road with the common line between said lots 40 and 48; thence along said common line between lots 40 and 48

(3) S. 51° 09' 20" E., 87.01 feet; thence leaving said line

(4) Non-tangentially, from a tangent which bears N. 39° 52' 54" E., 162.47 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 30° 43' 22" (long chord bears N. 55° 14' 35" E., 160.53 feet); thence

(5) Non-tangentially, from a tangent which bears N. 9° 37' 09" W., 79.76 feet along the arc of a curve concave to the east having a radius of 303 feet through a central angle of 14° 59' 14" (long chord bears N. 2° 07' 32" W., 79.03 feet); thence

(6) Tangentially, N. 5° 22' 05" E., 273.00 feet to a point on the southerly line of Seaside Avenue, as said avenue is shown on said Right of Way Map; thence along said line

REEL 2085 PAGE 540

- (7) N. 80° 36' 17" E., 15.51 feet; thence leaving said line
- (8) S. 5° 22' 05" W., 182.80 feet; thence
- (9) Non-tangentially, from a tangent which bears N. 23° 28' 30" E., 89.17 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 16° 51' 44" (long chord bears N. 31° 54' 22" E., 88.35 feet); thence
- (10) Non-tangentially, N. 80° 36' 17" E., 391.69 feet; thence
- (11) Non-tangentially, from a tangent which bears S. 59° 07' 40" E., 504.57 feet along the arc of a curve concave to the southwest having a radius of 303 feet through a central angle of 95° 24' 40" (long chord bears S. 11° 25' 20" E., 448.26 feet); thence
- (12) Radially, S. 53° 43' E., 58.00 feet to a point on the southeasterly line of said Lot 42; thence along said line and its prolongation along the southeasterly line of said Lot 46
- (13) S. 36° 17' W., 710.42 feet to the point of beginning.

PARCEL II:

Right to use and maintain existing underground copper lines for the operation of radio transmission facilities over a parcel of land described as follows:

BEGINNING at the northeasterly terminus of above described course numbered 10 of the above described 12.275 acre parcel, and running thence

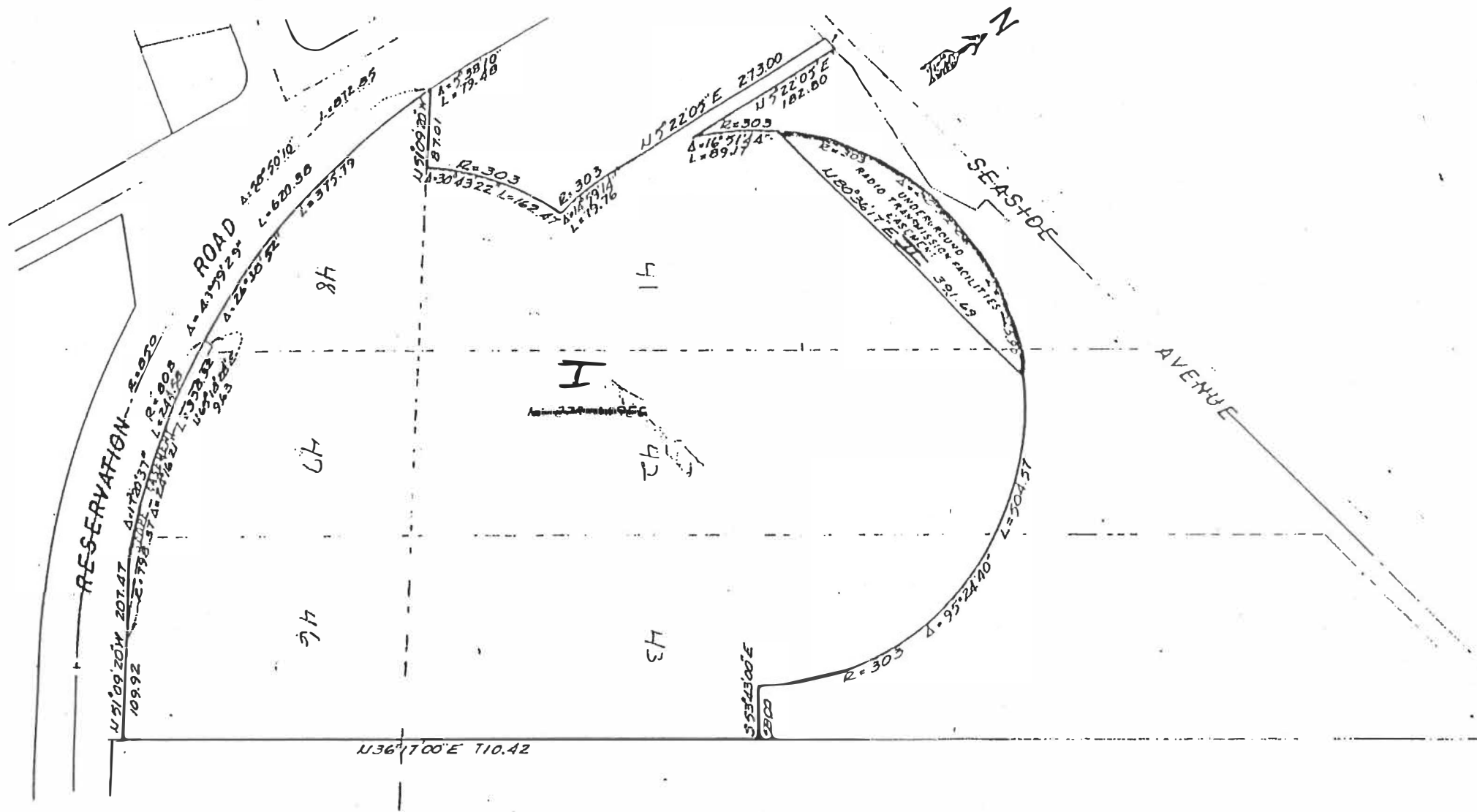
- (1) Southwesterly, 425.90 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 80° 32' 06" (long chord bears S. 80° 36' 17" W., 391.69 feet); thence
- (2) N. 80° 36' 17" E., 391.69 feet to the point of beginning.

NOTE: Bearings and Distances shown above are grid bearings and distances based on the California Co-ordinate System, Zone 4. To obtain ground distances, multiply grid distances shown by 1.0000587.

A.P. NO. 033-132-01
033-121-06

END OF DOCUMENT

THIS DIAGRAM FOR LOCATION PURPOSES ONLY
SAFECO TITLE INSURANCE COMPANY



SURVEYOR'S CERTIFICATE

This map was prepared by me or under my direction. It was prepared from record data. Land is based upon a field survey in accordance with the requirements of the Subdivision Map Act at the request of

COUNTY'S SURVEYOR'S CERTIFICATE

This map conforms with the requirements of the Subdivision Map Act and local ordinance.

Dated

COUNTY RECORDER'S CERTIFICATE

I, the undersigned, do hereby certify that this map is a true and correct copy of the original map as filed in my office, and that it conforms with the requirements of the Subdivision Map Act and local ordinance.

I hereby certify that it conforms to the approved tentative map and the conditions of approval thereof.

County Surveyor

County Recorder

County Recorder

County Recorder

DESCRIPTION

Lots Numbered 40, 41 and 42, as said Lots are shown on that certain map entitled, Map of 'Locke-Paddon Company's Bayside Subdivision', filed in Volume 2 of Maps and Grants (Outside Lands) at Page 15, Monterey County Records.

EXCEPTING THEREFROM all that portion described as follows:

That portion of Lot Numbered 40, as said Lot is shown on that certain map entitled, 'Locke-Paddon Company's Bayside Subdivision', filed in Volume 2 of Maps and Grants (Outside Lands) at Page 15, Monterey County Records, described in two parcels as follows:

PARCEL I:

Beginning at the intersection of the Easterly line of Lake Drive and the Southerly line of Seaside Avenue as shown on the above said map; thence

- (1) Along said Easterly line S. 07 degrees 44' 20" W., 67.68 feet; thence
- (2) N. 37 degrees 33' 17" E., 95.00 feet to a point in said Southerly line; thence
- (3) Along said line S. 80 degrees 36' 17" W., 49.43 feet to the point of beginning.

PARCEL II:

Beginning at a point in the above said Southerly line of Seaside Avenue, distant therein N. 80 degrees 36' 17" E., 263.78 feet from the above said intersection of said Southerly line with the Easterly line of Lake Drive; thence

- (1) Along said Southerly line N. 80 degrees 36' 17" E., 213.73 feet; thence
- (2) S. 08 degrees 28' 23" E., 15.40 feet; thence
- (3) S. 62 degrees 53' 37" W., 59.26 feet; thence
- (4) N. 37 degrees 23' 22" W., 160.53 feet to the point of beginning.

ALSO EXCEPTING THEREFROM all that certain property described in the deed to County of Monterey, a body politic and corporation, recorded September 27, 1973 in Reel 872 of Official Records of Monterey County at page 957.

ALSO EXCEPTING THEREFROM all that certain property described in the deed to Walton Radio, Inc., a corporation organized under the laws of the State of Nevada, recorded June 17, 1976 in Reel 1062 of Official Records of Monterey County at page 430.

A.P. NO. 033-121-07

RESOLUTION NO. 91- 80

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MARINA
AUTHORIZING EXECUTION OF AMENDMENT
TO LOCKE PADDON LEASE AGREEMENT

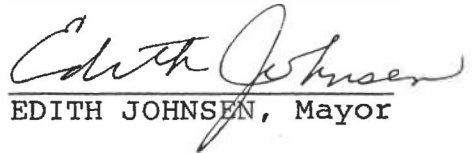
BE IT RESOLVED by the City Council of the City of Marina that the Mayor be and is hereby authorized to execute the Locke Paddon Lease Amendment #1 with the Monterey Regional Park District. A copy of said Lease Amendment #1 is attached hereto.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Marina, duly held on the 1st day of October, 1991, by the following vote:

AYES, COUNCIL MEMBERS: Takali, Yates, Horning, Perrine and Mayor Johnsen.

NOES, COUNCIL MEMBERS: None

ABSENT, COUNCIL MEMBERS: None


EDITH JOHNSEN, Mayor

ATTEST:


JOY P. JUNSAY, City Clerk

LOCKE PADDON LEASE AMENDMENT #1

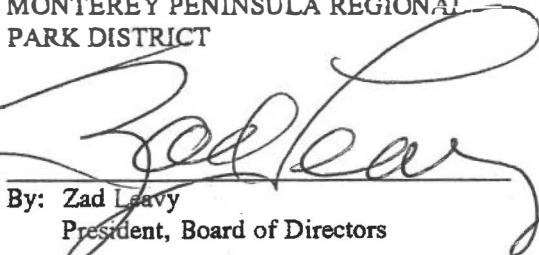
That the certain Lease Agreement dated August 3, 1987, between the Monterey Peninsula Regional Park District and the City of Marina is amended as follows:

Paragraph 2 **Premises** is to read:

"Landlord leases to Tenant, and Tenant leases from Landlord that certain real property consisting of approximately 17.3 acres of land within the City of Marina, California, described as A.P. Nos. 033-132-01, 033-121-06, and 033-121-07, and more particularly described on Exhibit "A" attached hereto and hereby incorporated herein by reference."

Dated: October 2, 1991

MONTEREY PENINSULA REGIONAL
PARK DISTRICT


By: Zad Leavy
President, Board of Directors

(locke)

CITY OF MARINA


By: Edith Johnsen
Mayor

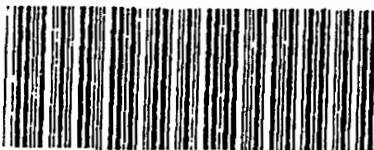
RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
Esc 1722707JCB
AND WHEN RECORDED MAIL THIS DEED AND, UNLESS OTHERWISE
SHOWN BELOW, MAIL TAX STATEMENT TO:

Joseph F. Pitta
Monterey County Recorder
Recorded at the request of
Chicago Title

CRROBERTA
12/10/2001
8:00:00

Name Public Works Department
City of Marina
Street Address 211 Hillcrest Avenue
City & State Marina, CA 93933
Zip

DOCUMENT: 2001103581



2001103581

Titles: 1/ Pages: 4

Fees... 17.00

Taxes...

Other...

AMT PAID \$17.00

Title Order No. _____ Escrow No. _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

T 355 Legal (2-04)

Grant Deed

THE UNDERSIGNED GRANTOR(S) DECLARE(S)

DOCUMENTARY TRANSFER TAX IS \$ exempt

☐ _____ unincorporated area ☒ City of Marina

Parcel No. 033-121-007

☒ computed on full value of interest or property conveyed, or

☐ computed on full value less value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged.

MONTEREY PENINSULA REGIONAL PARK DISTRICT, a public entity

hereby GRANT(S) to

The CITY OF MARINA, a Municipal Corporation

the following described real property in the City of Marina
county of Monterey, state of California:

See Exhibits "A" and "B" attached hereto and made a part hereof by reference.

The property conveyed herein is intended to be developed by Grantee as a public facility, limited to an auditorium, community center, class room / community center, class room / community meeting room, or library. If Grantee fails to undertake construction of such public facility within four years of the close of escrow, unless said time period has been extended by mutual consent of Grantor and Grantee, Grantor shall have right, at its sole discretion, following sixty (60) days notice to Grantee to cure said default or defect, to buy the property from Grantee for the same price which Grantee paid Grantor (i.e., \$357,550 three hundred fifty seven thousand, five hundred fifty dollars and no interest added).

Dated December 5, 2001

STATE OF CALIFORNIA
COUNTY OF Monterey } S.S.

On December 7, 2001 before me,

Jacqueline C. Balesteri

a Notary Public in and for said County and State, personally appeared
JOSEPH DONOFRIO

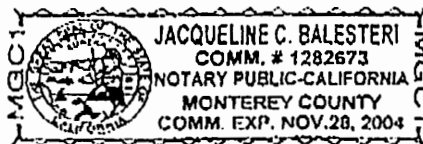
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Signature Jacqueline C. Balesteri

MONTEREY PENINSULA REGIONAL PARK DISTRICT,
a public entity

JOSEPH DONOFRIO, General Manager



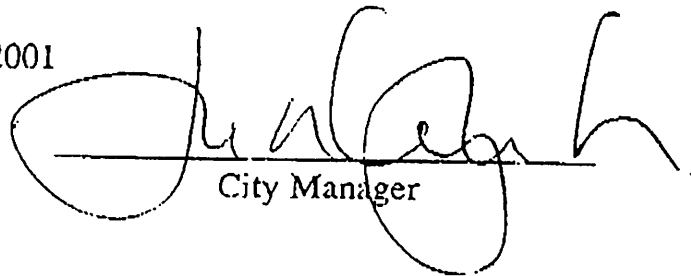
(This area for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SHOWN, MAIL AS DIRECTED ABOVE

CERTIFICATE OF ACCEPTANCE
OF
GRANT DEED

This is to certify that the interest in real property conveyed by the attached Grant Deed, acknowledged on December 5, 2001, from Monterey Peninsula regional Park District to the City of Marina, a California municipal corporation, is hereby accepted by the undersigned City Manager on behalf of the City of Marina pursuant to authority conferred by resolution of the City Council, adopted on November 1, 1988, the Grantee consents to recordation thereof by its duly authorized officer and Grantee accepts the condition subsequent contained in said Deed relating to Grantor's right of repurchase in the event of Grantee's failure to undertake construction as described in the Grant Deed.

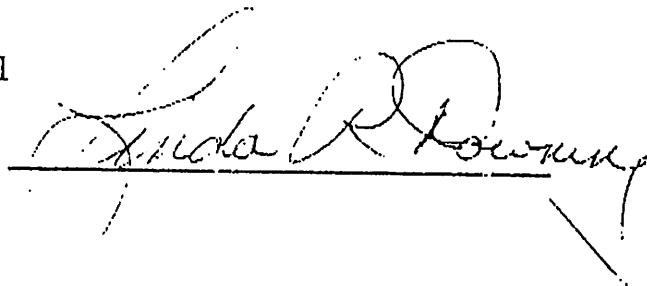
Dated: December 5, 2001

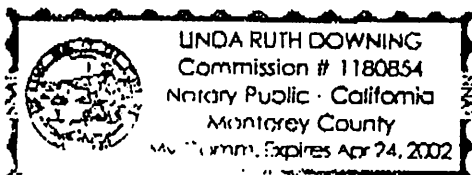

City Manager

STATE OF CALIFORNIA)
) ss
COUNTY OF MONTEREY)

On December 5, 2001, before the undersigned, a Notary Public in and for said County and State, personally appeared John R. Longley personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument as City Manager of the City of Marina and acknowledged to me that said municipal corporation executed it.

Dated: December 5, 2001





B.T. DEVELOPMENT

HEROD

MARINA LANDING

VOLUME 19 PARCEL MAPS PAGE 18

P.O.B.

SEASIDE

CIRCLE N 83° 44' 33" E

N 80° 36' 38" E, 204.03'

REMAINDER PARCEL
1.789 ACRES

TOTAL SITE = 4.472 ACRES

S 80° 36' 17" W, 391.69'

MARINA LIBRARY SITE
2.683 ACRES

R = 303.00'
Δ = 95° 24' 40"
L = 504.56'

LOT 40

LOT 41

MONTEREY PENINSULA
REGIONAL PARK DISTRICT

R = 303.00'
Δ = 95° 24' 40"
L = 504.56'

LOT 42

ISAKSON
LOT 43



LAST REVISED OCTOBER 3, 2001

PREPARED BY
MONTEREY BAY ENGINEERS, INC.
607 Charles Ave Suite B
Seaside, California 93955

EXHIBIT "B"

LOCKE-PADDON BAYSIDE
SUBDIVISION OF M.C.L.
VOLUME 2 MAPS & GRANTS PAGE 15

END OF DOCUMENT

SCALE: 1" = 100'

UNION PACIFIC
RAIL ROAD

DE LA MONTE BLVD.

Exhibit "A"

Legal Description of the Marina Public Library site

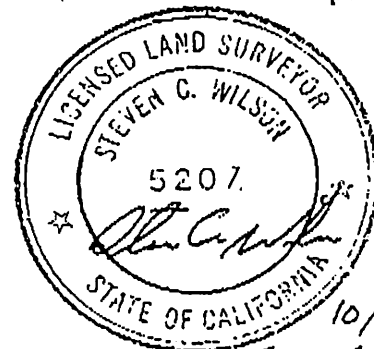
A portion of Lots 41 and 42 as shown on that map entitled "Locke-Paddon Company's Bayside Subdivision of Monterey City Lands" filed February 8, 1916 in Volume 2 of Maps and Ranches (Outside Lands) at Page 15, records of Monterey County, California; also being a portion of that property described in that deed to the Monterey Peninsula Regional Park District, a public entity, recorded April 25, 1991 in Reel 2634 of Official Records of Monterey County, California at Page 348, situate in the City of Marina, County of Monterey, State of California, being more particularly described as follows:

beginning at the intersection of the southerly sideline of Seaside Circle (shown on map as Seaside Avenue, 40 feet wide) with the westerly sideline of Marina Drive (30 feet wide) as shown on said map; thence from said point of beginning,

- 1) along the westerly side line of Marina Drive the following, six courses, 87.39 feet along the arc of a curve to the left described from a radius point which bears South $79^{\circ} 10' 01''$ East, 1455.17 feet, through a central angle of $3^{\circ} 26' 27''$; thence,
- 2) 10.56 feet along the arc of a curve to the left described from a radius point which bears South $82^{\circ} 36' 28''$ East, 1512.47 feet, through a central angle of $0^{\circ} 24' 00''$; thence,
- 3) 31.47 feet along the arc of a curve to the left described from a radius point which bears South $83^{\circ} 00' 28''$ East, 1717.09 feet, through a central angle of $1^{\circ} 03' 00''$; thence,
- 4) 31.26 feet along the arc of a curve to the left described from a radius point which bears South $84^{\circ} 03' 28''$ East, 1989.91 feet, through a central angle of $0^{\circ} 54' 00''$; thence,
- 5) 31.05 feet along the arc of a curve to the left described from a radius point which bears South $84^{\circ} 57' 28''$ East, 2371.88 feet, through a central angle of $0^{\circ} 45' 00''$; thence,
- 6) 24.34 feet along the arc of a curve to the left described from a radius point which bears South $85^{\circ} 42' 27''$ East, 2944.83 feet, through a central angle of $0^{\circ} 28' 25''$ to the intersection with the southeasterly line of said Lot 42; thence,
- 7) along said southeasterly line of Lot 42, South $36^{\circ} 17' 00''$ West, 340.00 feet; thence,
- 8) leaving said southeasterly line, North $53^{\circ} 43' 00''$ West, 112.65 feet; thence,
- 9) North $6^{\circ} 15' 27''$ West, 384.59 feet to a point on the said southerly line of Seaside Circle; thence,
- 10) along the southerly line of Seaside Circle, North $83^{\circ} 44' 33''$ East, 362.04 feet to said point of beginning.

Containing 116,887 square feet, or 2.683 acres.

Bearings are based upon Zone 4 of the California Coordinate System of 1927 (CCS-27) as shown on State Highway Map Book 5, Page 127.



10/05/2001
END 6/20/2002

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL THIS DEED AND, UNLESS OTHERWISE SHOWN BELOW, MAIL TAX STATEMENTS TO:

NAME CITY OF MARINA
ADDRESS 211 Hillcrest Avenue
CITY & STATE Marina, CA 93933
ZIP

Title Order No.

Escrow No. 157305-RR

RECORDED AT REQUEST OF
SAFECO TITLE INSURANCE COMPANY

32813

MAY 28 10 09 AM '87

OFFICE OF RECORDER
COUNTY OF MONTEREY
SALINAS, CALIFORNIA

REEL 2103 PAGE 240

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

The undersigned declares that the documentary transfer tax is \$60.50 and is

- ☐ computed on the full value of the interest or property conveyed, or is
☐ computed on the full value less the value of liens or encumbrances remaining thereon at the time of sale. The land, tenements or realty is located in
☐ unincorporated area ☐ city of _____ and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY, a California joint powers agency

hereby GRANT(S) to
CITY OF MARINA

the following described real property in the
county of Monterey

Lot Numbered 44, as said Lot is shown on that certain map entitled, "Locke-Paddon Company's Bayside Subdivision of Monterey City Lands", filed in Volume 2 of Maps, and Grants (Outside Lands) at page 15, Monterey County Records.

EXCEPTING THEREFROM all that property lying Southwesterly of the North-easterly line of Reservation Road as said line is set forth in the Deed to the County of Monterey, recorded October 3, 1972, in Reel 801 of Official Records of Monterey County at page 566.

-----SEE EXHIBIT "A" ATTACHED HERETO FOR DEED PROVISIONS-----

Dated May 6, 1987

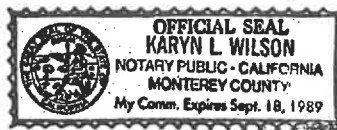
MONTEREY REGIONAL WATER POLLUTION
CONTROL AGENCY

BY Charles W. Benson
Kenneth P. De Mest

STATE OF CALIFORNIA)
) SS.
COUNTY OF MONTEREY)

On this 20th day of May, 1987, before me the undersigned, a Notary Public in and for said County and State, personally appeared Charles W. Benson & Kenneth P. De Mest, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument as Chairman & Secretary of MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY, and acknowledged to me that the Monterey Regional Water Pollution Control Agency executed it.

Karyn L. Wilson
signature of Notary



ESSENTIAL DEED PROVISION

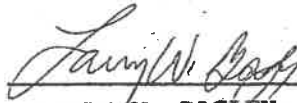
1. That the property is being acquired by the Grantee pursuant to a grant funds from the State Coastal Conservancy, an agency of the State of California, for open-space, wildlife habitat, and passive recreational purposes and that no other use of the property than is consistent with these purposes is permitted, except by specific act of the legislature.
2. That the property (including any portion thereof or interest therein) may not be used as security for any debt without written approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
3. That the property (including any portion thereof or interest therein) may not be transferred without the approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
4. That if any of the above essential provisions are violated, all Grantee's right, title and interest in the property shall automatically vest in the State of California for the benefit of the Conservancy or its successor, upon acceptance thereof, provided, however, that the State, acting by and through the Executive Officer of the Conservancy, or its successor, may designate another public agency or a nonprofit organization to accept said right, title and interest, in which case vesting shall be in that agency or organization rather than the State.

C E R T I F I C A T E O F A C C E P T A N C E

Resolution No. 81-23

THIS IS TO CERTIFY THAT the interest in real property conveyed by the instrument dated May 6, 1987 to Marina, a municipal corporation of the State of California, is hereby accepted by the undersigned pursuant to authority conferred by Resolution No. 81-23 of the City Council of Marina, adopted on May 19, 1981, and consent is hereby given for the recordation of said instrument.

Dated: May 20, 1987



LARRY W. BAGLEY, CITY MANAGER

END OF DOCUMENT

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL THIS DEED AND, UNLESS OTHERWISE SHOWN BELOW, MAIL TAX STATEMENTS TO:

NAME CITY OF MARINA
ADDRESS 211 Hillcrest Avenue
CITY & STATE Marina, CA 93933
ZIP

Title Order No. Escrow No. 157306

RECORDED AT REQUEST OF
SAFECO TITLE INSURANCE COMPANY

MAY 28 10 09 AM '87

OFFICE OF RECORDER
COUNTY OF MONTEREY
SALINAS, CALIFORNIA

32814

DO FEE

REEL 2103 PAGE 243

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

The undersigned declares that the documentary transfer tax is ~~8.60~~ 50 and is
☒ computed on the full value of the interest or property conveyed, or is
☐ computed on the full value less the value of liens or encumbrances remaining thereon at the time of sale. The land, tenements or realty is located in
☐ unincorporated area ☐ city of _____ and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
LOVELL D. AUSTIN AND WILMA I. AUSTIN, his wife
RICHARD G. AUSTIN AND LAURA E. AUSTIN, his wife

hereby GRANT(S) to
MONTEREY PENINSULA REGIONAL PARK DISTRICT, as to an undivided one half interest; CITY OF MARINA, A Municipal Corporation, as to an undivided one half interest
the following described real property in the
county of Monterey, state of California:

Lot Numbered 45, as said Lot is shown on that certain map entitled, Map of Locke-Paddon Company's Bayside Subdivision of Monterey City Lands", filed in Volume 2 of Maps and Grants (Outside Lands), at page 15, Monterey County Records.

EXCEPTING THEREFROM all that property lying Southwesterly of the North-easterly line of Reservation Road as said line is set forth in the deed to the County of Monterey, recorded February 13, 1973, in Reel 827 of Official Records of Monterey County at page 455.

---SEE EXHIBIT "A" ATTACHED HERETO FOR DEED PROVISION-----

Dated May 6, 1987

Lovell D. Austin
Lovell D. Austin

x Wilma I. Austin
Wilma I. Austin

x Richard G. Austin
Richard G. Austin

x Laura E. Austin
Laura E. Austin

STATE OF CALIFORNIA

COUNTY OF MONTEREY

ss.

On this the 18th day of MAY 1987, before me the undersigned, a
Notary Public in and for said County and State, personally appeared--LOVELL D. AUSTIN AND WILMA I. AUSTIN AND

---RICHARD G. AUSTIN AND
---LAURA E. AUSTIN---

_____, personally known
to me or proved to me on the basis of satisfactory evidence to be the
person(s) whose name are subscribed to the within instrument
and acknowledged that they executed the same.

Jean E. Allen
Signature of Notary

FOR NOTARY SEAL OR STAMP



Assessor's Parcel No. _____

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name

Street Address

City & State

ESSENTIAL DEED PROVISION

REEL 2103 PAGE 244

1. That the property is being acquired by the Grantee pursuant to a grant funds from the State Coastal Conservancy, an agency of the State of California, for open-space, wildlife habitat, and passive recreational purposes and that no other use of the property than is consistent with these purposes is permitted, except by specific act of the legislature.
2. That the property (including any portion thereof or interest therein) may not be used as security for any debt without written approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
3. That the property (including any portion thereof or interest therein) may not be transferred without the approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
4. That if any of the above essential provisions are violated, all Grantee's right, title and interest in the property shall automatically vest in the State of California for the benefit of the Conservancy or its successor, upon acceptance thereof, provided, however, that the State, acting by and through the Executive Officer of the Conservancy, or its successor, may designate another public agency or a nonprofit organization to accept said right, title and interest, in which case vesting shall be in that agency or organization rather than the State.

REEL 2103 PAGE 245

C E R T I F I C A T E O F A C C E P T A N C E

Resolution No. 81-23

THIS IS TO CERTIFY THAT the interest in real property conveyed by the instrument dated May 7-87 to Marina, a municipal corporation of the State of California, is hereby accepted by the undersigned pursuant to authority conferred by Resolution No. 81-23 of the City Council of Marina, adopted on May 19, 1981, and consent is hereby given for the recordation of said instrument.

Dated: _____

May 20, 1987

Larry W. Bagley
LARRY W. BAGLEY, CITY MANAGER

END OF DOCUMENT

**Implementation Plan for the Management of
Locke-Paddon Wetland Community Park and
Pond, Monterey County, California**

Report prepared for:

City of Marina Community Development Department,

Public Works Division

Christine di Iorio, Director

Edrie de los Santos, Project Manager

and

Monterey Peninsula Regional Park District

Tim Jensen

Prepared by:

Mark Strudley, PhD.

Barry Hecht, CEG, CHg

Josh Fodor (Central Coast Wilds)

Jon Laslett (Central Coast Wilds)

Jana Sokale (Environmental Planning)

Balance Hydrologics, Inc.

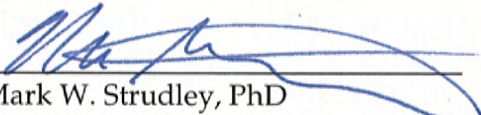
February 2012

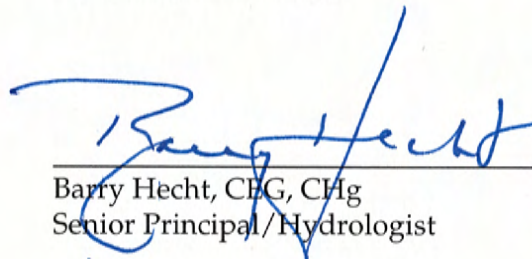
A report prepared for:

City of Marina Community Development Department
Ms. Christine di Iorio, Director
Mr. Edrie de los Santos, Project Manager
211 Hillcrest Avenue
Marina, California 93933
(831) 884-1212

**Implementation Plan for the Management of Locke-Paddon Wetland
Community Park and Pond, Monterey County, California**

© 2012 Balance Project Assignment: 209138
by


Mark W. Strudley, PhD
Hydrologist/Geologist


Barry Hecht, CEG, CHG
Senior Principal/Hydrologist



800 Bancroft Way, Suite 101
Berkeley, California 94710-2251
(510) 704-1000
office@balancehydro.com

224 Walnut Avenue, Suite E
Santa Cruz, California 95060
(831) 457-9900

February 3, 2012

TABLE OF CONTENTS

1. INTRODUCTION	1
1.1 BACKGROUND.....	1
1.1.1 Purpose	2
1.1.2 Phases of study	2
1.2 SETTING OF LOCKE-PADDON WETLAND COMMUNITY PARK.....	3
1.2.1 Geologic framework	3
1.2.2 Hydrographic setting and historical hydrology	5
1.2.3 Hydrostratigraphy and groundwater resources	9
1.2.4 Terrestrial and aquatic resources	13
1.2.5 Aesthetic, cultural, recreational, and community resources.....	13
1.3 MAINTENANCE AND OPERATIONS OF LOCKE-PADDON WETLAND COMMUNITY PARK	14
1.3.1 Management of vegetation and trail system	14
1.3.2 Wildlife feeding.....	16
1.4 ACKNOWLEDGEMENTS.....	16
2. GOALS AND OBJECTIVES	18
2.1 GOALS AND OBJECTIVES IN PRIOR PLANS	18
2.1.1 Marina Local Coastal Land Use Plan (1982)	18
2.1.2 Wetlands Enhancement Plan prepared by Callander Associates and Western Ecological Services Company (1987).....	19
2.1.3 Coastal/Vernal Pond Comprehensive Management Plan prepared by The Habitat Restoration Group and Mitchell Swanson Hydrologists (1994)	19
2.1.4 Master Plan prepared by the Monterey Peninsula Regional Park District Master Plan (1998)	20
2.1.5 City of Marina General Plan (2000, with updates to 2006)	21
2.1.5.1 Community Land Use Element - Habitat Reserves and Other Open Space.....	21
2.1.5.2 Community Infrastructure - Stormwater Drainage Policies.....	22
2.1.5.3 Community Design & Development Element - Environmental Protection and Conservation.....	23
2.1.5.4 Community Design & Development Element - Water Resources.....	23
2.1.5.5 Appendix D: Mitigation Measures from Final EIR and Mitigation Monitoring Plan	24
2.1.6 Purkiss-Rose-RSI Master Plan and Design Development Report (2005)	25
2.1.7 Rana Creek Habitat Restoration, City of Marina General Biological Assessment, Phase 1 (2009)	25
2.1.8 Rana Creek Habitat Restoration, City of Marina California Red-legged Frog Survey Report (2009) ..	28
2.2 SPECIFIC GOALS AND OBJECTIVES OF THIS STUDY.....	29
3. WORK CONDUCTED.....	30
3.1 EXISTING DOCUMENTATION AND DATASETS.....	30
3.2 UPDATING EXISTING DOCUMENTATION FOR THE SITE	30
3.2.1 Updated mapping	31
3.3 VEGETATION SURVEYS	32
3.4 HYDROLOGIC AND HYDROGEOLOGIC MONITORING.....	32
3.4.1 Observations pertaining to the inactive well adjacent the library	32
3.4.2 Limited soil stratigraphy adjacent to pond	33
3.4.3 Collection of local well data	34
3.4.4 Hydrologic monitoring during WY 2010.....	34
3.5 INVESTIGATION OF REGULATORY ENVIRONMENT, PERMITS, ZONING, & MANAGEMENT DIRECTIVES....	35
4. RESULTS OF BACKGROUND INVESTIGATIONS.....	38
4.1 CHANGES IN LAND USE, HYDROGRAPHY, AND HYDROLOGY.....	38
4.2 CHANGES IN VEGETATION	41
4.3 CHANGES IN REGULATORY ENVIRONMENT	42
5. RESULTS OF HYDROLOGIC MONITORING AND VEGETATION SURVEY	45

5.1	HISTORICAL AND RECENT RAINFALL	45
5.2	POND WATER AND SHALLOW GROUNDWATER (EASTERN SHORELINE PIEZOMETER) LEVELS.....	46
5.3	SPECIFIC CONDUCTANCE	47
5.4	VEGETATION SURVEY OF LOCKE-PADDON PARK.....	48
5.4.1	Wetland vegetation types.....	49
5.4.2	Upland vegetation types	51
6.	CONSTRAINTS, RECOMMENDATIONS, AND ONGOING AND FUTURE WORK.....	54
6.1	CONSTRAINTS	54
6.1.1	Hydrologic constraints	54
6.1.2	Vegetative constraints	55
6.1.3	Security constraints.....	55
6.2	RECOMMENDATIONS.....	55
6.2.1	Managing and improving existing resources over the short term, while retaining existing pond bathymetry	56
6.2.2	Adjusting pond bathymetry to meet long-term restoration goals.....	59
6.2.3	Abandoned on-site well near Library.....	60
6.3	RECOMMENDED ONGOING AND FUTURE WORK	61
7.	LIMITATIONS.....	62
8.	REFERENCES.....	63

LIST OF TABLES

- Table 1. Summary of hydrologic monitoring observations for Water Year 2010, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Table 2. Daily rainfall (inches) for recording rain gage, Water Year 2010, CIMIS Station #116 Salinas North, Monterey County, California
- Table 3. Daily rainfall (inches) for recording rain gage, Water Year 2010, CDEC station FO2, Fort Ord, California
- Table 4. Summary of Regulatory Agencies and Permits

LIST OF FIGURES

- Figure 1. Geologic map, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 2. Soil hydrologic groups near Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 3. Updated 'anthropogenic' drainage basin map for Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 4. 105-year average rainfall from CDEC SAP by month plotted with monthly total rainfall for Water Year 2010 from CDEC FO2 and CIMIS #116 Monterey County, California.
- Figure 5. Accumulated departure from long-term mean precipitation, CDEC Station SAP, Salinas No.2, 1905-2010, Monterey County, California.
- Figure 6. Cumulative precipitation records for local rain gages, Marina area, Monterey County, California, water year 2010.
- Figure 7. Location of geologic cross sections, Marina and Fort Ord areas and coastal area of Salinas Valley Groundwater Basin (Pressure subarea), Monterey County, California (from Kennedy/Jenks Consultants, 2004).
- Figure 8. Local stratigraphy along cross section B-B', Marina and Fort Ord areas and coastal area of Salinas Valley Groundwater Basin, Monterey County, California (from Kennedy/Jenks Consultants, 2004).
- Figure 9. Seawater intrusion map of 'Pressure 180-Foot Aquifer', Salinas Valley Groundwater Basin, Monterey County, California (from Kennedy/Jenks Consultants, 2004).

LIST OF FIGURES (CONTINUED)

- Figure 10. Seawater intrusion map of 'Pressure 400-Foot Aquifer', Salinas Valley Groundwater Basin, Monterey County, California (from Kennedy/Jenks Consultants, 2004).
- Figure 11. Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 12. Gaging station and soil auger test pit locations, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 13. Greater Locke-Paddon Wetland Community Park environs, City of Marina, Monterey County, California.
- Figure 14. Water depth in Locke-Paddon Pond at western shoreline dock and radio tower, depth to water in shallow piezometer on eastern shoreline, and cumulative rainfall, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 15. Water depth in Locke-Paddon Pond at western shoreline dock and radio tower, depth to water in shallow piezometer on eastern shoreline, and water temperature, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 16. Specific conductance and water depth in Locke-Paddon Pond at western shoreline dock and radio tower, and specific conductance and depth to water in shallow piezometer on eastern shoreline, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California.
- Figure 17. Vegetation map, Locke-Paddon Pond, City of Marina, Monterey County, California.
- Figure 18. Approximate radio tower grounding wire radii, Locke-Paddon Pond, City of Marina, Monterey County, California.

APPENDICES

- Appendix A. City of Marina Storm Drainage Maps
- Appendix B. List of all Vascular Plant Species
- Appendix C. City of Monterey City Code on Feeding Wildlife

1. INTRODUCTION

Locke-Paddon Wetland Community Park showcases one of seven remaining protected coastal/vernal ponds within the City of Marina, called Locke-Paddon Pond or KIDD Pond. The Park's position in the community as both a habitat and recreational resource influenced by surrounding evolving land uses necessitates ongoing management and maintenance. Balance Hydrologics, Inc. was asked by the Public Works Division of the Community Development Department of Marina to guide ongoing and future maintenance and enhancement of Park resources. We have responded by developing a comprehensive Implementation Plan that not only identifies guidelines for management and enhancement, but which also describes the historical development of the Park and environs, and the hydrologic and biotic functioning of resources at the Park.

1.1 Background

Locke-Paddon Pond was identified early in the history of the incorporated City of Marina and the Monterey Peninsula Regional Park District as a noticeable natural feature worthy of incorporation into the recreational amenities of the City of Marina and as a feature that warranted continued preservation and periodic enhancement. In 1986, the Regional Park District, the City of Marina, and the Coastal Conservancy created a partnership to acquire lands around Locke-Paddon Pond (then called KIDD pond, named after the radio station that owned the two prominent radio towers at the site) (Purkiss-Rose-RSI, 2006). Prior to any land purchases, a pond management and enhancement plan was produced (Callander Associates and Western Ecological Services Company [Callander and WESCO], 1987) to guide the development and restoration of the park. By 1991, 5 out of 6 parcels at the site were publicly owned and the park was finally dedicated as Locke-Paddon Wetland Community Park. (The sixth parcel was purchased shortly before a park Master Plan and Design Development Report (Purkiss-Rose-RSI, 2006) was developed to guide conceptual planning of park facilities and resources.) As a condition of approval for a Coastal Permit allowing construction of the 20-acre Marina Landing Shopping Center, the City and others prepared a comprehensive management plan for all the coastal vernal ponds in the City's Sphere of Influence (AMBAG, 1996). This report (The Habitat Restoration Group and Mitch Swanson and Associates [HRG and Swanson], 1994) was presented to the City in 1994, and includes management plans pertaining to Locke-Paddon Pond and Park. Other land-use changes surrounding and including park property have occurred over the past 2-3 decades and have affected the biotic and hydrologic resources of the Park. Documentation of the land-use adjustments, and especially how these adjustments have affected biotic and hydrologic functions at the Park, is sparse or lacking. Furthermore, the

few management plans developed for Locke-Paddon Wetland Community Park to-date do not adequately describe the Pond's hydrologic function, and how that function affects biotic (especially vegetative) resources. Additionally, the existing management plans are out-of-date and therefore don't account for more recent modulation of local hydrology spurred by land-use change, nor do they describe how the Park and Pond might be managed and enhanced in future years as the City of Marina grows.

1.1.1 Purpose

Balance Hydrologics has developed this Implementation Plan to document and describe this Park resource in terms of its hydrologic and biotic function. Integral to this functional description is a narrative synopsis of the evolving land use surrounding the Park, and including land-use changes on Park property such as the recent completion of the Marina Community Public Library. The purpose of this Implementation Plan, then, is to develop guidelines for management and enhancement of the Park and Pond based on the thorough environmental, historical, and regulatory investigation included in this report. This historical environmental perspective is then employed to help the City of Marina and the Park District move forward in managing both the pond and park at Locke-Paddon.

1.1.2 Phases of study

This report is part of a four-phased study outlined in Balance's proposal submitted to the City of Marina on November 2, 2009:

1. **Phase I** provides background information needed to update the existing goals and objectives of Park and Pond management and enhancement. This includes a review of existing management plans, ordinances and regulations, master plans, and other documentation on related projects in the vicinity of Locke-Paddon Wetland Community Park. It also includes collation and analysis of existing hydrologic and biotic resource survey data, so that the formulation of updated goals and objectives can be cast using an appropriate environmental framework.
2. **Phase II** develops an Implementation Plan (this document) that responds to the regulatory, hydrologic, and environmental results garnered from Phase I combined with hydrologic and vegetation monitoring during this phase.
3. **Phase III** implements the directives outlined in the Implementation Plan (this document).
4. **Phase IV** monitors the Pond and environs to straightforwardly and simply address success criteria set forth in the Implementation Plan and in Phase III (as a form of adaptive management that is responsive to unpredictable and unforeseen changes in

land use, Park management, or local and regional regulatory directives, and perhaps also climate).

1.2 Setting of Locke-Paddon Wetland Community Park

1.2.1 Geologic framework

Locke-Paddon Wetland Community Park and the City of Marina are contained within the Coast Range Geomorphic Province and are part of the Salinian Block, the latter of which is a geologic terrane characterized by slices of northwest trending granitic and high-grade metamorphic basement rocks overlain by Tertiary and Quaternary sedimentary rocks (Kilborne and Mualchin, 1980). The Salinian Block, named after the Salinas Valley, lies west of the main trace of the San Andreas Fault and is bounded on the south by the Big Pine Fault in Ventura County and on the west by the Sur-Nacimiento Fault. The block's granitic core, composed of fragments of the Peninsular Ranges batholith and which shares its origins with the Sierra Nevada Mountains, is in sharp contrast to the mostly sedimentary and Franciscan basement rocks that surround it in the Coast Range. Rocks in the Salinian Block and Salinas Valley area range in age from the Paleozoic to recent.

Locke-Paddon Wetland Community Park lies just southwest of the mouth of the Salinas Valley at Monterey Bay, and is underlain by a series of marine and non-marine sedimentary units resting above the Salinian granitic basement (Callander and WESCO, 1987; Sundt, 2002). In the northern Salinas Valley area including the Marina and Fort Ord areas, the Miocene Monterey Formation rests unconformably on the Salinian Block granitics and is composed of marine shales and mudstones (Kennedy/Jenks Consultants, 2004). At some locations the Monterey Formation – considered to be the top of the local bedrock -- lies 1675 feet below ground surface. The upper Miocene-aged Santa Margarita Formation lies above the Monterey and consists of shallow marine, friable arkosic sandstones. Pliocene shallow marine intercalated siltstones, sandstones, conglomerates, clays, and shales of the Purisima Formation lie above the Santa Margarita and in some locations this unit reaches 1420 feet thick. These three sedimentary units all lay below the so-called '400-Foot Aquifer' (see section 1.2.3 for local hydrostratigraphy). Lenticular beds of sand, gravel, silt, and clay form laterally discontinuous beds of alluvial fan or braided stream deposits in the middle to lower Pleistocene Paso Robles Formation resting above the Purisima. Pleistocene cross-bedded sands with clayey layers of the Aromas Sand lie stratigraphically above the Paso Robles. The lower portion of the Aromas Sand at its basal contact with the underlying Paso Robles Formation is commonly stained a reddish-brown color. Valley Fill deposits consisting of alternating, interconnected beds of fine-grained and coarser-grained estuarine and fluvial materials cover the Aromas by an additional 25 to 100 feet. This

group of deposits includes the Salinas Valley Aquitard (SVA) overlying and confining the '180-Foot Aquifer' (see section 1.2.3). Recent alluvium makes up the overlying 10 to 75 feet of alluvium deposited by the Salinas River, and in the vicinity of Locke-Paddon Wetland Community Park, Quaternary dune sands drape these sedimentary deposits in the Marina and Fort Ord areas (Figure 1). The dune sands consist partly of reworked Aromas sands (Burkland and Associates, 1975). The area is part of the Monterey Bay Dune Complex, with mostly high Flandrian dunes on the seaward side of State Highway 1 and pre-Flandrian¹ dunes on the east side of Highway 1 (Cooper, 1967; California Coastal Commission, 1992). Locke-Paddon Wetland Community Park lies 2.2 km west of the Rinconada Fault (King City-Reliz Fault), 10.8 km northeast of the active Monterey Bay-Tularcitos Fault, 21.5 km southwest of the Zayante Fault, 24.1 km northeast of the San Gregorio Fault (Sur region), and 28.3 km southwest of the very active San Andreas Fault zone (Pajaro region) (Soil Surveys, 2006).

Locke-Paddon Pond is one of Marina's 6 known vernal ponds (there are seven documented coastal vernal ponds if the unincorporated areas of Marina are included [HRG and Swanson, 1994]), several of which (including Locke-Paddon) are integral to the City's storm drainage system (Lamphier and Associates, 2000). The Pond is one of the last remnants of a network of coastal salt marshes and sloughs that were part of the ancient Salinas River floodplain when sea level was approximately 300 feet lower than current eustatic levels (HRG and Swanson, 1994; AMBAG, 1995; Lamphier and Associates, 2000). Beginning about 12,000 years ago and extending to about 5000 years ago, the Flandrian Transgression associated with the melting of Fenno-Scandian, Scottish, Laurentide and Cordilleran ice-age glaciers caused rapid sea-level rise that inundated coastal valleys throughout California. Salt marshes and sloughs were created in the lower Salinas River system as a result, and were maintained by tidal fluctuations (HRG and Swanson, 1994). Some sources attribute the creation of isolated (although sometimes hydrologically connected) vernal ponds along the Monterey coast to the landward migration of dune fields that covered some of the Salinas River marsh plain (AMBAG, 1995), while other sources suggest that the formation of proto-vernal ponds was the result of Salinas River sediment deposition at the mouths of these ancient sloughs where they connected with the main

¹ The 'Flandrian Stage', Flandrian Interglacial, or Flandrian Transgression refers to the first (and so far only) stage of the Holocene Epoch (extends from the end of the Pleistocene [12,000 to 10,000 years ago] to the present day). The first part of the Flandrian was a period of fairly rapid sea level rise associated with melting of the Fenno-Scandian, Scottish, Laurentide, and Cordilleran glaciers. As sea level rose, the loci of coastal deposits marched inland, including the position of dune deposits.

stem of the Salinas River (HRG and Swanson, 1994). Under this latter explanation, at least some of the vernal ponds in the Monterey area were slackwater depositional environments behind drowned and impounded valley mouths, and would therefore be examples of remnant blocked tributary valley lakes. Locke-Paddon Pond has a slightly curvilinear or lenticular shape that may support this hypothesis, although many of the other coastal vernal ponds in the area are nearly circular in planform, which may either suggest simple dune field burial of the ancestral marsh plain or only occasional preservation of the dendritic or finger-shaped form of all the Marina-area ponds². Pre-historic pond hydrology was largely a function of direct precipitation and lateral groundwater seepage from adjoining dune areas or perched groundwater above isolated floodplain and/or estuarine deposits. Contributions from surface runoff is presumed to be minimal to non-existent prior to European settlement, as the dune sands exhibit exceptionally high infiltration rates and are excessively drained (Figure 2). Post-European development in the early 1900's and extending to the present increased runoff contributions, and converted two of the ponds (including Locke-Paddon Pond) into perennial water features (AMBAG, 1995). Currently, no tidal fluctuations affect the coastal vernal ponds, although their elevations are within the tidal range (HRG and Swanson, 1994). HRG and Swanson (1994) cite this as evidence to suggest that the Marina Landing Pond at the intersection of Beach and Reservation Roads just north of Locke-Paddon Pond is tied to perched groundwater, although there are urban runoff contributions to this pond.

1.2.2 Hydrographic setting and historical hydrology

Locke-Paddon Pond is shallow (1.5 to 3.0 feet) with little topographic variation (HRG and Swanson, 1994). In August of 1986, the pond consisted of two bodies separated by an earthen dike (associated with the KIDD radio tower) hydraulically connected through a narrow tule-covered canal along the northern edge of the eastern pond (Callander and WESCO, 1987). The channel was about 3 to 3.5 feet deep in the wintertime, putting the lowest pond bottom elevation at about 0.5 to 1.0 feet above MSL (mean sea level). The western pond had an average depth of 1.5 feet and a surface area of 1.9 acres at the time of the August 1986 survey, while the eastern pond had an average depth of 2.5 feet and a surface area of 3.1 acres. On November 26, 1979, the pond water surface elevation was about 3.6 feet NGVD, and exhibited almost identical

² Old USGS maps show that the small percolation pond that was filled to construct the newer 180 Reservation Road lift station for the Marina Coast Water District was originally part of the Locke-Paddon Pond basin [City of Marina Planning Department, 1992].)

water surface elevation during the August 1986 survey of Callander and WESCO (1987). Pond depths generally ranged between 1 and 2.9 feet deep as of August 1986, and variations in pond water level at that time ranged between 1 and 2 feet in “normal” rainfall years (Callander and WESCO, 1987). The adjacent upland surface at the site of the current Marina Community Public Library is at approximately 40 feet above MSL. Water level fluctuations in Locke-Paddon Pond generally follow seasonal wetting and drying and are influenced by evaporation and high percolation rates (Callander and WESCO, 1987). Direct measurements of pond water levels were lacking by 1986 (and continue to be to this day notwithstanding the monitoring conducted for this study), but local residents and knowledgeable public employees indicate that in “normal” rainfall years differences in pond elevation between winter maximums and summer minimums were probably 1 to 1.5 feet (the pond shrank to $\frac{3}{4}$ of normal size). In droughts, pond water elevation fluctuates from 4 feet MSL to 2.0 - 2.5 feet MSL (during the 1977 drought, Locke-Paddon Pond had only 0.5 feet of standing water, and was less than $\frac{1}{4}$ of its 1986 size). As part of the work conducted by HRG and Swanson (1994), water level staff gages (staff plates) were temporarily installed in Locke-Paddon Pond and were equipped with crest stage gages for tracking peak pond water levels. Water levels were checked eight times between December 3, 1992 and Sept 21, 1993, and are incorporated into our station observer log (Table 1), although the stage and crest gage heights are not referenced to our staff plates or to any known benchmarks. We interpret their data as raw maximum water depth, and we have nevertheless incorporated their data into our discussion of Pond hydrology in a semi-quantitative fashion in section 5 of this report.

As suggested by historical USGS maps in section 1.2.1, the percolation pond that existed at 180 Reservation Road prior to construction of Plan Alternative 4e was part of the same basin as Locke-Paddon Pond. Jones and Stokes investigated this percolation pond on April 12, 1991 to complete their Addendum to the EIR for the MCWD Wastewater Facilities Plan Alternative 4e (Jones and Stokes, 1991). At that time, water was ponded 6-12 inches one week after heavy rainfall. Percolation basin bottom sediments consisted of sands and a histic epipedon (waterlogged organic surface layer). Although survey data are lacking to tie this ponding level to water surface elevations in Locke-Paddon Pond, this extrapolation could be accomplished if engineering drawings at the City of Marina or at MCWD were located indicating the elevation of the percolation basin prior to demolition.

Local groundwater elevations (unpublished; from Callander and WESCO (1987)) up-gradient and surrounding the pond are at about 4 to 7 feet MSL, suggesting that the pond bottom intercepts shallow groundwater. Groundwater inflow, and small amounts of surface water

inflow (as of 1986), serves the pond. Callander and WESCO (1987) cite the lack of change in seasonal water levels as indicative of local groundwater connectivity. Callander and WESCO (1987) also provided a computed water budget based on lake evaporation, evapotranspiration of wetland vegetation at the site, rainfall runoff, and shallow groundwater input. Their calculation yielded 45 acre-feet (AF) of total annual input and 72 AF of total loss, suggesting that in “normal” rainfall years the pond would dry up by July or August. At that time the contributing watershed area was calculated to be 27 acres (Callander and WESCO, 1987). In Jones and Stokes’ 1991 Addendum to the EIR for the Marina Coast Water District Wastewater Facilities Plan Alternative 4e at 180 Reservation Road, work previously done by Nolte and Associates (Oven-Thompson, 1991) indicated that approximately 123 AF/yr of stormwater runoff enter Locke-Paddon Pond, with 88% of this runoff from single-family residences, roads, and shopping centers, and 12% from open space. Nolte and Associates (Oven-Thompson, 1991) calculated contributing drainage areas comprised of 34 acres of open space, 85 acres of single-family residential along Susan Avenue, Vista Del Camino, and Melanie Road, 23 acres of roads and shopping centers, and an additional 18 acres of single-family residential and 6 acres of open space added from development of Plan Alternative 4e (incorporating the Hilo Avenue neighborhood). Their runoff calculation utilized a rainfall rate of 1.5 feet per year (which is greater than the calculated long-term mean annual rainfall rate at CDEC’s SAP by a little less than 5 inches [see below]). The Marina Community Public Library, constructed in the last few years, contributes additional runoff to Locke-Paddon Pond (estimated amounts described later in this report). HRG and Swanson (1994) indicate that of the seven coastal/vernal ponds in the Marina area, Locke-Paddon Pond receives water from the most heavily urbanized watershed in their study area, a condition that continues to characterize Locke-Paddon Pond to the present time. We provide an updated depiction of the contributing watershed area to Locke-Paddon Pond in Figure 3, based mostly on the storm drain network serving impervious areas that contribute runoff to the Pond, and on natural areas connecting these impervious areas. We feel this updated drainage basin map is more useful to Park management because a drainage basin map based solely on the natural landscape is a) difficult to construct due to the subdued and convoluted dune topography in the local watershed area, and b) reflects more strongly a contributing groundwater basin map because of recharge to shallow groundwater regionally through the excessively drained dune sands.

In 1987, Callander and WESCO (1987) measured maximum salinities in Locke-Paddon of about 1.2 to 1.5 ppt, although no seasonal fluctuation data were available. HRG and Swanson measured Pond pH at 7.8 to 8.8 during their survey in 1994. A water quality sample was taken on August 6, 1986 (Callander and WESCO, 1987), yielding biologically acceptable summer

temperatures and dissolved oxygen levels, high turbidity, high blue-green algae levels, fairly high nutrient concentrations, and somewhat high concentrations of oil and grease. The eastern culvert outfall serving the 6-acre Marina Village Shopping Center along Del Monte Avenue and a 0.25-mile stretch of Del Monte Avenue north of Reservation Road was of particular concern at that time, delivering 214 mg/L of oil and grease for that sampling. (East and West Pond oil and grease levels were at 3.5 and 0.6 mg/L, respectively.) Four water quality samples were also retrieved by HRG and Swanson (1994) between May 13 and September 21, 1993 and analyzed for temperature, pH, total dissolved solids (TDS), and specific conductance. Specific conductance ranged between 359 and 3125 $\mu\text{S}/\text{cm}$ and increased monotonically through time over the course of the four samplings. TDS echoed that trend, increasing from 230 to 2000 $\mu\text{S}/\text{cm}$. Dissolved oxygen was tested on August 16 and September 21, 1993, and full nutrient and chemical characteristics analysis was done for the August 16th sampling.

Although oil and grease have been detected in Pond samples, as noted above, the storm drain system that interfaces with Locke-Paddon Pond is fitted with oil and grease separators and sediment traps (as are other storm drain systems in Marina). The Addendum EIR for the construction of the sewage lift station on Reservation Road (see Chapter 3; Jones and Stokes, 1991) outlines mitigation monitoring of the Pond's water quality, but the specifics of effectiveness-monitoring of the grease traps, their maintenance, and postulated pollutant loading rates have not been described in any existing management plans.

An historic rainfall record local to Locke-Paddon Wetland Community Park extends back to 1905 from CDEC (California Data Exchange Center) station SAP (Salinas No.2) and is available as monthly rainfall totals. In Figure 4 we provide a depiction of mean monthly rainfall over the period of record compared with two more recent rainfall records which we have compiled for the Locke-Paddon area. Figure 5 shows the accumulated departure from the long-term mean annual rainfall rate at CDEC SAP, although the departure and long-term mean are somewhat misleading due to the absence of rainfall data during some critically-high rainfall periods such as the winter of 1981 and 1982. Data are also not available at SAP for late winter 1987, winter 1989, and winter 2011 (and a few other typically dry summer periods). The long-term mean annual precipitation (MAP) based on this record is 13.28 inches, which differs slightly from the long-term mean annual rainfall calculated in the Water Resources Data Report for Water Year 1994-95 (Monterey County Water Resources Agency, 1997). In that report, the MAP was 13.44 inches, based on a record from Salinas from 1873 to 1995. Figure 6 illustrates the cumulative precipitation for two local rain gages local to Locke-Paddon Wetland Community Park during water year 2010: the CIMIS Salinas North station (#116) and the CDEC Fort Ord station (FO2).

These stations recorded 16.69 and 13.49 inches of rain during water year 2010, both slightly above the long-term MAP at the CDEC SAP station. Tables 2 and 3 show daily rainfall records at both stations for water year 2010.

1.2.3 Hydrostratigraphy and groundwater resources

Previous studies of Locke-Paddon for the City of Marina contain little or no discussion of the geology and groundwater surrounding and beneath the pond. An expanded discussion is now warranted, since these support the pond, and need to be understood in both the local context (which the City can directly influence) and regional context, which is managed largely by MCWD and the County Water Resource Agency.

Locke-Paddon Wetland Community Park overlies the southwestern margin of one of four hydrologically and hydraulically linked groundwater areas in the Salinas Valley Groundwater Basin called the Pressure subarea (Boule Engineering Corporation, 1986). The Pressure subarea contains about 140 square miles of land extending from the Monterey Bay Coastline to Gonzales along a northwest trending axis in the Salinas Valley. The Forebay subarea bounds the Pressure subarea on the southeast, and the Eastside subarea forms its northeast boundary. As with the other subareas of the Salinas Valley Groundwater Basin, three separate aquifers constitute the Pressure subarea: the '180-Foot Aquifer', and '400-Foot Aquifer', and the 'Deep Zone' (containing a number of aquifers below the roughly 800-foot zone), so-named for the approximate depths at which each water-bearing zone is encountered. In the Pressure subarea, a shallow surficial aquifer overlies the Salinas Valley Aquitard (SVA), the latter being a series of blue or yellow sandy clay layers with minor sand layers overlying and confining the '180-Foot Aquifer' (Kennedy/Jenks Consultants, 2004). Thickness of the SVA is about 100 feet west of Salinas, thins to 25 feet near Salinas, and pinches out east of Salinas. Boule Engineering Corporation (1986) identifies the SVA in the vicinity of Marina as being 50' or less in thickness, with a bottom elevation of about 50 to 75 feet below mean sea level. The '180-Foot Aquifer', or 'Pressure 180-Foot Aquifer' is 50 to 150 feet thick with the top typically encountered between 100 and 150 feet below ground surface (bgs). In slight contrast, Boule Engineering Corporation (1986) cites the '180-Foot Aquifer' as exhibiting a thickness of about 200' and bottom elevation of about 250 feet below MSL in the Marina area. The upper portion of the '180-Foot Aquifer' is confined by the SVA and the lower portion is recharged from the east where the SVA pinches out. This aquifer is likely composed of lower Valley Fill terrace deposits and upper Aromas Sand, and possibly contains some materials from the Paso Robles Formation (Kennedy/Jenks Consultants, 2004). The 'Pressure 180/400-Foot Aquitard' separates the '180-' and '400-Foot

Aquifers' with a zone of thin layers of blue or brown clay, or clay with sand. The aquitard may be discontinuous near the Salinas River mouth and near Fort Ord. The '400-Foot Aquifer' or 'Pressure 400-Foot Aquifer' is typically encountered between 270 and 470 feet bgs, and has complex internal stratigraphy. This aquifer is principally thought to contain alluvium eroded from many units surrounding Monterey Bay, principally the Aromas Sand and Paso Robles Formations, but in some locations fragments of shale and chert from the Monterey Formation can be identified. There are also deeper aquifers with aquitards separating them, including the '800-Foot', '900-Foot', '1000-Foot', and '1500-Foot Aquifers' within the 'Deep Zone'. A depiction of the local hydrostratigraphy controlling groundwater resources in the vicinity of Locke-Paddon Wetland Community Park is adapted from Kennedy/Jenks Consultants (2004) in Figures 7 and 8.

Historical well data in the Marina area, from either monitoring or production wells, were not available to us during our study, but the utility of such well data may be limited for inferring hydrologic behavior at Locke-Paddon Pond. This is because many of the production wells in the area tap aquifers deeper than the shallow surficial aquifer and would therefore not provide useful groundwater elevation data. Likewise, for the few wells used by the MCWD locally, 93% of the 2200 AF of water that the City of Marina uses annually comes from the '900-Foot Aquifer' (Sundt, 2002). Of the balance, 6% is supplied by MCWD's desalination plant and the remaining 1% is pumped from the '400-Foot Aquifer'. (The limit of extraction per Monterey County Water Resource Agency regulations in 2002 was 3020 AF/yr.)

The Monterey County Water Resources Agency described in a 1994-95 water resources report (Monterey County Water Resources Agency, 1997) that groundwater levels usually peak throughout the Salinas Valley Groundwater Basin in February or March, with occasional peaks occurring as early in the water year as December or as late as April. These peaks are the result of seasonal rainfall, changes in pumping, and the variation in local recharge regimes. The onset of spring irrigation and reduced natural recharge presages decline in regional groundwater levels. The lowest point of seasonal groundwater levels usually occurs in August or September.

The occurrence of seawater intrusion into the 'Pressure 180-Foot Aquifer' in the areas between the City of Salinas and the coast was first documented in 1933 by the State of California (Kennedy/Jenks Consultants, 2004). Continued seawater intrusion to present day is largely attributed to overdraft of groundwater from the 'Pressure 180-Foot Aquifer'. Withdrawals from both the 'Pressure 180-Foot Aquifer' and the 'Pressure 400-Foot Aquifer' have lowered water levels below sea level. Seawater intrusion into the 'Pressure 400-Foot Aquifer' has been slower

and less extensive than in the overlying 'Pressure 180-Foot Aquifer' (Figures 9 and 10) because the 'Pressure 400-Foot Aquifer' was not drawn upon until water quality in the 'Pressure 180-Foot Aquifer' had been significantly degraded. By August of 1983, sea water intrusion had already migrated to or past the City of Marina inland in both the '180-Foot' and '400-Foot Aquifers' (Boule Engineering Corporation, 1986).

In terms of near surface stratigraphy, soils, and shallow groundwater characteristics, a number of studies contain some useful data that supplement our own investigations at Locke-Paddon Pond using a soil auger. Boule Engineering Corporation (1986) indicates that above the '180-Foot Aquifer' are undifferentiated sands, silts, and clays that are not thought to be water bearing. Soil Surveys, Inc. (2006) bored three test holes at the site of the Marina Community Public Library prior to construction on April 17, 2002. Depths of test bores ranged from 23.5 feet to 34.5 feet and were used to determine building suitability. Tests on the cores indicate that the top 8 feet of soil consists of medium loose to medium dense sand, silty sand, and fine-grained "sugar sand"; below 8 feet deep, the soil is medium dense to very dense sand extending to the limit of the test bore (34.5 feet). No groundwater was observed in the test bores and no expansive soils were encountered. Note that the site of the Marina Community Public Library is approximately 40 feet above the level of the Pond, so a 34.5-foot deep test bore is not likely to intercept groundwater if it is coincident with the Pond water level. On December 14-16, 2005, Kleinfelder (2006) examined subsurface suitability for shopping center improvements at the Marina Landing Shopping Center immediately north of Seaside Avenue and the Locke-Paddon property. They found the shopping center to be underlain by poorly graded sand, poorly graded sand with silt, and some poorly graded sand with clay to a depth of 36.5 feet (maximum exploration depth), all of which were non-expansive. Here, groundwater was approximately 21.5 to 22.5 feet below ground surface.

Callander and WESCO (1987) described the dune sands local to Locke-Paddon Wetland Community Park as approximately 100 to 120 feet thick, based on local well logs. Their description indicates that the dune sands are saturated at depths greater than 5 to 10 feet MSL, and constitute an unconfined freshwater aquifer of at least 100 feet saturated thickness of high transmissivity materials. Soils at Locke-Paddon are Baywood soils, which are deep, somewhat excessively drained loamy sands with very low organic matter content, low salinity, and near neutral pH (see Figure 2). The dune sands exhibit high permeability and low runoff rates; erosion rates are minimal, based on our own observations and those made by Callander and WESCO (1987) of pond-bottom cores that lacked fresh sandy sediments. Callander and WESCO (1987) also describe mildly saline to alkali sediments occurring in a narrow band surrounding

the ponds that support tule, cattails, and willow. Underlying the pond bottom is a very dense silty clay layer about 1 to 1.5 feet thick, which serves to perch water in the ponds. Our observations during installation of the staff plate and stilling well in the Pond at the western dock/boardwalk and later at the KIDD radio tower indicate that the pond bottom clay layer is covered by a diffuse, thick (1-2 feet, at a minimum) layer of organic muck mixed with inorganic silts and clays. Resistance at the bottom of our stilling well upon lowering it into the water column varied as a function of depth over at least 1.5 feet, indicating a very diffuse collection of loosely consolidated fines that would make mobility while wading impossible. Underlying the clay layer are older, highly organic marsh deposits. Callander and WESCO (1987) indicate that the clay layer is at 1 to 2 feet MSL, and suggest that it appears to be a regional deposit based on the elevation of similar deposits in other Marina vernal/coastal ponds. In discussions with Mr. Tim Jensen (Planning and Conservation Manager at the Monterey Peninsula Regional Park District) during the proposal phase of this work, an installed clay liner was suggested to exist along the pond bottom. This clay liner was supposedly installed as part of mitigation measures associated with construction of State Highway 1 in 1976 west of Locke-Paddon to increase ponding size and duration to compensate for wetland lost at the location of Highway 1. Interestingly, no mention is made of an installed, or anthropogenic, clay liner in the Pond in the Callander and WESCO (1987) report or in any other reports, plans, or documentation reviewed as part of this work.

Our observations of local shallow stratigraphy along the Pond periphery on the eastern shoreline are derived from four test auger holes dug for exploration purposes and to install our eastern shoreline piezometer. Our eastern shoreline piezometer is installed in a perforated tube 3.2 feet deep, and is landward of our other 3 test bores. The bore at the piezometer location exhibits dark grey sandy loam in the top 0.4 feet, with dark grey to black sandy loam with slightly higher sand content to 1.1 feet deep. From 1.1 to 2.6 feet, dark grey to black, medium to coarse sands were encountered. Below 2.6 feet, olive grey medium to coarse sands were encountered which were very moist at the time of installation. The water table was not encountered. The other three test bores exhibited black organic clays with little to no sand content in the first approximately 1.5 to 1.75 feet from the surface. Sand content varied slightly with depth in an unorganized fashion that was likely more related to bioturbation³ than local

³ Bioturbation refers to the disturbance and reorganization (mixing) of the soil profile or surface by organisms, including flora and fauna.

stratigraphy. Approximate locations of these test bores and the eastern shoreline piezometer are shown in Figures 11 and 12. In sum, our observations corroborate those of others, and indicate that landward of the “mean” position of the Pond shoreline (indicated by substrate and vegetation) the shallow stratigraphy is mostly dune sands with minor amounts of organic content. Stratigraphy shoreward of the mean water line illustrates predominantly fine-grained materials with a high organic content.

1.2.4 Terrestrial and aquatic resources

Locke-Paddon Wetland Community Park supports freshwater marsh and willow riparian habitat, which provide resources for several diving ducks, breeding amphibians, and the tri-colored blackbird, among other foraging and wintering birds and amphibians (HRG and Swanson, 1994). Plant communities at Locke-Paddon include coastal freshwater marsh, arroyo willow riparian forest, mixed grassland, non-native grassland and other vegetation, native landscaping, and coyote brush, blackberry, and rose scrub (HRG and Swanson, 1994). Habitat communities at Locke-Paddon include open water, coastal freshwater marsh, arroyo willow riparian forest, coastal dune scrub, and mixed/non-native grassland. Fisheries are limited to anthropogenically-emplaced mosquitofish populations (HRG and Swanson, 1994), although local anglers have occasionally stocked Locke-Paddon Pond with other fish including (S. Kawa, pers. comm., Central Coast Bass). The upland dune areas surrounding Locke-Paddon Pond provide habitat for Monterey spineflower, sand gilia, Monterey ceanothus, black legless lizards, and the Smith blue butterfly.

1.2.5 Aesthetic, cultural, recreational, and community resources

The Marina Dunes Task Force was established in 1986 to oversee development in the Dunes, as part of settlement of a lawsuit involving hotel development in the coastal zone (California Coastal Commission, 1992). Within the Coastal Zone, the Dunes area is critical for scenic and natural resources and recreation (California Coastal Commission, 1992). The Coastal Plan, published in 1976, establishes 7 criteria for sensitive coastal habitat, six of which apply to the Marina Dunes and to Locke-Paddon Wetland Community Park: special habitat, area of significant recreational value, scenic area, significant visitor destination, recreational opportunities for low and moderate income people, and area where divisions could substantially impair or restrict coastal access (California Coastal Commission, 1992).

Within this framework, the Monterey Peninsula Regional Park District and the City of Marina have been able to afford a number of cultural, recreational, and community services at Locke-

Paddon Park. For example, numerous well-maintained trails and boardwalks surround the Pond for visitor enjoyment and education. Few placards are located along these trails for educational purposes. A small amphitheater provides further entertainment potential for visitors midway between the Pond and the Marina Community Public Library on the eastern hillslope. And the Marina Community Public Library provides the community with an extensive educational resource and meeting area adjacent to the most prolific of coastal/vernal ponds remaining in the City of Marina's Sphere of Influence.

1.3 Maintenance and Operations of Locke-Paddon Wetland Community Park

1.3.1 Management of vegetation and trail system

Currently, per General Plan guidance and recommendations made in the 1994 Management Plan (HRG and Swanson, 1994), a low level of service is provided to manage the park's vegetation and trail system. Routine trimming and clearing of vegetation from viewing areas and trail boundaries occur at various points during the year. Our observations suggest that more recent maintenance activities occur on an as-needed basis, when vegetation encroaches upon Park infrastructure and obstructs public view points. As articulated in the City's maintenance agreement for Locke-Paddon Park, the following excerpts describe the vegetation management recommendations that are currently loosely being followed for Park upkeep:

2.30 Native Plant/Restoration Areas and Wetland habitats

Native upland and aquatic habitats need to be maintained and monitored in order to preserve and enhance native species within Locke-Paddon Park. Species used to re-populate upland and aquatic habitats should be consistent with the native flora of the Locke-Paddon area (see "Coastal/Vernal Ponds Comprehensive Management Plan" and "Wetlands Enhancement Plan for the City of Marina California"). City will provide annual consultation with a qualified biologist for all items within this section.

2.30.01 Native Upland Habitats

- a. Between the lake edge and the pathways native plants should be maintained and re-populated as needed. Plants should be trimmed/pruned as needed in order to ensure safety concerns and reduce encroachment onto pathways.*
- b. Seasonal grasslands are to be mowed/cut with a flail type mower and/or string trimmer. Repopulate seasonal grasslands with native grasses by broadcast and or drill seeding of native species.*

Native shrub restoration areas need to be re-vegetated as needed in order to maintain dominance of native shrubs throughout the restored area. Maintenance of a few small,

scattered bare open patches throughout the restored area is desirable in order to provide habitat for rare annual plants. Annual monitoring of plant community composition using standard methods such as quadrat and line transect surveys should be conducted during the spring when plants are flowering. General visual surveys for rare and sensitive plant species, such as the Monterey Spine Flower (*Chorizanthe pungens pungens*), should be conducted during the spring months by walking the entire restoration site. Surveys should record the number of individuals seen and include a map of where the plants occur.

2.30.02 Tules (*Scirpus acutus*):

- a. Broken and/or dead tules shall be removed, however; this will not occur during the Tricolored Blackbird breeding season (see section 30.06).
- b. Removal shall be through dredging or another approved process that does not harm the clay layer below the pond. Tule removal shall be performed on an on-going basis; not allowing plants to propagate in a manner that inhibits wildlife use and/or increases mosquito production is the desired outcome. Removal strategies may vary; however, in order to ensure protection of Tricolored Blackbirds and control of mosquitoes, annual consultation with mosquito abatement is required. Removal shall not occur during the Tricolored Blackbird breeding season and city staff consultation with the Department of Fish and Game may be required prior to removal. Ultimately, removal/thinning should be conducted as needed to maintain a pleasing appearance and to promote and enhance the function of the park as a wetlands area and wildlife habitat. Frequency: (see Attachment A1 - Maintenance Performance Schedule).

2.30.03 Non-native Monterey cypress and pine trees

- a. Control the natural recruitment/spread of Monterey cypress and pine trees throughout Locke-Paddon Park to prevent trees from encroaching into native shrub habitats.
- b. Removal shall be done by hand, mechanical, and/or chemical methods. Frequency: (see Attachment A1 - Maintenance Performance Schedule).

2.30.04 Willow and other riparian tree species

Modification of willows and other riparian trees in order to meet park and city safety standards, access concerns, and reduce encroachment onto private property should be conducted during the non-breeding season as needed. Trees should be pruned/thinned in the fall in order to prevent disturbance to nesting birds. Tree trimming should follow standard guidelines presented in sections 21, 22, and 23. Frequency: (see Attachment A1 - Maintenance Performance Schedule).

2.30.05 Weed control in natural habitat areas

- a. Control non-native weed species using manual labor, mechanical methods, and/or chemicals throughout upland and aquatic environments. All chemical use should follow standard

guidelines presented in sections 17 and 18. In areas where non-native weed species are in close proximity to native plants, hand removal should be performed rather than chemical control (in order to reduce incidental chemical drift and kill of native plants). Frequency: (see Attachment A1 - Maintenance Performance Schedule).

- b. Ripgut Brome (Bromus diandrus) is a non-native grass that out competes and eliminates native plant species. Control: Mowing and or grass-specific chemicals (e.g. fusilade); control before seed heads form (typically February – April depending upon rainfall patterns). Repopulate areas where ripgut brome was present with native grasses, shrubs, and/or forbes. Ripgut brome control in upland areas should be a high priority in order to preserve native shrubs and forbes in restored upland habitats. Frequency: (see Attachment A1 - Maintenance Performance Schedule).*

2.30.06 Tricolored Blackbird (*Agelaius tricolor*):

Habitat: Any trimming and clearing of tules and trees should take into consideration the presence of Tricolored Blackbirds (breeding season for Tricolored Blackbirds typically occurs between mid-spring and mid-summer). See section 30.02 for specifics regarding tules and their removal.

1.3.2 Wildlife feeding

Waterfowl feeding occurs at Locke-Paddon. The City of Monterey has established within the City Code that is unlawful to feed any bird or animal, except a domestic pet under the person's jurisdiction and control within El Estero Park (Appendix C - City of Monterey City Code on Feeding Wildlife). The City of Marina may wish to adopt a similar policy at Locke-Paddon to reduce the potential for attracting non-native bird species to the natural environment of the pond. Increases in the number of bird species, particularly ducks, which are attracted to handouts from the public, can create unhealthy water quality conditions. Bird overcrowding and increases in bacteria can result in illness and disease outbreaks that kill many bird species.

1.4 Acknowledgements

Work on this project was directed by Christine D'Iorio, Director of the Community Development Department for the City of Marina, with the immediate assistance of Maziar Bozorginia, Assistant Engineer acting on behalf of the City. They assisted in many seemingly small but important ways, such as arranging for a work order which allowed us to commence monitoring immediately following consultant selection and before the formal authorization to proceed was received. The work was enabled by a request for proposal originally crafted by Gary Cramblett, former Superintendent of the Community Development Department, (now retired), working in close coordination with Tim Jensen, Planning and Conservation Manager

for the Monterey Peninsula Regional Park District, who has a long-term interest and knowledge of the workings of the Park.

Support and participation was also arranged through Steve Zmak of the Sierra Club. His input during major project milestones helped guide us in the right direction.

The report draws suggestions and work by our colleagues, Josh Fodor and John Laslett at Central Coast Wilds and Jana Sokale, as well as GIS specialist Eric Forno (Balance staff).

2. GOALS AND OBJECTIVES

2.1 Goals and Objectives in Prior Plans

The goals and objectives outlined in prior management plans and development guidelines vary according to the needs expressed by pertinent stakeholders at the time of publication or by the type of regulatory body that authored the plan. Below we briefly describe the goals and objectives outlined in historical order for various management and enhancement plans and guidance and/or regulatory documents that have been developed during the lifespan of Locke-Paddon Wetland Community Park to-date. We have assembled these plans based on information provided to us by the Community Development Department at the City of Marina, the Monterey Peninsula Regional Park District, and through our collaboration with Central Coast Wilds and Jana Sokale as part of this contract. Additional programs, regulations, and guidances below the policy level are discussed in Sec. 3.5.

2.1.1 Marina Local Coastal Land Use Plan (1982)

Locke-Paddon Wetland Community Park and Pond (Pond #2 in the report) is located within the Coastal Zone and is therefore included in the Local Coastal Land Use Plan. The Marina Local Coastal Land Use Plan as adopted by the Marina City Council in 1982 and as amended over the years provides a description of acceptable land uses, planning policies and guidelines, public access concepts and an implementation plan. The Vernal Pond-Brown Bulb Ranch Planning Area that includes Locke-Paddon Pond was specifically described in this earliest planning document. The preferred use for Locke-Paddon Pond, the surrounding wetlands and the adjacent hillslope was a community park. The Marina Local Coastal Land Use Plan also called for a 100-foot setback from the wetlands. Public access, compatible with the sensitive biological and geological resources, was proposed through the site and along Reservation Road (City of Marina, 1982).

Several of the policies within the Marina Local Coastal Land Use Plan specifically address Locke-Paddon Pond:

- *Policy 24 – To protect and encourage the restoration of the vernal ponds to their original state and allow only those uses adjacent which will reinforce and conserve the unique habitat qualities of these ponds.*
- *Policy 26 – To regulate development in areas adjacent to recognized rare and endangered species or their habitats so that they will not threaten continuation of the species or habitat.*

- *Policy 32 – To minimize adverse environmental affects, by concentrating new development within or adjacent to areas of existing development in the Coastal Zone.*

The planning guidelines prohibit development of all wetlands including vernal pools and provide guidance for surrounding urban development proposals to prevent indirect impacts on these sensitive geological and biological resources. The Marina Local Coastal Land Use Plan was amended in 1989 in response to the Brown Bulb Ranch Development proposal. The preparation of a vernal pond comprehensive management plan was a condition of approval for this development project (See Section 2.1.3).

2.1.2 Wetlands Enhancement Plan prepared by Callander Associates and Western Ecological Services Company (1987)

Callander Associates and Western Ecological Services Company (Callander and WESCO, 1987) developed a resource inventory and enhancement plan for Locke-Paddon Pond and Park shortly before the Monterey Peninsula Regional Park District, the City of Marina, and Coastal Conservancy first acquired land around KIDD pond (named after the two radio towers at the property owned by the station of the same call letters). This pond enhancement plan gave direction for the Pond's and Park's future development and protection. The Callander Plan outlines a resource inventory and management needs assessment, a recommended enhancement plan including habitat, hydrologic and water quality, public access and interpretation, management, maintenance, monitoring, and acquisition and development elements. Costs for implementing the recommendations in the report are included, as is a CEQA Initial Study to speed the process of park development and protection. In many respects, the Callander/WESCO study is more thorough and technically focused than the subsequent grant-funded study.

2.1.3 Coastal/Vernal Pond Comprehensive Management Plan prepared by The Habitat Restoration Group and Mitchell Swanson Hydrologists (1994)

A Coastal/Vernal Pond Comprehensive Management Plan was developed in 1994 (HRG and Swanson, 1994) to identify guidelines for the preservation, management, and enhancement of Marina's wetland resources. Locke-Paddon Pond (Pond #2 in the report) is included in this report as one of seven identified coastal/vernal ponds within the boundaries of the City of Marina. The goals of the study are derived from the City of Marina Local Coastal Program and input from a Technical Advisory Committee established to guide the planning process, the public, and other project consultants. The goals are paraphrased below from the report:

- To preserve, enhance, and restore the natural resource values of the pond, adjacent upland habitat, and dune areas.
- To reduce the impacts of human activities on the City's pond resources.
- To provide passive recreational uses of the ponds and adjacent habitat where compatible with natural resource management.
- To develop BMPs for the ponds and immediate vicinity.
- To restore and enhance habitat for plant and wildlife species of special status.
- To provide natural resource interpretation for the residents of, and visitors to, the City of Marina.

An extensive list of objectives is also included to help the City of Marina achieve goals set forth in the plan.

2.1.4 Master Plan prepared by the Monterey Peninsula Regional Park District Master Plan (1998)

The Monterey Peninsula Regional Park District (District) was created by a vote of the people in 1972. The District was formed with the express purpose of acquiring open space and providing recreational opportunities within the District's boundaries, which includes the seven incorporated cities on the Monterey peninsula, Carmel Valley, and the Big Sur Coast. The District is funded through a ½ percent property tax assessment. At the time of the preparation of the Master Plan, the District had acquired with the funding assistance from the California Coastal Conservancy grant program five out of six of the properties surrounding the pond and had dedicated the site as the Locke-Paddon Wetland Community Park. The sixth property was acquired in 2004. The sixth property, known as the Isakson property, was purchased solely with Monterey Peninsula Regional Park District funds. Properties purchased with grant funds have restrictions regarding the types of activities and uses the park can offer.

The 1998 Master Plan was intended to establish goals for protection and use of existing and future land acquisition, develop criteria for open space acquisition and management decisions, and disseminate public information about the District's community partnership role. The Master Plan was prepared with community input and resulted in the development of both policies and an implementation plan to guide the District's operational activities, acquisitions, site development projects and public programs. The District adopted policies that support environmental preservation, public access, and passive recreation. The Draft Master Plan and

Negative Declaration prepared under the California Environmental Quality Act were circulated for public comment.

The Locke-Paddon Wetland Community Park implements three out of six of the open space benefits identified in the District's Master Plan. These benefits, as paraphrased below, include lands with (MPRPD, 1998):

- significant scenic resources which contribute to the region's unique visual qualities,
- environmental purpose by providing habitat for endemic and protected species, possessing unique geological and biological resources which, in this case, comprise the pond and wetlands habitats and unique plant communities, and
- recreational opportunity that, without the assistance of the District, would be beyond the financial capacity of the City of Marina to acquire, develop, and manage.

2.1.5 City of Marina General Plan (2000, with updates to 2006)

The City of Marina was incorporated in 1975 and adopted its first General Plan in 1978. The 1978 General Plan included significant amendments pertaining to Locke-Paddon Pond. These included the adoption of the Marina Coastal Land Use Plan in 1982 (See Section 2.1.1) and the approval of the Marina Landing Shopping Center development in 1989, which included modifications to the Brown Bulb Ranch Planning Area and a management plan for the coastal vernal ponds (See Section 2.1.3). The Marina City Council adopted the current General Plan in 2000. The Locke-Paddon Wetland Community Park is addressed in the Community Land Use and Community Design & Development elements and in Appendix D (of the General Plan): Mitigation Measures from Final EIR and Mitigation Monitoring Plan of the 2000 General Plan. Stormwater drainage and water resource issues that impact the water quality and habitat conditions of Locke-Paddon are also addressed in the 2000 General Plan.

2.1.5.1 Community Land Use Element - Habitat Reserves and Other Open Space

The Community Land Use Element reinforces earlier land use decisions to preserve and protect the vernal ponds. Section 2.10 Habitat Reserves and Other Open Space states:

2.10 Lands designated as "Habitat Reserve and Other Open Space" are intended for permanent retention in open space to protect significant plants and wildlife inhabiting these areas. These lands consist of the following natural areas:

4. In Central Marina, several vernal ponds are also designated as open space, and a potential seasonal pond is located at the southwest corner of the Reservation Road/Beach Road intersection. Any development application for this latter site shall be evaluated by a qualified biologist to determine the pond boundaries and any needed restoration measures consistent with the Marina Landing Enhancement Plan, incorporated as part of the 1989 Local Coastal Program Land Use Plan Amendment. (2005-82)

2.1.5.2 Community Infrastructure - Stormwater Drainage Policies

Locke-Paddon is influenced by stormwater runoff. The 2000 General Plan includes policies that have a direct impact on Locke-Paddon that must be taken into consideration in any future plans for the community park. The City of Marina's stormwater policy of directing flow to local retention basins has effectively created retention basin conditions within the formerly vernal pool habitat of Locke-Paddon. Sections 3.55-3.57 Stormwater Drainage states:

3.55 The manner in which storm water runoff is accommodated has major implications for water quality, safety and overall aesthetics of the area. At present, storm water runoff is accommodated through the use of small, scattered retention basins. Since Marina has mostly fine to medium-grained, generally unconsolidated soils with a high percolation rate, this type of localized stormwater drainage will most likely continue to be workable and practical.

3.56 There are, however, several adverse effects of the present system of storm water drainage that should be addressed. Among these are the current practice of fencing in retention areas without regard to issues of design or appearance and the need to prevent urban runoff from contaminating groundwater sources. The latter will become an increasing problem with construction of larger-scale commercial and industrial projects, which are normally characterized by more extensive areas devoted to parking, vehicular circulation, and outdoor storage. Throughout the planning area most soils are also highly susceptible to water erosion.

3.57 To avoid the above problems related to storm water drainage, the following measures shall be taken:

- 1. All storm water runoff shall continue to be retained onsite and accommodated by localized retention basins. Retention basins associated with a particular project shall be landscaped with appropriate plant materials and shall be designed wherever possible as integral parts of a development project's common open space or parks, or to create new or enhance existing habitat. All onsite drainage facilities shall be designed to convey runoff from a 10-year frequency storm at minimum. In areas of the City where recycled water will not be readily available, the City encourages the provision of storm water reuse facilities of sufficient size to provide for landscape irrigation of development in proximity to retention basins. The adequacy of onsite and off-site drainage facilities shall be determined through the preparation of storm drainage reports and plans, approved by the City Public Works Director; such reports and plans shall be required for all new subdivisions and new commercial/industrial development proposed in Marina.*
- 2. Pretreatment of storm water runoff from roads, large parking areas, and other extensive paved areas used by vehicles shall be provided using appropriate means such as primary*

settlement structures, routing through settlement ponds, or routing through adequately long natural swales or slopes. In addition, all development plans shall conform to the requirements of the City's National Pollution Discharge Elimination System permit and City ordinances, and all subdivisions and new commercial/industrial development shall identify Best Management Practices (BMP's) appropriate or applicable to uses conducted onsite to effectively prevent the discharge of pollutants in storm water runoff.

3. Storm water systems shall be constructed in a manner which prevents soil erosion. Appropriate measures to avoid such impacts include the dispersal of runoff, installation of energy dissipaters where dispersal is not practical and concentration of runoff water is necessary, and retention of vegetation or revegetation of affected surfaces.

2.1.5.3 Community Design & Development Element – Environmental Protection and Conservation

The Community Design & Development Element supports the policies in the Community Land Use Element that are designed to protect areas with significant agricultural or natural-habitat value from being displaced by development, and protected from indirect impacts related to air, water and energy resources. Sections 4.113, 4.114, 4.115, 4.116, 4.117, 4.118, 4.121, and 4.122 further ensure the protection and conservation of the vernal ponds from the adverse affects of nearby construction and land alteration, whether for private purposes or to accommodate public facilities. The policies and conditions address three major natural resource categories, which include biological resources, water, soil and mineral resources, and air quality.

2.1.5.4 Community Design & Development Element – Water Resources

The Community Design & Development Element supports the policies in the Community Infrastructure Element that are designed to address stormwater runoff and water quality. Section 4.125-Water Resources states:

4.125 *Approval of all future uses and construction within the Marina Planning Area shall be contingent upon compliance with the following policies and conditions intended to protect the quality of the area's water resources, avoid unnecessary consumption of water, and ensure that adequate water resources are available for new development.*

- 1. Where site size and soils permit, all storm drainage systems for new development shall be designed in accordance with the provisions of Section 3.57 of this plan to retain storm water on-site and provide for its filtering of urban pollutants and its percolation into underlying aquifers.*
- 2. All new roads should be designed to allow the localized retention, filtering of urban pollutants, and percolation of storm water into the underlying aquifer.*

3. All potential major sources of water pollution shall comply with state and regional water quality programs, including the need to obtain a discharge permit from the State Water Resources Control Board for storm drain outfalls classified as "industrial."

4. All construction activities involving the alteration of land and the construction or improvement of roads, buildings and other structures, where applicable, shall maintain and enhance the quality of the environment of Monterey Bay in support of the bay's designation as a national marine sanctuary.

2.1.5.5 Appendix D: Mitigation Measures from Final EIR and Mitigation Monitoring Plan

The mitigation measures highlighted below are excerpted the Final EIR and associated Mitigation Monitoring Plan. These measures were determined as necessary to reduce significant environmental impacts identified in the 2000 General Plan to a level of less than significance. The number following each mitigation measure listed herein references the actual mitigation measure of the Final EIR and Mitigation Monitoring Plan. These measures have direct bearing on Locke-Paddon Wetland Community Park.

Mitigation Measure 6.3: Avoiding Impacts to Wetlands and Obtaining Required Permits

All proposed development projects shall be designed to avoid construction in wetlands to the extent practicable. In those instances where it is not possible to avoid wetlands through design measures, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Regional Water Quality Control Board shall be contacted in order to achieve compliance with the appropriate regulations and to obtain all required permits prior to project approval. The granting of the required permits may be conditional on the implementation of site-specific measures designed to mitigate any modification of riparian areas or wetlands which may result from construction of the projects. Avoiding completely all wetlands through design measures would reduce this potential impact to a level of less than significant. However, depending on the character and purpose of a proposed project, it may not be possible to design it in such a way as to completely avoid these areas. In these instances, project-related impacts would need to be mitigated to the satisfaction of the appropriate regulatory agencies prior to the issuance of the permits necessary to allow project construction to proceed. In granting the necessary permits, the regulatory agencies would require that all project-specific wetlands impacts be reduced to a level of less than significant.

Mitigation Measure 10.2: Site-Specific Analysis/Mitigation Associated with Parks and Recreational Facilities Construction

As the construction of new parks and recreational facilities (or the expansion of existing recreational facilities) is proposed to meet the increased demand for such facilities anticipated under the Marina General Plan, each project shall be required to undergo environmental review to determine the extent of any physical effects associated with the construction of the proposed facility that could have adverse impacts on the environment. If such effects are identified through the site-specific environmental review process, then the City of Marina shall identify and implement appropriate measures which would mitigate these effects to a level of less than significant.

Mitigation Measure 10.3: Developer Contributions to Parks and Recreational Facilities/Capital Improvement Program Scheduling

In accordance with Marina General Plan Policy 2.16.1, Policy 2.16.3, and Table 2.3, the City shall continue to require new development to contribute to the provision of new parks and recreational facilities needed to meet the increased demand for these facilities resulting from their proposed developments. The City of Marina shall also ensure that the Capital Improvement Program accurately reflects the increased demand for parks and recreational facilities which would be expected to result from an increase in residential development within the planning area, so that proposed park and recreational facilities can be completed and operational prior to any significant increase in the local demand for such facilities. The combination of these two measures would effectively reduce the potential impact to a level of less than significant.

2.1.6 Purkiss-Rose-RSI Master Plan and Design Development Report (2005)

In September 2004 Purkiss-Rose-RSI agreed to furnish park planning and landscape architectural services to the Monterey Peninsula Regional Park District for the enlargement and enhancement of Locke-Paddon Wetland Park. The Design Development Report (Purkiss-Rose-RSI, 2005) that was generated from this work is an association of planning functions composed to meet the needs of the agency (here, the MPRPD) in processing the initial design of Locke-Paddon Wetland Community Park and facilities. The Report highlighted the intended original purpose of Locke-Paddon as a community park serving recreational and educational needs associated with the greater Marina community. The Report also stressed that the Pond itself should remain as-is, with the only suggested alteration being an aeration system implemented through artificial streams with head ponds on the eastern slope/shoreline. Habitat recommendations included removal of non-indigenous plants and thinning of overgrown vegetation. Suggestions were also provided to enhance and/or establish an open play area, picnic shelter, informal amphitheater, and to improve the existing trail network and educational and interpretive signage. The existing water well on the Isakson property is cited as a potential source of water for lake replenishment and irrigation.

2.1.7 Rana Creek Habitat Restoration, City of Marina General Biological Assessment, Phase 1 (2009)

The General Biological Assessment conducted for the City of Marina's vernal ponds evaluated the presence/absence of sensitive wildlife and plant species and the suitability of the habitat to support these species. The assessment included a review through the California Natural Diversity Database as well as site visits to the ponds. Locke-Paddon Pond was determined to host a number of sensitive plants species and has the potential to support other unique plants.

The perennial pond also supports numerous sensitive wildlife species including tri-colored blackbirds, yellow warbler, common yellowthroat, and western pond turtle.

The report recommended additional focused surveys to confirm presence/absence within the vernal ponds and to guide the planned update of the Coastal/Vernal Pond Comprehensive Management Plan. The Locke-Paddon surveys included:

- USFWS protocol California red-legged frog survey. This work was completed and is summarized below.
- USFWS protocol Smith's blue butterfly survey in upland dune/coastal scrub habitat where seacliff and/or coast. Populations of seacliff and dune buckwheat, which are the host plants for the larvae of the Smith's blue butterfly, should also be surveyed, mapped and marked for protection.
- Spring surveys (typically during April-early May) for special status plants that have a potential to occur or were previously observed near the vernal ponds including Monterey spineflower, sand gilia, Yadon's wallflower, sand loving (coast) wallflower, Eastwood's goldenbush, Kellogg's horkelia and Toro manzanita.

The report also suggested interim management recommendations specific to each of the vernal ponds. The interim management recommendations provide avoidance measures that are designed to reduce impacts to sensitive botanical and wildlife resources to less than a significant level. After the completion of the focused surveys recommended above, these interim management recommendations may be modified based on future findings. The Locke-Paddon interim management recommendations include:

Botanical Resources:

- The upland area northeast of this pond has good potential for many of the special status plants described herein and also has documented occurrences of coast buckwheat, one of the host plants for the Federal endangered Smith's blue butterfly. Controlling the spread of non-native vegetation, such as hottentot fig that is present in the vicinity of this pond will enhance habitat for all native plant species. However, until the presence/absence of special status plants is verified by a spring survey, use of manual

removal in place of herbicidal methods (i.e. glyphosate) for weed control is recommended.

- Improvements at Locke-Paddon Park, such as construction of new paths, observation platforms or similar, should not be initiated until the presence/absence of special status plants is verified by a spring survey, particularly in the upland area towards the northeast of the pond.
- Should any grading activities occur in the vicinity (i.e. within 200 feet) of coastal scrub habitat between June 1 and September 15, which is the flight season for Smith's blue butterfly, a pre-construction survey for Smith's blue butterfly should be conducted by a qualified and permitted biologist.

Wildlife Resources:

- Vegetation management around Locke-Paddon Pond, including thinning of tules and tree trimming, should be conducted outside of the nesting season (April 1 – August 30). If vegetation management must be performed within this timeframe, a qualified biologist must be retained to conduct pre-disturbance surveys, including surveys for tri-colored blackbirds and California yellow warblers, no earlier than two days prior to the onset of work. Until presence/absence of California red-legged frog has been determined, mechanical removal of undesirable vegetation (i.e. hottentot fig) should be avoided.
- The use of pesticides and/or herbicides should be avoided in and immediately around the pond (approximately 60 feet from pond edge) to reduce negative impacts to invertebrates and amphibians.
- Should any grading activities occur in the upland areas surrounding the pond between April 1 and August 30, pre-construction surveys for Western Pond Turtle nesting sites should be conducted by a qualified biologist. Any nesting sites discovered during pre-construction surveys should be marked and provided a 50-foot buffer from the work area.

2.1.8 Rana Creek Habitat Restoration, City of Marina California Red-legged Frog Survey Report (2009)

The vernal ponds in the City of Marina were surveyed for California red-legged frogs in 2009. No California red-legged frogs were detected during the eight surveys. Three (3) species of amphibians were observed. The most dominant amphibian species encountered during the breeding season surveys were Pacific tree frogs, of which both adult and tadpoles were observed. A single California toad (*Bufo boreas halophilus*) was heard calling during an auditory survey and tadpoles were observed within the shallow areas along the riparian woodland. Two (2) observations of American bullfrog (*Rana catesbeiana*) were made along the walkway to the radio tower.

Six (6) species of non-native predators were observed, all of which have the potential to impact the productivity and survivorship of California red-legged frogs. Mosquito fish (*Gambusia affinis*) were introduced into the pond as a means of controlling the local mosquito population. Other non-native predators observed at the site include crayfish, red-eared sliders (*Trachemys scripta elegans*), American bullfrogs, and non-native fish species. Largemouth bass and sunfish were observed in the deeper portions of the pond during the non-breeding season. The site also supports raccoons and wide variety of wading birds including great blue herons (*Ardea herodias*) and great egrets (*Ardea alba*).

The areas of permanent water at Locke-Paddon Pond have a low potential for being used for breeding by California red-legged frogs due to the high concentration of native and non-native predators at these ponds, which significantly reduces the survival rate of tadpoles as well as recently metamorphosed larva. Locke-Paddon does provide non-breeding season habitat that could be utilized for aestivation.

The combination of habitat loss/alteration, fragmentation, and introduction of non-native predators at Locke-Paddon pond has a cumulative effect and has resulted in exclusion and/or the extirpation of the California red-legged frog populations that potentially once inhabited these vernal pond sites. Degradation, coupled with the establishment of non-native predators within the ponds, has significantly reduced the potential for tadpole and larva survival. California red-legged frog will be unable to utilize Locke-Paddon pond for breeding until the density of non-native predators has been significantly reduced, and/or the quality of aquatic and upland habitat at the sites improves.

2.2 Specific Goals and Objectives of this Study

The specific goal of this study is to update and organize the existing knowledge base for Locke-Paddon Wetland Community Park, and to provide further guidance on how to best manage this Park and its resources for contemporary and future enjoyment. This plan should be viewed, in part, as a description of the Park's geologic and hydrologic function, as these functions set a template upon which vegetation, wildlife, and humans operate. The plan provides recommendations on how vegetation, wildlife, and recreational pursuits can thrive together according to the prevailing hydrologic constraints imposed by regional hydrology and local anthropogenic hydromodification.

The Plan's goals and objectives are derived from discussions with Tim Jensen, Planning and Conservation Manager at the Monterey Peninsula Regional Park District, and City of Marina staff in the Community Development Department (Gary Cramblett, Christine d'Iorio, Maziar Bozorginia), along with the goals and objectives expressed in past management and enhancement plans. The goals and objectives were also shaped by our own assessment of Park resources as new information was brought to our attention in the early stages of the backgrounding work as part of this study.

It may also be helpful, here, to explicitly state what this report *is not*. This Plan is not a comprehensive Park Master Plan document that describes how to maintain or newly develop Park facilities with engineering drawings such as restrooms and boardwalks. We focus mostly on natural landscape elements and features rather than on Park infrastructure, although the Plan does make some qualitative recommendations pertaining to Park attraction and infrastructure available to visitors. And although the hydrology of Locke-Paddon Pond likely operates in similar fashion to other local coastal/vernal ponds, this Plan is not intended to be a guiding document for the management of these other ponds in the City of Marina's Sphere of Influence or otherwise. The Plan is intended to be a focused document dealing explicitly with Locke-Paddon Wetland Community Park.

3. WORK CONDUCTED

Work conducted to complete this Implementation Plan includes a background investigation of existing documentation and datasets, both for our own edification and to fill any missing historical and environmental gaps in prior management plans and guidance documents. We also investigated more recent documents and datasets that had not yet been included in these prior plans and analyses. As part of this updated investigation, we also compiled soils and geologic maps, constructed a new watershed delineation map for Locke-Paddon, searched for useful groundwater data from nearby production and/or monitoring wells, and collected historical aerial photographs of the site and environs. As part of our monitoring program at the Pond, we also installed datalogging monitoring equipment to monitor water levels and temperature over most of water year 2010, and performed a limited soil stratigraphic analysis using a hand-held auger. These elements are described in detail below.

3.1 Existing Documentation and Datasets

Our background investigation of Locke-Paddon Wetland Community Park relied heavily on existing documentation, including the 1994 Coastal/Vernal Pond Comprehensive Management Plan (HRG and Swanson, 1994) and the earlier 1987 Restoration and Enhancement Plan (Callander and WESCO, 1987). These reports, and a few other dated references, provided limited but important insight into the history of the planning and development process for the Park. They also provided snapshots of Park and Pond hydrologic function before and after some key modifications altered local hydrology in a step-wise fashion (see section 4.1).

3.2 Updating Existing Documentation for the Site

The 1994 management plan (HRG and Swanson, 1994) represents the most recent guidance document describing Park and Pond function and how to best manage Park resources (apart from the 2006 Purkiss-Rose-RSI document which is limited to Park facilities rather than hydrologic or biologic function). The document, however, is over 15 years old and is in need of updating, clarification, and expansion. The City of Marina Community Development Department graciously opened their library doors so that we had access to any documentation pertaining to Locke-Paddon Wetland Community Park and environs that remained on-record. We were able to find updated information on the following projects that were completed after publication of the 1994 plan (a few of which are shown for spatial reference on Figure 13):

- Marina Coast Water District Wastewater Facilities Plan Alternative 4e, which consisted of replacing a small stormwater percolation basin at 180 Reservation Road

(near the Reservation Road-Seaside Circle intersection) with a lift station to connect sewer lines to a regional system. This project introduced additional runoff from the Hilo Avenue neighborhood to Locke-Paddon Pond, and was completed in the early 1990s, during the publication of the 1994 plan.

- Evaluation and construction of the Marina Landing Shopping Center in 1991-92, which altered local hydrology, stormwater runoff, and water quality.
- Construction of the Holiday Inn Express Hotel at the northeast corner of Reservation Road and Seaside Circle, which resulted in native plant mitigation work at Locke-Paddon and created additional sources of stormwater runoff to the Pond.
- Construction of the Marina Community Public Library on the northeast corner of the Locke-Paddon Park property. This project altered natural runoff characteristics on-site.

3.2.1 Updated mapping

A drainage basin, or watershed delineation, map based on the local topography is a basic and pertinent depiction of a local region that contributes runoff to a point within the landscape. For Locke-Paddon Pond, a drainage basin map derived from the local topography is of limited utility for a number of reasons. First, local soils are so sandy and permeable that runoff is seldom generated on un-built surfaces (pervious or natural areas). Second, the dune-complex topography is subtle and convoluted regionally, making it exceedingly difficult to draw a drainage basin boundary. For example, minor depressions in upland topography surrounding Locke-Paddon may not exhibit a surface flow path or spill point that would deliver water as runoff to Locke-Paddon, but percolation of runoff in that depression would eventually make its way to Locke-Paddon Pond as shallow groundwater. And third, Locke-Paddon Pond is generally supplied by the shallow groundwater aquifer that receives percolated rainwater regionally, and not by surface runoff flux.

For these reasons we have chosen to provide a modified drainage basin map, or watershed delineation, based on impervious built surfaces that convey stormwater runoff through the Marina storm drain system to Locke-Paddon Pond via a few storm drain outfalls along the Pond periphery. The drainage basin boundary that we have drawn is represented as a discrete, well-constrained demarcation in built-up neighborhoods, but becomes a wider and less certain diffuse boundary between neighborhoods in natural dune areas where rainwater percolates to groundwater and rarely generates runoff. Our drainage basin boundary in neighborhoods

incorporated into the Marina storm drain system is based on information provided to us from the City of Marina in the form of a storm drain map (Appendix A). Runoff funnels through these storm drains and enters Locke-Paddon Pond at key storm drain outfalls: 1) a drain outfall with oil, grease, and sediment trap releases storm water to the Pond at the northwest corner that serves Seaside Circle, the Holiday Inn Express Hotel, and Reservation Road in that area; 2) a drain outfall with oil, grease, and sediment trap releases storm water to the Pond at the southeast corner of the Pond that serves the Marina Village Shopping Center, a portion of Reservation Road east of Del Monte Boulevard, and Del Monte Boulevard in that area; and 3) a storm drain outfall with oil, grease, and sediment trap releases storm water to the Pond along the western Pond periphery from underneath Reservation Road, serving the Hilo Avenue neighborhood. This revised drainage basin map is shown in Figure 3, and represents a drainage area of roughly 83.4 acres.

3.3 Vegetation Surveys

Vegetation surveys were conducted to assess the plant community types, document the changes in vegetation composition and structure that has occurred since previous surveys, and to determine the presence of any rare plant species occurring on the Locke-Paddon site. In September 2010 Central Coast Wilds' (CCW) botanist Ellen Holmes systematically walked the entire site, recorded all vascular plant species observed, mapped the vegetation types, and scrutinized the area for the presence of rare plants. A list of all vascular plant species noted was compiled and is included as Appendix B. A map of vegetation types is included as Figure 17.

The vegetation survey methodology is similar to that used by Western Ecological Services Company (WESCO) for the Marina Wetlands Enhancement Study (1987) co-authored with Callander Associates Landscape Architects. WESCO's methodology delineated wetland and upland vegetation types according to specific constituents of the dominant vegetation (e.g. coyote brush or cattail). Wetland vegetation was further categorized according to low, middle, and upper marsh communities. CCW's survey updates the work done by WESCO and further describes the species composition of each of the vegetation types.

3.4 Hydrologic and Hydrogeologic Monitoring

3.4.1 Observations pertaining to the inactive well adjacent the library

On September 3, 2009, Tim Jensen of MPRPD met with Drs. Mark Strudley and Josh Fodor of Balance Hydrologics and Central Coast Wilds, respectively, to discuss issues pertaining to Locke-Paddon Park and to examine the inactive well on the Park property adjacent to the

library. The well is sealed by an octagonally-shaped wooden cover constructed of 2"x4" dimensional lumber and plywood which is affixed to the outer well casing with wood screws. We removed the "home-made" well cover and exposed an approximately 4-foot diameter concrete outer casing approximately 40 feet deep. A broken inner casing pipe (estimated at 4-6" diameter) was visible approximately 20 feet down, leaning against the inside of the outer casing and broken at its base. Rocky debris and trash were visible at the "bottom" at 40 feet deep, which was clearly a sign of vandalism and neglect. A ladder rail extended from the "bottom" to about 10 feet from the surface and appeared also to be broken at the 10-foot mark (probably for security and safety precautions following well abandonment). There is no way to safely enter or exit the outer casing, which explains the hefty wooden cover. It is unclear why the outer casing was built with such a large diameter, why the inner casing was broken in two places, and how deep both the inner and outer casing extends. It is also not clear when the well was abandoned and/or vandalized. Because of its dilapidated state, no soundings were possible. The 1987 Callander and WESCO plan mentions installing this well as one of their recommendations to supplement water in the Pond during dry seasons. The plan calls loosely for a well to be drilled at least 100 feet deep. The Locke-Paddon Pond water surface is roughly 40 feet below the ground surface at the location of the well, so the well would have to be at least 40-50 feet deep to intersect local groundwater.

3.4.2 Limited soil stratigraphy adjacent to pond

A limited examination of shallow soil stratigraphy was performed on the eastern shoreline near the location of the installed eastern shoreline piezometer on December 2, 2009. Test pits were explored using a hand-driven soil auger to depths not exceeding roughly 3 feet (per Monterey County standards, non-permitted) at four closely spaced sampling points shown in Figure 12, panel B. The test pits were driven to examine substrate adjacent to the pond in an effort to properly locate and install the eastern shoreline piezometer. The pits were also dug to test the possible existence of an installed clay liner, and how far that purported clay liner extended away from the water line during that site visit. No identifiable clay liner was found (or, at least, none could be identified as a purely anthropogenic layer). The stratigraphy encountered is as follows, and echoes the description in section 1.2.3.

The bore at the eastern shoreline piezometer location exhibits dark grey sandy loam in the top 0.4 feet, with dark grey to black sandy loam with slightly higher sand content to 1.1 feet deep. From 1.1 to 2.6 feet, dark grey to black, medium to coarse sands were encountered. Below 2.6 feet, olive grey medium to coarse sands were encountered which were very moist at the time of

installation. The water table was not encountered. The other three test bores exhibited black organic clays with little to no sand content in the first approximately 1.5 to 1.75 feet from the surface. Sand content varied slightly with depth in an unorganized fashion that was likely more related to bioturbation than local stratigraphy. In sum, our observations corroborate those of others, and indicate that landward of the “mean” position of the Pond shoreline (indicated by substrate and vegetation) the shallow stratigraphy is mostly dune sands with minor amounts of organic content. Stratigraphy shoreward of the mean water line illustrates predominantly fine-grained materials with a high organic content.

3.4.3 Collection of local well data

We attempted to collect local well data from the Marina Coast Water District and from the USGS, but no data was available that pertained to shallow aquifer groundwater levels. The few wells operated by the MCWD are either in the 400-Foot or 900-Foot Aquifers, reflecting groundwater in layers confined from those affecting Locke-Paddon Pond by aquitards. USGS groundwater monitoring data available online are for wells that are far displaced from Locke-Paddon Pond in the Salinas Valley and elsewhere, and often only provide limited data (typically, only one sounding is available per well). We were also not able to retrieve any information for the on-site abandoned well adjacent to the Marina Community Public Library. Our inferences regarding groundwater dynamics at Locke-Paddon are therefore based on other monitoring data collection efforts analyzed in Kennedy/Jenks Consultants (2004), Boule Engineering Corporation (1986), Monterey County Water Resources Agency (1997), and based on our surface and shallow groundwater monitoring data collected at our gaging installations this past water year (see below, section 3.4.4).

3.4.4 Hydrologic monitoring during WY 2010

To monitor water levels in the Pond and in the shallow groundwater aquifer adjacent to the Pond, we installed two separate gaging stations at the Park. The first gaging station was installed in the Pond at the terminus of the boardwalk/pier extending into the Pond from the western shoreline near the Robin Drive-Reservation Road intersection and the southwestern KIDD radio tower. Here we extended an 8.23-foot long, fully slotted stilling well into the Pond along with a 10-foot tall staff plate until refusal by the Pond substrate. The stilling well was capped on the bottom to prevent the organic, fine-grained sediments along the Pond bottom from fouling the datalogger inside the stilling well. A locking, water-tight cap enclosed the top of the stilling well, from which was suspended a cigar-sized Solinst pressure transducer and temperature sensor inside the stilling well. The pressure transducer records the height of the

overlying water column along with water temperature. This gaging station was designed to record fluctuations in water level through different seasons and due to storms that occurred over the winter of Water Year 2010⁴. The data from this sensor did not necessarily record maximum Pond water depth because we don't have accurate survey data of the Pond bottom. Additionally, water surface elevation generated from this gaging station is generic in the sense that it is not yet referenced to an established benchmark control (it is not tied to mean sea level [MSL] or the National Geodetic Vertical Datum [NGVD]).

A second Solinst pressure transducer was installed inside a fully slotted, ~3-foot deep piezometer along the eastern shoreline, landward of the band of aquatic and hydrophilic vegetation that rings the Pond. The piezometer is capped at the bottom and is designed to reflect the local shallow groundwater depth up-gradient of Locke-Paddon Pond. Piezometer placement was chosen so as not to intercept waters perched on an anthropogenic clay liner (if any exists), and far enough away from the pond to monitor local groundwater rather than Pond water level. The Monterey County Water Resources Agency requires a permit for any subsurface investigation exceeding 3 feet. We elected to install a 3-foot deep piezometer and not to seek a permit for a deeper investigation because there was urgency in installing our equipment prior to the onset of rainy weather in early water year 2010.

Installation of both gaging stations was completed by December 4, 2009, and monitoring included roughly monthly visits to maintain the equipment, download data, and take manual measurements of water levels, temperature, and specific conductance. Our last measurements and data downloads were completed in October 25, 2010.

3.5 Investigation of Regulatory Environment, Permits, Zoning, and Management Directives

The 2000 Marina General Plan conveys a parks and recreation land use designation to Locke-Paddon Wetland Community Park and a public facilities designation to the adjacent library located on the hillslope above the park. Locke-Paddon Wetland Community Park is also

⁴ A water year extends from October 1st of the year prior to the named year to September 30th of the named year, and corresponds to an expression of annual duration that is adequately tied to the seasonality of the hydrologic cycle. For example, Water Year 2010 extends from October 1, 2009 to September 30, 2010. It is used by most government agencies, academic institutions, and private sector scientists in hydrologic studies.

located within the Coastal Zone. The General Plan incorporates by reference the provisions and policies of the Marina Local Coastal Land Use Plan. In the event of any apparent inconsistency between the Marina Local Coastal Land Use Plan and General Plan, the Marina Local Coastal Land Use Plan shall prevail for that portion of Marina within the Coastal Zone. However, in any such case, the City may also pursue possible amendment to the Marina Local Coastal Land Use Plan and/or General Plan as an alternative means to resolve an appearance of possible differences between the two.

The 1998 Monterey Peninsula Regional Park District Master Plan provides management goals on the types of park activities, operations and maintenance for Locke-Paddon Wetland Community Park. The District's management strategy states that "open space lands shall be managed for dispersed and passive recreational use, provided such use is harmonious with the protection of environmental resources." It defines passive recreation "as an activity that does not require structured organization, extensive facilities development or use of a motorized vehicle or equipment. Typical activities include, but are not limited to: bird watching contemplation, painting, photography, beach and sand activities, bicycling, boating, picnicking, fishing, hiking, horseback riding, pet exercise, physical exercise, outdoor education, swimming and research" (MPRPD, 1998). The development of Locke-Paddon Wetland Community Park has been guided by the Marina General Plan, the provisions and policies of the Marina Local Coastal Land Use Plan and the Monterey Peninsula Regional Park District Master Plan.

During the background investigation conducted for this report, no regulatory permits for the construction of the park amenities were discovered. It is likely that permits were secured but these documents have not been reviewed for this report. Regulatory permits may have carried conditions that would also have framed the approach to this Implementation Plan. Regulatory permits will likely be required for any modifications to the pond that may be proposed below the waterline and within the surrounding wetlands (See Section 4.3).

The Monterey Peninsula Regional Park District designated portion of Locke-Paddon Wetland Community Park as a mitigation preserve for the federally threatened Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and the California threatened and federally endangered sand gilia (*Gilia tenuiflora*) (MPRPD, 2001). The 3.55 acre preserve site, on the slope below the current library, supports a population of Monterey spineflower, sand gilia and associated upland dune scrub species. This site provides mitigation for the Holiday Inn Express located at the northeast corner of Reservation Road and Seaside Circle. The two listed plant species were found on the Holiday Inn Express site during the development review process. The hillslope

below the library must be maintained in perpetuity as a mitigation preserve as managed to foster self-sustaining populations of these two plant species (Kephart and Hameister, 2001).

The Coastal/Vernal Pond Comprehensive Management Plan, which was prepared as a condition of approval for the adjacent Marina Landing Shopping Center, has also provided enhancement and management guidelines for all of the vernal ponds in Marina. These guidelines are summarized in Section 2.1.3. Most recently, the Monterey Peninsula Regional Park District prepared a Design Development Report to guide future park improvements and habitat enhancements at Locke-Paddon Wetland Community Park (Purkiss-Rose-RSI, 2005). This study supported maintaining the pond in its present condition. Habitat enhancement recommendations included removal of non-indigenous plants and thinning of overgrown vegetation. Design concepts were also provided for enhancing and/or establishing an open play area, picnic shelter, informal amphitheater, and to improve the existing trail network and educational and interpretive signage. The existing water well on the Isakson property is cited as a potential source of water for lake replenishment and irrigation.

4. RESULTS OF BACKGROUND INVESTIGATIONS

4.1 Changes in Land Use, Hydrography, and Hydrology

As part of the work conducted by HRG and Swanson (1994), an examination of historical aerial photos from 1940, 1949, 1966, 1970, 1976, 1978, 1984, and 1990 illustrated changing historical land use over the last century at Locke-Paddon Pond and environs. As of 1937, Locke-Paddon Pond was bound by Reservation Road to the west, agriculture to the north, agriculture and residential uses to the south, and railroad tracks to the east. Between 1949 and present, some of the area around Locke-Paddon was developed. Structures built on its south shore were gone by 1976 with the extension of Reservation Road along its south and west banks. Also in 1976, the KIDD radio towers were built. Additionally, California State Highway 1 was built just west of Locke-Paddon Wetland Community Park in 1976, and residential subdivisions in the area began to appear between the 1950s and 1980s. These large-scale changes to the local landscape ushered changing hydrologic behavior at Locke-Paddon Pond, converting a pre-urbanized vernal hydrology to one of extended seasonal and perennial inundation. This was largely a result of urban and suburban development directing runoff directly to Locke Paddon Pond from impervious surfaces. As explained in section 1.1, Locke-Paddon Pond and environs was developed as a Park in 1988, and the currently derelict well near the Library was used to direct groundwater into the Pond to maintain pond water levels above 4.5' MSL (as suggested by Callander and WESCO, 1987). Callander and WESCO suggested that the well pump at 20 to 30 gpm from 100 feet deep in the first "unconfined" aquifer. This was essentially one of the final steps in securing perennial inundation at Locke-Paddon Pond. Other components of the 1987 enhancement plan were implemented within Park property shortly after publication. These elements included the boardwalk, park trail network, and other visitor facilities articulated in the 1987 plan.

In 1991, Jones and Stokes published an EIR addendum describing the Marina County Water District Wastewater Facilities Plan Alternative 4e (as modified in Jones and Stokes, 1991), a project designed to connect the District to the Regional Plant to prevent discharges to the Monterey Bay National Marine Sanctuary. The project consisted of demolition of pump station No.1 located at the intersection of Reservation Road and Seaside Avenue, filling of a nearby percolation pond at 180 Reservation Road to 13 ft AMSL, constructing a new larger capacity pump station, and installing a 1300-foot connector (18-inch force main) within the Seaside Avenue right-of-way to connect with the regional interceptor. Drainage that was previously directed to the percolation pond at 180 Reservation Road from the Hilo Avenue neighborhood

was re-routed under Reservation Road to Locke-Paddon Pond just south of the access road to the KIDD radio tower on the western side of the Pond.

The increase in stormwater runoff to Locke-Paddon Pond from this project was estimated to be 11% (an additional 1-2" in water level increase), based on comparison with drainage areas between the filled percolation pond and Locke-Paddon Pond (City of Marina Planning Department, 1992). This is equivalent to the addition of 13.3 ac-ft/yr of stormwater to Locke-Paddon Pond, for a total of 136.1 af/yr (11% increase; Jones and Stokes, 1991). The Hilo Avenue neighborhood, which would now be contributing runoff to Locke-Paddon Pond, consists of 18 acres of single-family homes and 6 undeveloped acres. In the 1992 City of Marina Planning Department report, it is pointed out that water that was originally directed into the percolation pond at 180 Reservation Road contributes to the same local infiltrated groundwater body that fills Locke-Paddon Pond. (Paired water level monitoring in that pond and Locke-Paddon would have been an ideal way to examine if any clay liner or deposits in Locke-Paddon perched water above levels attained in the 180 Reservation Road percolation pond. Future monitoring of water levels in the Robin Drive, Lake Drive, and Locke-Paddon Ponds would present a similar and useful comparison.) In that report, the City suggested that oil/grease/sediment separators would help keep new runoff water inputs to Locke-Paddon Pond in better quality.

The Marina Landing Shopping Center (approx. 20 acres) was constructed ca. 1991-1992, and resulted in the complete filling of a pre-existing vernal pond at the site and the enlargement of the vernal pond at the Beach Road/Reservation Road intersection (along with roadway realignment) (AMBAG, 1995). The Coastal Permit required for the development of the shopping center included a condition of approval that required the City and the project proponents to prepare a comprehensive vernal pond management plan (this is the 1994 plan; HRG and Swanson, 1994). Although the Project Impacts and Mitigation Measures Table stipulates that "no ground surface runoff from the project site will be allowed to flow into the new larger vernal pond at Beach/Reservation Road (Pond #3, the Marina Landing Pond), the drainage from the site is funneled to on-site storm drains that percolate to shallow groundwater at the site, which may eventually filter through the subsurface to Pond #3 and/or to Locke-Paddon Pond. (The table also mentions that water levels in Marina Landing Pond will be maintained by using water wells from the Project [Marina Landing Shopping Center] site, although we have not confirmed the presence or operation of such wells, and how they might be affecting water levels in Locke-Paddon Pond.)

In and around 1998, the Monterey Peninsula Regional Parks District (Monterey Peninsula Regional Park District Board of Directors, 1998) proposed recreational improvements at Locke-Paddon Park including expanded parking, picnic and barbeque sites, a gazebo, children's playground equipment, group/family barbeque sites, a volleyball court and horseshoe pits, and informal baseball/softball field. However, construction of these improvements was essentially denied by the California Coastal Commission because of concern that the improvements would compromise habitat value of the property. (Callander and WESCO (1987) also suggested a maximum of 60 visitors at one time at Locke-Paddon, and that there would be potential disruption of local habitat function in the presence of ballgames and picnics.)

The B.T. Development Company built an eighty (80) unit Holiday Inn Express Hotel at the northeast corner of Reservation Road and Seaside Circle sometime between 2001 and approximately 2003 (the project was under construction in 2002 per discussion in the Initial Study for Marina Library Project), and a restoration plan was developed to mitigate the loss of 1.52 acres of upland dune habitat at the site (Kephart and Hameister, 2001). The developed property contained the Federally Threatened Monterey spine flower and State Threatened and Federally Endangered sand gilia. To mitigate this loss, the restoration plan outlined the establishment of 3.55 acres of sand gilia, Monterey spine flower, and associated upland dune scrub species at Locke-Paddon Park just below the current location of the Marina Library. Specifically, the plan called for the removal of the top 0.5 to 1.0 feet of sandy topsoil at the development site and movement of this topsoil to the mitigation site at Locke-Paddon. Details on the condition of these plantings, and ongoing monitoring that may or may not be occurring, are described in section 4.2 below.

And finally, the last major alteration to the Locke-Paddon Park property was the construction of the Marina Community Public Library (completed in September 2007). A Mitigated Negative Declaration and Initial Study for the Marina Library Project, including correspondence and comments from Regional Park District and other collated comments, and an amended judgement from the Superior Court of California, County of Monterey all initially suggested the project will significantly change current drainage of subject parcel by covering permeable sandy soils with 2.26 acres of impervious roof and parking surfaces. Monterey Bay Engineers (2006) suggested a total drainage area affected by the proposed (at that time) Marina library was 17,469 square feet (0.401 acres). Local percolation rates were suggested as 12 in/hr. However, implementation measures and application of construction techniques directing runoff to downstream stormwater facilities were deemed to render the change in runoff as less than significant. Current observations at the Library indicate the presence of vegetated swales

downstream from the discharge points of raingutter downspouts. Although no observations have been made of these facilities in operation during storms, it is likely that the swales, which are many meters long, are effective at capturing, filtering, and infiltrating roof and pavement runoff from the library. There are no indications of surface runoff or erosion downslope of the swale termini, between the swales and Locke-Paddon Pond.

4.2 Changes in Vegetation

The wetland and upland vegetation of the Locke-Paddon pond and surrounding lands has transformed in response to the land use changes and the concomitant changes in hydrology. The changes in wetland vegetation associated with the conversion of Locke-Paddon from a vernal hydrology to one of perennial inundation are significant.

The character of the historical vernal pool vegetation is not documented at the Locke-Paddon site, therefore we can only speculate about the species composition at the site. Vernal pools in the region (e.g. Fort Ord) support an abundance of annual native plant species adapted to seasonal drying. Also a variety of rare plants can be found around the vernal pools in the region, such as Hickman's popcorn flower (*Plagiobothrys chorisianus* var. *hickmanii*). With perennial inundation of the Locke-Paddon pond the vegetation is now dominated by obligate wetland species including cattail (*Typha* spp) and tule (*Scirpus* spp).

The upland vegetation at Lock-Paddon has been most significantly altered by the construction of the Marina Public Library and the implementation of habitat mitigation measures associated with the Holiday Inn Express. Prior to construction, the library site was dominated by annual non-native grass land species with scattered occurrence of local native species such as beach primrose (*Camissonia cheiranthifolia*) and sandmat (*Cardionema ramosissimum*). There was also a mix of native species not characteristic of nearby undisturbed habitat such as red maids (*Calandrinia ciliata*), California poppy (*Eschscholzia californica*) and sky lupine (*Lupinus nanus*). These species most likely seeded at the site (Rana Creek, 2002). One rare species, Monterey spineflower (*Chorizanthe pugens* var. *pungens*), was displaced by the library construction (Rana Creek, 2002).

The mitigation planting for the construction of the Holiday Inn Express was installed in the upland area to the southwest of the library building, marked as Mitigation Planting Scrub in Figure 17. The species composition of the mitigation area is characteristic of coastal scrub and coastal bluff scrub and is distinctly different than the surrounding upland vegetation of the site.

The seed native species include California sagebrush (*Artemisia californica*), beach sagewort (*Artemisia pyconcephala*), mock heather (*Ericameria ericoides*), and dune buckwheat (*Eriogonum parvifolium*) (Hameister, 2002).

Another significant change to the vegetation at Locke-Paddon is the ongoing encroachment by non-native invasive species. Acacia (*Acacia sp.*), English ivy (*Hedera helix*), ice plants (*Carpobrotus edulis* & *Conicosa pugioniformis*), French broom (*Genista monspessulana*), poison hemlock (*Conium maculatum*), and others have established to varying extents around the perimeter of the site.

4.3 Changes in Regulatory Environment

Any alteration to the use or management of the Locke-Paddon Wetland Community Park is guided by the General Plan, and by reference, the provisions and policies of the Marina Local Coastal Land Use Plan. The 2000 General Plan Final Environmental Impact Report included Mitigation Measure 6.3: Avoiding Impacts to Wetlands and Obtaining Required Permits. This mitigation measure will guide any proposed alterations to Locke-Paddon Wetland Community Park. The mitigation measure states:

All proposed development projects shall be designed to avoid construction in wetlands to the extent practicable. In those instances where it is not possible to avoid wetlands through design measures, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Regional Water Quality Control Board shall be contacted in order to achieve compliance with the appropriate regulations and to obtain all required permits prior to project approval. The granting of the required permits may be conditional on the implementation of site-specific measures designed to mitigate any modification of riparian areas or wetlands which may result from construction of the projects. Avoiding completely all wetlands through design measures would reduce this potential impact to a level of less than significant. However, depending on the character and purpose of a proposed project, it may not be possible to design it in such a way as to completely avoid these areas. In these instances, project-related impacts would need to be mitigated to the satisfaction of the appropriate regulatory agencies prior to the issuance of the permits necessary to allow project construction to proceed. In granting the necessary permits, the regulatory agencies would require that all project-specific wetlands impacts be reduced to a level of less than significant.

The recreation facility improvements, habitat restoration projects, and pond management actions that have been proposed in earlier documents and those proposed in this report may require the City of Marina to undertake environmental review under the California Environmental Quality Act (CEQA) and seek permits from regulatory agencies. Regulatory permits will likely be required for any modifications to the pond that may be proposed below the waterline or within the surrounding wetlands. The CEQA review process is intended to provide the public and both trustee and responsible agencies with an opportunity to provide comment on the project. Trustee agencies are state agencies that have authority by law for the protection of natural resources held in trust for the public. Responsible agencies are those that have some responsibility or authority for carrying out or approving a project. In many instances, these public agencies must make a discretionary decision to issue a local permit or provide right-of-way, funding or resources that are necessary for the project to proceed. In the case of Locke-Paddon Wetland Community Park, the California Department of Fish and Game (CDFG), California Coastal Conservancy (CCC), and Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) may be considered responsible state agencies.

In addition, because parts of the Locke-Paddon Wetland Community Park are considered “wetlands” and “water of the United States” any project impacting these areas of the park has the potential to affect both regulated wetland areas under the federal Clean Water Act (CWA) and special-status species under the federal Endangered Species Act (ESA). Specifically, if the project requires a dredge and fill permit (CWA §404) the United States Army Corps of Engineers (USACE) will have the responsibility to determine the conditions of issuance. This federal action under the CWA cannot be taken until USACE receives certification from the Regional Board (CWA §401) and has consulted with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) as to whether its action or the project could impact a federally protected endangered species.

Also, on a state level, the RWQCB has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California’s Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. Activities that lie outside of ACOE jurisdiction may also require the issuance of either individual or general waste discharge requirements from the RWQCB.

Projects within Locke-Paddon Wetland Community Park may require project-specific permitting (See Table 4 – Summary of Regulatory Agencies and Permits).

5. RESULTS OF HYDROLOGIC MONITORING AND VEGETATION SURVEY

5.1 Historical and Recent Rainfall

We collated both historic and recent (WY 2010) rainfall data for the Marina area from stations in the CDEC (California Data Exchange Center) and CIMIS (California Irrigation Management Information System) data libraries. Tables 2 and 3 illustrate daily rainfall rates at the CIMIS #116 Salina North station (36°43'00"N, 121°41'27"W; elevation = 61 feet) and the CDEC FO2 Fort Ord station (36.6270°N, 121.7860°W; elevation = 490 feet), while Figure 6 plots cumulative precipitation for both stations for WY 2010 along with historic average annual rainfall. At the CIMIS #116 station, 16.69 inches accumulated in WY 2010, while 13.49 inches fell at the CDEC FO2 station. Notable storms in WY 2010 included the Oct. 13, 2009 storm (roughly 1-2 inches locally), the storm sequence of Jan. 17-23, 2010 (2.7-2.9 inches), and the March 2-3, 2010 storm (1.51-1.76 inches). Historic average annual rainfall was also collected from the CDEC system at station SAP Salinas No.2 (36.6670°N, 121.6670°W; elevation = 45 feet). At this station, monthly rainfall totals have been catalogued since January 1905, yielding a 105-year data set from which an average annual rainfall of 13.28 inches was computed. Thus WY 2010 was roughly an average or slightly above average rainfall year. Figure 4 shows average rainfall totals by month, compared with monthly rainfall totals during WY 2010 for both the CIMIS #116 and CDEC FO2 stations. The CIMIS #116 station exhibited no consistent relationship with the SAP data for the first half of WY 2010, but beginning with January, the CIMIS #116 station typically yielded above average monthly rainfall totals through the remainder of the water year. The FO2 station data for WY 2010 was inconsistent when compared with the historic average monthly rainfall totals throughout WY 2010. Figure 5 depicts the accumulated departure from long-term mean annual precipitation for the CDEC SAP monthly rainfall data set. The data set up until 1981-82 is mostly complete and shows persistent above average conditions between roughly 1905 and 1925, and 1940 and 1983. However, the departures have not been adjusted for missing data during the extremely wet winters of 1981 and 1982, thus substantially skewing both the accumulated departure and average annual curves. The trough of 1992-94 therefore has a slightly aberrant inception, but the regional drought of the late 1980s and early 1990s does contribute to more negative trends depicted in the last 2-3 decades. The last few water years (2007-2009) have been below average, while the recent rainfall data discussed above indicate average to slightly above average conditions during WY 2010.

5.2 Pond Water and Shallow Groundwater (Eastern Shoreline Piezometer) Levels

As described in section 3, we installed instrumented gaging stations in Locke-Paddon Pond and in a shallow piezometer on the eastern shoreline to record the evolving water levels and temperature during most of WY 2010. Manual measurements of pond water and shallow groundwater levels and temperature were also collected at roughly monthly intervals and are tabulated in Table 1 and are shown graphically in Figures 14 and 15. Figure 14 depicts these manual water level measurements along with the continuous, unreferenced records of mean daily water levels in both the Pond and in the eastern shoreline piezometer. Cumulative rainfall is plotted in Figure 14 for reference. Increases in Pond stage and shallow groundwater levels in response to rainfall events are discernible in both records. Additionally, both records appear to reflect the same water body. In other words, the shape and structure of each water level curve appears identical, save the artificial offset in magnitude which results from the unreferenced manual measurements of stage used to calibrate the instrumental records. Both records show an increase in stage of roughly 3 feet from December 2009 through mid-March 2010, with subsequent rainfall events resulting in only mild increases in stage superimposed on the seasonal recession limb of the hydrograph. The particular shape of each hydrograph differs slightly prior to mid-February, but the hydrographs appear identical in shape following the last significant rise to the mid-March peak in the latter half of February. The rising limbs of individual storm hydrographs in Locke-Paddon Pond seem to be more pronounced than the rising limbs reflected in the eastern shoreline piezometer prior to mid-February. This suggests that Locke-Paddon Pond fills quickly from urban runoff early in the winter season and then drains and equilibrates to the more gradually rising shallow groundwater table reflected by the eastern shoreline piezometer record. Once soils are saturated during the winter and the groundwater table has risen, Pond and shallow groundwater levels operate in phase with similar or identical magnitude. The gradual recession into the Spring and Summer is likewise identical. (The sudden drop in Pond stage on July 16, 2010 was a result of gage relocation to the interior of the KIDD radio tower fencing after vandalism of the Pond stilling well and staff plate mounted to the end of the dock/boardwalk at the western end of the Pond. This is not a “real” drop in Pond stage.)

Figure 15 shows Pond stage, shallow groundwater level, and water temperature in the Pond and the eastern shoreline piezometer. Temperature in the eastern shoreline piezometer is a smooth, damped seasonal signal, reflecting cooler conditions in the winter months (around 12-13°C) and warmer conditions in the summer and fall (upwards of 16°C) with gradual transitions between the two states. Pond water temperature appears to have increased

somewhat monotonically over the water year, with the highest temperature readings occurring during the late summer (22-23°C). Temperature data collected on October 25, 2010, our last monitoring visit of the year, indicate the beginning of Pond water temperature decline into the fall and early winter, although our last manual measurement of temperature was still just below 20°C. It is unclear whether Pond temperatures at our monitoring station will decline to temperatures recorded at the beginning of our monitoring program, around 10°C. The seeming increase in Pond water temperature this year may be a reflection of increasing inputs of warmer urban runoff contributions following three very dry water years where water temperature may have been more reflective of cooler, shallow groundwater supply.

5.3 Specific Conductance

A record of manual measurements of specific conductance in the Pond, the eastern shoreline piezometer, and in test auger Hole #4, is shown in Figure 16. Pond and piezometer water levels are shown in the background for reference. Specific conductance is a measure of the ability of water to conduct electricity at a standard temperature (generally 25°C), and is an index of the concentration of total dissolved salts in the water. (Sea water has a specific conductance of about 53,000 $\mu\text{S}/\text{cm}$, while rainwater is typically less than 50 $\mu\text{S}/\text{cm}$.) As water passes over and through the ground, salts are dissolved, increasing the conductance. Higher specific conductance can sometimes indicate longer residence times in the ground, or transmittal through salt-bearing soils or geologic formations. Water of high specific conductance can also be produced by evaporation of stagnant water. Specific conductance can therefore be used as a passive tracer in hydrology studies to distinguish various water sources.

Specific conductance of waters in Locke-Paddon Pond was generally below 1000 $\mu\text{S}/\text{cm}$, and exhibited a gradual decline through the winter months and return to higher levels in the summer months. This almost certainly reflects inputs of relatively fresh urban runoff into the Pond during the winter months, and Pond evaporation and slight concentration of salts during drier months. Measurements of specific conductance in shallow groundwater monitoring piezometers on the eastern shoreline exhibit different behavior. At the eastern shoreline piezometer, specific conductance fluctuated irregularly between 819 and 3165 $\mu\text{S}/\text{cm}$. The peak value was recorded on February 17, 2010, while the lowest value was recorded at the next site visit roughly two months later on April 7, 2010. Specific conductance again peaked in July 2010, and has been declining with the onset of cooler weather in fall. Three measurements of specific conductance were made at test auger site Hole #4, when Pond water had not inundated the sampling location. Here, specific conductance more closely reflected the response seen by the

Pond, with intervening data points from the core of the winter season absent. Values at Hole #4 ranged between 1072 and 1542 $\mu\text{S}/\text{cm}$. The data for the eastern shoreline piezometer up to the measurement made on July 9, 2010 may reflect three processes: illuviation, flushing, and concentration. First, the drastic increase in specific conductance between Dec. 31, 2009 and Feb. 17, 2010 may reflect illuviation (movement by dissolution, followed by concentration or accumulation) of salts from the soil surface into the B horizon by percolating rainwaters. The piezometer is installed in the B horizon, and surficial salts may be present at the soil-atmosphere interface from airfall precipitation of sea salt spray, which then were washed into the B horizon. Next, the onset of more persistent precipitation diluted the salts within the Pond and shallow groundwater lens until values below 1000 $\mu\text{S}/\text{cm}$ were attained in April 2010. Cessation of rains and increasing temperature and evaporation again increased salt concentrations to values that reached around 2000 $\mu\text{S}/\text{cm}$ by July 2010. The subsequent decline in specific conductance following July 2010 is currently unexplained.

5.4 Vegetation Survey of Locke-Paddon Park

Locke-Paddon Wetland Community Park has a diverse and highly variable vegetation that can be broadly delineated into either wetland or upland vegetation. There are many types within these two broad categories (Figure 17). The boundaries between adjacent vegetation types are often distinct, however many complex inter-gradations between types are also observed.

Within each vegetation type the species composition and the plant community structures are unique. A key distinction regarding species composition is that the wetland types are dominated by native plant species and the upland types are dominated by non-native plant species. In a few cases there are one or two dominant species (e.g. tule). However, the majority of the vegetation types do not have a clear dominant species. Rather, there is a complex species composition, which at times has a well-developed community structure (e.g. willow complex).

The vegetation subtypes are further categorized according to the habitat type in which they occur. For example, wetland vegetation types may occur within either the low, middle, and upper marsh habitat zones, whereas upland vegetation types may occur within the coastal dune scrub or annual grassland habitat areas.

5.4.1 Wetland vegetation types

Tule (Low Marsh)

The dominant wetland vegetation type is characterized by tule, or bulrush, species. The two co-dominant species are the common tule (*Scirpus acutus* var. *occidentalis*) and the California tule (*Scirpus californicus*). (Note that the genus name *Scirpus* will be replaced by the name *Schoenoplectus*, among other names, in the upcoming revision of the Jepson Manual.)

The tule vegetation extends along the north, northwest, and southeast banks of the pond and comprises approximately 60-70% of the emergent vegetation that occurs in the low marsh habitat.

Tule - Cattail Complex (Low Marsh)

The second most abundant low marsh vegetation type is characterized by common and California tules growing together with broadleaf cattail (*Typha latifolia*). The tule-cattail complex occurs along the northeast shore of the pond and accounts for approximately 15-20% of the emergent vegetation around the pond.

Cattail (Low Marsh)

Broadleaf cattail grows in pure stands at three distinct areas around the pond. These include a small population at the south-east end of the pond and two small populations to the north and south of the pier leading to the radio towers. Combined, these stands account for less than 5% of the emergent pond vegetation.

Willow - Tule Complex (Low to Mid Marsh), south-central pond edge

Three willow species grow in an open-canopy riparian woodland with the common and California tule occurring in open areas in the willow understory. The willow species include shining willow (*Salix lucida*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*).

This vegetation type accounts for another 15-20% of the emergent pond vegetation along the south-central shore of the pond.

The invasive, non-native Kikuyu grass (*Pennisetum clandestinum*) grows along the upper boundary of this vegetation type.

Silverweed – Bulrush (Tule) Complex (Mid Marsh)

Silverweed (*Potentilla anserina*, formerly *P. edgii*) grows in the understory of prairie bulrush (*Scirpus maritimus*) along the northwest bank of the pond and also to the south of the radio tower pier. (Note that the genus name *Potentilla* will be replaced by the name *Argentina* in the upcoming revision of the Jepson Manual.)

The prairie bulrush grows in association with the bull tule (*Scirpus robustus*) and the two species are known to hybridize with individual plants displaying characteristics intermediate between the two species.

Rush - Wild Rye Complex (Upper Marsh), north-west pond quadrant

This complex of upper marsh vegetation occurs along the north-west portion of the pond. Baltic rush (*Juncus balticus*) and creeping wildrye (*Leymus triticoides*) are the characteristic species. Also interspersed with the rush and creeping wildrye are western goldenrod (*Euthamia occidentalis*) and dune sedge (*Carex pansa*). Two shrub species border this vegetation, with marsh fleabane (*Baccharis douglasiana*) occurring in wetter areas and coyote brush (*Baccharis pilularis*) occurring in drier areas.

Kikuyu grass is also invading along the upper limit of this vegetation type.

Wetland Mosaic (Upper Marsh), south-east pond quadrant

The Wetland Mosaic is a heterogeneous vegetation type that occurs at the south-east corner of the pond. The vegetation structure is differentiated into tree, shrub, and ground layers. The over-story is represented by an open canopy of arroyo willow and shining willow.

California blackberry (*Rubus ursinus*) and marsh fleabane are the primary shrub species. The ground layer species are distributed across a moisture gradient, which from wet to dry are silverweed, iris-leaf rush (*Juncus xiphioides*), Pacific rush (*Juncus effusus*), dune sedge, and creeping wildrye.

This vegetation type is also heavily invaded by non-native species such as English Ivy (*Hedera helix*), velvet grass (*Holcus lanatus*), French broom (*Genista monspessulana*), bull thistle (*Cirsium vulgare*), and Kikuyu grass.

Willow Complex (Riparian Woodland), east end of pond

The Willow Complex has a similar species composition to that of the Wetland Mosaic described above. However, the vegetation structure is different. This area is a riparian woodland with a denser canopy of shining willow and arroyo willow.

The shrub layer contains California blackberry and marsh fleabane and also includes stinging nettle (*Urtica dioica*). The species of the ground layer are again distributed along a moisture gradient, from wetter to drier: silverweed, iris leaf rush, Pacific rush, Baltic rush, and creeping wildrye. The distinction is that Baltic rush replaces the dune sedge that occurred in the Wetland Mosaic.

California Blackberry Complex (Riparian Scrub)

California blackberry, coyote brush, and marsh fleabane grow intermingled from the north to the south along the north-eastern side of the pond. This vegetation type is the transition zone between the wetland and upland vegetation types with the marsh fleabane demarcating the upper extreme of the marsh habitat and the coyote brush demarcating the lower zone of the upland habitats.

Once again, Baltic rush, dune sedge, and creeping wildrye grow along the moisture gradient in association with the shrubs. Wild radish (*Raphanus sativus*) is the primary non-native species growing in this vegetation type.

5.4.2 Upland vegetation types**Annual Nonnative Grasses (Annual Grassland)**

This vegetation type is dominated by non-native annual grasses and forbs, with a low density of native species scattered throughout. Non-native grasses cover approximately 50% of the slope between the pond and the City library with a significant area down-slope to the immediate west of the library and another larger area between the row of Monterey cypress trees and the railroad right-of-way.

The non-native grass species include soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena barbata*), annual rye grass (*Lolium multiflorum*), and annual fescue (*Vulpia bromoides*). The non-native annual forbs include such species as redstem filaree (*Erodium cicutarium*), cut-leaf geranium (*Geranium dissectum*), short-pod mustard

(*Hirschfeldia incana*), smooth cat's ear (*Hypochaeris glabra*), and prickly sow thistle (*Sonchus asper*).

Native species occurrences include California beach aster (*Lessingia filaginifolia*), telegraph weed (*Heterotheca grandiflora*), deer weed (*Lotus scoparius*), California croton (*Croton californicus*), Canadian horseweed (*Conyza canadensis*), and California poppy (*Eschscholzia californica*).

Coastal Scrub (Coastal Dune Scrub)

The coastal scrub vegetation type is a complex plant community that occurs in limited areas around the park. The majority of this vegetation is found growing on the eastern slope adjacent to the railroad right-of-way. Smaller stands of the vegetation are found growing intermittently along the footpath parallel to Reservation Road.

The dominant coastal scrub plant species include coyote bush (*Baccharis pilularis* var. *consanguinea*), mock heather (*Ericameria ericoides*), California beach aster, dune bush lupine (*Lupinus chamissonis*), deer weed, and California sagebrush (*Artemisia californica*). There are also many of the non-native annual grassland species present in between the key shrub species. The vegetation type is also heavily invaded by ice plant (*Carpobrotus edulis*).

Coastal Scrub Mitigation Planting (Coastal Dune Scrub)

The coastal scrub mitigation planting area is the result of the implementation of habitat mitigation measures associated with the Holiday Inn Express. The area is centrally located on the slope below the library and covers a much greater area than the indigenous coastal scrub population.

The species composition is similar to the indigenous coastal scrub including mock heather, California beach aster, dune bush lupine, deer weed, and California sagebrush. There are also species occurrences that are not present elsewhere within the Park such as dune buckwheat (*Eriogonum parvifolium*), Beach sagewort (*Artemisia pycnocephala*), and St. Catherine's Lace (*Eriogonum giganteum*). As above, there are many of the non-native annual grassland species present in between the key shrub species; however, ice plant is only encroaching around the edges.

Monterey Spineflower

The Monterey spineflower (*Chorizanthe pungens* var *pungens*) is a Federally Threatened Listed Species that only occurs in a small population between the coastal scrub mitigation planting area and the western edge of the Monterey cypress tree line.

Monterey Cypress

Monterey Cypress (*Cupressus macrocarpa*) is a native tree that is not native to the Locke-Paddon site. Many cypress trees were planted around the site with the mature windbreak planting representing the most significant planting.

Iceplant

Two species of ice plant occur in the Park: hottentot fig (*Carpobrotus edulis*) and false ice plant (*Conicosa pugioniformis*), with hottentot fig being by far the most abundant. Ice plants occur in abundance along the edge of the Park immediately adjacent to Reservation Road, along the rail road right-of-way and along the cypress wind break.

Poison Hemlock

Poison hemlock (*Conium maculatum*) is present in one small population at the central east boundary of the park adjacent to the railroad right-of-way.

6. CONSTRAINTS, RECOMMENDATIONS, AND ONGOING AND FUTURE WORK

Our itemized constraints deal with hydrologic, vegetative, and security issues that have been flushed out through the course of this study. Importantly, these constraints are set within an overarching desire by the City to utilize Locke-Paddon Wetland Community Park as an attractive gateway feature to the City of Marina from Highway 1, along Reservation Road. Thus our recommendations are set within this context, and the need to revitalize the Park and surrounding environs.

6.1 Constraints

6.1.1 Hydrologic constraints

1. Due to gradual adjustments in the storm drainage system over many years in the Marina incorporated area, Locke-Paddon Pond has become a perennialized water body, receiving runoff waters from a large portion of the City area.
2. Locke-Paddon Pond is an expression of a shallow groundwater lens, and would therefore exhibit water levels unaffected by any proposed changes to pond bathymetry. In other words, any suggestion to conduct pond-bottom grading as part of an ecosystem restoration program would not change the elevation of the pond water levels, because they respond to seasonal and regional fluctuations in precipitation and runoff, not direct runoff contributions to the pond. However, pond depth may be altered through grading efforts.
3. The radial grounding wire network associated with the two KIDD radio towers limits the depth of excavation, should restoration efforts propose to alter pond bathymetry through grading or dredging.
4. In terms of water quality, Locke-Paddon Pond serves as a City-scale sink for urban runoff. As such, the evolving water quality will be dependent on the quality of waters from City storm drains and any control measures currently in place or anticipated. Additionally, resident waterfowl contribute to water quality indices (for example, bacterial concentrations) that often achieve levels inconsistent with public and environmental safety. This latter issue is exacerbated by a public that recreates at the Pond by feeding the waterfowl.
5. As sea levels rise gradually through the next 50 to 100 years and runoff contributions increase (likely, as the City of Marina grows), flooding of circumnavigating trails and adjacent roadways during storm events may become more frequent. Plans are currently underway to make improvements to Reservation Road and the trail that runs along the

western boundary to alleviate flooding problems. Any future improvements may appropriately take this forecast into account, allowing both flood waters and wetland vegetation to remain at levels below improved trails or boardwalks.

6.1.2 Vegetative constraints

6. Approximately 3.55 acres on the hillslope immediately adjacent to and below the library is committed as a mitigation preserve for Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and sand gilia (*Gilia tenuiflora*).
7. Wetland vegetation (tules and cattails) is not likely to encroach into the central portions of the pond as water levels rise from regional increases in sea level and/or groundwater levels.
8. Any trimming of trees and shrubs should be limited to periods of the year falling outside of nesting season (February 1 to August 31).

6.1.3 Security constraints

1. The Locke-Paddon Wetland Community Park experienced a sense of renewal following the implementation of recommendations made in the 1987 Wetland Enhancement Plan (Callendar and WESCO, 1987). However, the installed infrastructure is showing signs of age, misuse, and deterioration. This detracts from public enjoyment of the Park and encourages mistreatment and use of Park environs by vagrants.
2. The overgrown willow thickets along the southeast margin of the Pond present a security concern: encampments by vagrants are often found within these areas.
3. Public access is limited along the southern and eastern boundaries of the Park—areas that are also overgrown by willow thickets and adjacent to a now-abandoned rail line. Rehabilitation and integration with the City environment along these boundaries would be beneficial and reduce security problems.
4. There is a general lack of public access and involvement at Locke-Paddon Park, despite its proximity to the Marina Library, high traffic areas, and the City center.

6.2 **Recommendations**

Our recommendations fall into two major categories: one representing short term improvements to and maintenance of existing facilities along with vegetative rehabilitation and

improved educational opportunities; the second recommendation includes these measures plus a longer-term re-design of pond bathymetry to improve water quality and habitat variability.

6.2.1 Managing and improving existing resources over the short term, while retaining existing pond bathymetry

1. **Native plant rehabilitation.** With the existing pond bathymetry and shoreline/adjacent hillslope configuration unchanged over the short term, management of the natural environment is chiefly a botanical issue. Vegetation management entails controlling and/or removing invasives around and within the pond, rehabilitating native plant communities where feasible and desired, and managing aquatic vegetation, if desired.
2. **Aquatic vegetation control/removal.** We would like to caution that managing aquatic vegetation on an annual or more frequent interval can be costly, and can easily fall off the radar of Park management elements as City personnel changes over time. If management of aquatic vegetation is deemed important (which would be evident to monitoring biologists and botanists; see section 6.3 below), the pond vegetation boundaries need to be defined and minimized to a point that both improves habitat as well as provides an aesthetic relief to the site. The vegetation to water ratio would be developed from agency and consultant input, with an emphasis on establishing or meeting a City budget. Control of aquatic vegetation in this manner is an added cost, but more importantly it is a rather highly specialized function that the City is not equipped to address from both safety and mechanical aspects. Once the plant boundaries are established, the inspection for the existing grounding wires would commence, using a low visibility dive team to probe and look for the grounding wires. Our thinking is that the use of commercially available subsurface conduit location equipment, as well as the divers to mark the pathways, should produce an accurate map for both current and/or future needs. The location of the wires is critical, given the perceived lack of significant cover and potential for rhizome/root mass ensnarement. Effective tule control (long term) requires the removal of the emergent plant stalk as well as the crown and rhizomes. This is the only means of achieving plant control in the 18- to 36-month range. To accomplish this, the cutting and removal of the emergent root mass from the water requires the use of floating equipment and a rotovation process. Typically, the first pass is to cut the emergent vegetation down to the waterline, where the 2" to 6" pieces are collected via a floating aquatic plant harvester and deposited at the shore for off haul/disposal. The rhizomes/root mass is then rototilled (rotovation) to break up the mass and separate the plant matter from the hydro-soil. The plant

matter will then float, where it is also swept up and removed by the floating harvester. In this manner, the plants and areas can be selectively removed to address aesthetic, habitat and public interaction needs at the site, leaving (intended) portions of the plant growth/species untouched.

3. **Boardwalk removal.** Demolish the current and defunct boardwalks which protrude into the pond, in the interest of safety and security and to discourage public waterfowl feeding. Using the same floating equipment as is proposed for aquatic vegetation removal, the existing boardwalk and anchor points could be removed from the lake. This would be a cost saving operation, as the same tule control equipment would be utilized to remove the sections of the dock from the water and transport them to the shore. This would be the preferable option, as a land based operation would involve a crane or large excavator, and significant peripheral damage to the surrounding landscape. Removal of the dock does not halt the public feeding issues, but with improvements to the shoreline access, the public can be directed to areas where either signage is clearly visible (that would detail the feeding problems) or make it less attractive to partake in waterfowl feeding.
4. **Alternative wildlife viewing.** Provide viewing decks or other viewing points in place of the boardwalks outside of “bread-crumbs” distance. As noted above, however, the opening of additional “windows” to allow for more directed views and or vistas can be accomplished (if needed, but see below) in the same manner as the bulk plant removal. Remaining vegetation provides value for waterfowl and creates barriers to limit water access for a variety of reasons, including safety and or bird use (discouragement).
5. **Water quality control.** To further combat the water quality problems associated with public feeding of waterfowl, we suggest that the pond periphery, notably the northern pond periphery, be completely enclosed by tules and cattails. This will discourage public feeding of waterfowl by restricting access, while at the same time restricting waterfowl from accessing the shoreline for feeding. A complete circumferential boundary of reedy vegetation may also encourage migratory bird usage (as opposed to resident waterfowl usage) because the tall reeds create a sense of separation and protection from the shoreline and upland areas where humans and “predators” would typically be found. Increased migratory bird usage is consistent with goals and objectives pertaining to creation and maintenance of natural habitat.

6. **Irrigation of native upland vegetation.** Native upland vegetation rehabilitation and restoration will likely require irrigation. One option for irrigation is to use pond water, extracted via solar-powered pump(s) from the Pond. The water is likely to be nutrient-rich, and extracting the water from the Pond would serve to achieve flushing and aeration that may alleviate water quality problems that the Pond now faces (potentially including high bacteria levels). Flushing of pond water would be achieved through the subsurface: as water is extracted from the Pond, replacement would occur through the porous Pond bottom from the local water table (which we have shown earlier in the report is the same water the fills the Pond). Percolation of any irrigation water unused by plants would return to the shallow groundwater lens that serves the Pond. Irrigation would need to be designed and managed so that deficits to Pond water levels would be minimized as water undergoes evapotranspiration following application to uplands. To be consistent with the goals of maintaining a natural setting with minimal environmental footprint, irrigation pumps could be driven by small solar panels attached to the KIDD radio towers, protected within the locked fences and above arms' reach.
7. **Pathway extension.** To accompany the Reservation Road and pathway enhancement project current in the planning stages, extend the pathway around the southeastern Park boundary to create a circumferential trail. This pathway could be integrated with facilities designed for the future light rail system at the abandoned rail line, as well as the DiMaggio Center and Park. Such a trail would also provide viewing portals from the higher railway areas to encourage public access and enjoyment of Locke-Paddon Park resources, which may also reduce vagrant populations in that same portion of the Park.
8. **Educational opportunities.** The educational signage built per recommendations made in the 1987 Wetland Enhancement Plan should be restored, rehabilitated, or rebuilt and redesigned. Additional educational signage may also be developed to accentuate the resources present at the Park (bird populations, historical hydrology and vernal ponds of the Marina area, local vegetation, etc.), and to dovetail with educational programs (new or existing) at the Marina Public Library. Pathways within the park should be widened where existing or new signage is located, to invite educational groups and discussion to use these locations as focal points for educational use. Notification of the signage and educational resources at the Park should be distributed to local schools, libraries, etc., to enhance public use of the Park as a working outdoor library and instructional aid. Educational programs could also be developed with an active

monitoring component to compliment the instructional aspect of park signage. For example, a more concerted effort could be made to develop water-quality monitoring or sandy soil hydrology programs in local schools, libraries, and the like. This would complement the sporadic water-quality sampling that is already being done by CSUMB environmental science students.

9. **Public use facilities.** Restrooms and other public use facilities at the Park need rehabilitation or updating. Most of these facilities were developed in response to the 1987 Plan, and are more than 20 years old.
10. **Public use alternatives.** Although we suggest that the Park remain a native and natural resource environment for public enjoyment, public participation and usage may improve if a small turf and picnic area is established between the library and parking lot. Care would need to be taken to minimize the environmental impact of such a facility and its maintenance.

6.2.2 Adjusting pond bathymetry to meet long-term restoration goals

1. **Adjust pond bathymetry.** An alternative approach to reinvigorating and restoring a more historically natural environment at Locke-Paddon Park would be to modify pond bathymetry to create a more complex range of depths. Added hydrologic complexity would likely lead to more ecologic diversity at the Park. Under this scenario, we would suggest deepening the southern portion of the Pond, while shallowing the pond bottom in northern portion. Deepening should not exceed 12 feet or so, where the establishment of stratification and anoxic conditions may create additional water quality issues. The goal would be to make a seasonal depression in the northern end, thus returning to a more “vernal” regime to part of the Park that once existed across the site prior to City development. According to prior management reports and our analysis, the lake has very little in the way of accumulated sediment, and depending upon the area(s) to be filled, the importation of material may be necessary. Alternatively, the areas of tule removal should have sufficient sediment trapped and could be used, as well as the decomposed plant mass, to fill the area. This would provide a nutrient-rich hydrosol that would be more consistent with what is found in similar (natural) locations. Re-use of the dredged material would also reduce reconfiguration costs, should this alternative be chosen. However, the feasibility of such an operation is largely unknown, and further geologic and geotechnical study would be required to establish whether pond-

bottom sediments could be an effective and economical source of material for a seasonal component to Locke-Paddon Pond.

2. **Improve educational signage.** The educational signage built per recommendations made in the 1987 Wetland Enhancement Plan should be restored, rehabilitated, or rebuilt and redesigned. Additional educational signage may also be developed to accentuate the resources present at the Park (bird populations, historical hydrology and vernal ponds of the Marina area, local vegetation, etc.), and to dovetail with educational programs (new or existing) at the Marina Public Library. *More important and relevant to this long-term restoration plan is to develop educational signage and displays that demonstrate the difference (hydrologic, ecologic) between the deeper perennial portion of the Pond and the shallower seasonal portion, highlighting the importance from an ecologic standpoint.* Pathways within the park should be widened where existing or new signage is located, to invite educational groups and discussion to use these locations as focal points for educational use. Notification of the signage and educational resources at the Park should be distributed to local schools, libraries, etc., to enhance public use of the Park as a working outdoor library and instructional aid. Educational programs could also be developed with an active monitoring component to compliment the instructional aspect of park signage. For example, a more concerted effort could be made to develop water quality monitoring or sandy soil hydrology programs in local schools, libraries, and the like. This would compliment the sporadic water quality sampling that is already being done by CSUMB environmental science students.

6.2.3 Abandoned on-site well near Library

The abandoned well on the property, described earlier in this report, can be dealt with in two ways. If the well taps a shallow perched aquifer (presumably the same that serves Locke-Paddon Pond), re-develop the well as a monitoring well, to tie in with other local and regional hydrologic monitoring networks in the area (see section 6.3 below). Well water could be used to water turf and native vegetation restoration efforts on-site (although extraction of Pond water via solar pumps, as discussed above, is probably preferable). The well would need to be finished at ground surface in a manner consistent with both State standards and safety needs in the Park.

If the well taps a deeper aquifer, it should be decommissioned per Monterey County and State well standards. This would include removing debris within the annulus accessible from

ground surface and collapsing and/or sealing the inner and outer casings up to ground surface. Because of the unique and large diameter of the outer casing, special consideration may be needed to develop the safest solution to decommissioning the well, especially because the well is located on public property in a park setting.

6.3 Recommended Ongoing and Future Work

Implementation of the recommendations made in this study have been met with conceptual approval through presentation and discussion at a joint City Public Works Commission and Recreation and Cultural Services meeting held in October 2011. Details on the required work elements and budget for short- and long-term strategies developed above for this Implementation Plan will be examined in Phase III of this work. Phase IV would consist of building and implementing the design elements described in Phase III.

We recommend that a basic hydrologic and vegetative monitoring program accompany any decision to move forward with Park rehabilitation and reinvigoration. Ongoing monitoring will help refine our existing but much improved understanding of the Park environs, and will help guide any future restoration activities. Hydrologic monitoring in particular will help position the City to adapt strategically for future changes in urban drainage to Locke-Paddon (or other ponds in the City perimeter) and to continual sea level rise, and the influence these changes may have on local or regional groundwater signals. We suggest re-developing the well on-site for incorporation into the existing monitoring site network (Pond stilling well at the KIDD tower and the eastern shoreline piezometer), if the well is shallow. We also suggest adding monitoring sites at other “vernal” ponds nearby, such as the Robin Drive Pond, Lake Drive Pond, or Marina Landing Pond. Staff plates should be installed at each pond, and level-surveyed to the City’s datum. Each monitoring site should be visited annually, during the two weeks following Labor Day. Water levels and specific conductance (“conductivity”) should be recorded at each site. These measurements will allow the City to establish long-term trends, if any. If issues arise in any pond, additional monitoring, similar to the continuous records developed in this report for Locke Paddon Pond, can help address a solution. The measurements will also help establish whether these other ponds are hydrologically linked to Locke Paddon Pond. Monitoring will help the City to adaptively manage this unique park resource, regardless of the restoration strategy employed.

7. LIMITATIONS

This report was prepared in general accordance with the accepted standard of practice existing in Northern California at the time the investigations were performed. No other warranties, expressed or implied, are made. It should be recognized that interpretation and evaluation of groundwater-surface water interactions as they pertain to park planning and habitat quality is a difficult and inexact art. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the conditions present. More extensive studies, including additional hydrologic and vegetative monitoring investigations, can reduce the inherent uncertainties associated with such studies. If the client wishes to reduce the uncertainty beyond the level associated with this study, Balance should be notified for additional consultation.

Balance Hydrologics has prepared this report for the client's exclusive use on this particular project. The report is based in part on work performed by experts in related fields, information provided by the client, topographic and hydrologic data from other sources germane to the project, and/or upon reference values commonly used in the area or developed by sources generally held to be reliable. We have not independently verified the validity, accuracy, or representativeness of all data sources to this or other sites. The recommendations provided in this report are based on the assumption that an appropriate and adequate follow-up program will be conducted (Phase III and IV of this project), and that our firm will be retained at key stages in the project to revise the findings and recommendations described in this report.

8. REFERENCES

- Association of Monterey Bay Area Governments (AMBAG), 1995, Environmental enhancement and mitigation program application, 15p. + Exhibits.
- Boule Engineering Comporation, 1986, Salinas Valley ground water model for Monterey County Flood Control and Water Conservation District: consulting report prepared for the Monterey County Flood Control and Water Conservation District, multi-paged.
- Burkland and Associates (and Thorup, Richard for William Spangle and Associates), 1975, Geotechnical study for the seismic safety element, Monterey County, California: consulting report prepared for the County of Monterey and the participating municipalities in this study, 125p. + Appendices.
- California Coastal Commission, 1992, Staff report – permit amendment for Application No. 3-83-14A4 (AKA A-80-80), 16p. + Exhibits.
- Callander Associates and Western Ecological Services Company, 1987, Wetland Enhancement Plan for the City of Marina, California: consulting report prepared for the City of Marina, 66p. + Appendices.
- City of Marina, Marina Local Coastal Land Use Plan, 1982, 56p. + Exhibits.
- City of Marina Planning Department, 1992, Staff Report for 180 Reservation Road – Coastal Development Permit/Design Review Approval: submitted to Planning Commission for meeting of May 11, 1992, 7p. + Exhibits.
- Cooper, W.S., 1967, Coastal dunes of California: Geological Society of America Memoir 104, 131p.
- Greene, H.G., 1970, Geology of Southern Monterey Bay and its relation to the ground water basin and salt water intrusion: U.S. Geological Survey Open-File Report 70-141, 50p.
- The Habitat Restoration Group and Mitchell Swanson and Associates, 1994, Coastal/Vernal Pond Comprehensive Management Plan: consulting report prepared for City of Marina, multi-paged.
- Hameister, D. (Rana Creek Habitat Restoration), 2002, Biological Assessment for the proposed City of Marian Library (APN: 331-210-070).
- Hickman, James C., The Jepson Manual: Higher Plants of California. University of California Press, 1993.
- Jones and Stokes Associates, Inc., 1991, Addendum to the Marina County Water District Wastewater Facilities Plan Environmental Impact Report: consulting report prepared for Marina County Water District, multi-paged.
- Kennedy/Jenks Consultants, 2004, Final Report, Hydrostratigraphic analysis of the Northern Salinas Valley: consulting report prepared for the Monterey County Water Resources Agency, 48p. + Table + Figures + Appendices.
- Kephart, P. and Hameister, D. (Rana Creek Habitat Restoration), 2001, Final restoration and mitigation plan for BT Development Company, L.L.C., Holiday Inn Express Project (2081-2001-011-03): consulting report prepared for B.T. Development Company L.L.C., 27p. + Appendices.

- Kilbourne, R.T. and Mualchin, L., 1980, Geology for planning: Marina and Salinas 7.5' quadrangles, Monterey County, California: Open File Report 80-7 SF, California Division of Mines and Geology, 59p. + Plates.
- Kleinfelder, 2006, Limited geotechnical investigation and pavement evaluation report, proposed Marina project 150 Beach Road Marina, California, TranSystems Project Number P501050104, APN 033-111-009: consulting report prepared for TranSystems, 38p. + Plates + Appendices.
- Lamphier and Associates, 2000, Draft environmental impact report on the draft Marina General Plan: consulting report prepared for the City of Marina, multi-paged.
- Monterey Bay Engineers, Inc., 2006, Drainage calculations: notes submitted to City of Marina, Marina Public Library, 1p.
- Monterey County Water Resources Agency, 1997, Water resources data report, water year 1994-1995: report prepared by the Water Resources Management Division with assistance by the Technical Support Group of the Administrative Services Division, 96p. + Appendices.
- Monterey Peninsula Regional Park District, 1998, Master Plan of the Monterey Peninsula Regional Park District, 43 p.
- Monterey Peninsula Regional Park District Board of Directors, 1998, Agenda Item No. 8B, Locke-Paddon Wetland Community Park: 1p. + Attachments.
- Monterey Peninsula Regional Park District, 2001, General Manager Joseph Donofrio Letter to California Department of Fish and Game accepting Locke-Paddon Wetland Community Park as Mitigation Site : 1p.
- Oven-Thompson, K., 1991, Facsimile of calculations of Marina Wetland stormwater runoff volumes: George S. Nolte & Associates, Inc., San Jose, CA, April 22, 1991.
- Purkiss-Rose-RSI, 2005, Final Master Plan and Design Development Report, Locke-Paddon Wetland Park: consulting report prepared for the Monterey Peninsula Regional Park District, 53p.
- Rana Creek Habitat Restoration, 2008, Habitat site assessments for City of Marina ponds: consulting data sheets and site investigations prepared for City of Marina, 83 p.
- Rana Creek Habitat Restoration, 2009a, City of Marina California Red-Legged Frog Survey Report: consulting report prepared for City of Marina, 141 p.
- Rana Creek Habitat Restoration, 2009b, City of Marina Vernal Ponds General Biological Assessment: consulting report prepared for City of Marina, 37 p.
- Rana Creek Habitat Restoration, 2009c, City of Marina Vernal Ponds General Biological Assessment, Phase I: consulting report prepared for City of Marina, 80 p.
- Soil Surveys, Inc., 2002 (updated 2006), Geotechnical investigation for New Marina Public Library Project at Seaside Avenue and Marina Drive (APN 033-121-009): consulting report prepared for City of Marina Department of Public Works, 9p. + Figures + Appendices.

Sundt, M., 2002, Marina Library Project Draft Mitigated Negative Declaration and Initial Study: consulting report prepared by Golden State Planning and Environmental Consulting for the City of Marina, multi-paged + attachments.

Winzler and Kelly and Golden Associates, 2010, Reservation Road improvements from Del Monte Boulevard to Beach Road, 35% submittal: consulting report drawings prepared for City of Marina, multi-paged.

TABLES

**Table 1. Summary of hydrologic monitoring observations for Water Year 2010,
Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California**

Site Conditions					Water Quality Observations			Remarks
Date/Time	Observer	Staff plate reading	WSE	Depth to water	Temperature	Specific Conductance at field temp.	Specific Conductance	
		(ft)	(ft)	(ft)	(°C)	(µS/cm)	(µS/cm at 25 °C)	
Elevation of Hole #1 (instrumented piezo)		n/a						
Elevation of Hole #2		n/a						
Elevation of Hole #3		n/a						
Elevation of Hole #4 (piezo)		n/a						
Eastern shoreline piezometer (Hole #1)		Lat: 36° 41'22.7"			Long: 121° 48'01.9"			
Hole depth = 3.2', stick-up height=0								
No staff plate								
12/3/09 14:02	ms	-	-	3.10	-	-	-	Installed just landward of transition between tules, blackberry bushes, and upland grasses, on lakeward side of foot path, in line with trend of NE oriented tree line between lake and library. Substrate is mostly coarse sands with minor dark grey to black organic content. Fully slotted along 3.2 foot length, capped at bottom, sealed by 0.4' of bentonite at top, pea gravel liner.
12/4/09 12:42	ms	-	-	3.00	-	-	-	Levellogger installed in piezometer; rests loosely on tether at bottom of piezo.
12/31/09 12:20	ms	-	-	2.62	14.3	1050	1344	
1/22/10 10:37	ms	-	-	1.62	-	-	-	
2/17/10 13:34	ms	-	-	1.61	14.00	2453	3165	Water has slight sulfur odor. Not as much standing pond water in reeds along E.shore.
4/7/10 15:42	ms	-	-	0.77	13.1	620	819	
5/18/10 16:02	ms, mw	-	-	1.16	14.5	1071	1364	Bottom of the piezometer SCT is 1512 µS/cm at 14.2°C. Smells like sulphur. Recorded GPS point.
7/9/10 15:34	jp	-	-	1.80	16.1	1637	1999	SCT at bottom of hole is 2142 µS/cm at 15.7°C, noted stratified SCT in the piezometer, surface water at the piezo is 340 µS/cm at 21°C at edge of water and 545 µS/cm at 20.3°C about 10 ft out.
9/1/10 14:00	jp			2.32	16.6	1253	1511	Bottom of the piezometer SCT is 1332 µS/cm at 16.5°C.
10/25/10 14:39	jp			2.46	16.4	907	1099	SCT increases from top to the bottom of the hole 873 µS/cm to 941 µS/cm at 16.4°C. Relaunched levellogger.
Eastern shoreline piezometer (Hole #4)		Lat: 36°			Long: 121°			
Hole depth = 1.75', stick-up height=		0.25						
No staff plate								
12/3/09 14:06	ms	-	-	1.15	-	-	-	2' deep non-instrumented piezometer, fully slotted, not capped at bottom, pea gravel liner, sealed at top with native black organic clay/peat. Substrate is mostly black peat/clay with minor coarse sand content.
12/4/09 12:45	ms	-	-	0.73	-	-	-	locking top cap and lock installed.
12/31/09 12:30	ms	-	-	0.49	10.9	765	1072	
2/17/10 14:00	ms	-	-	-	-	-	-	Submerged by pond on the eastern shoreline.
7/9/10 15:34	jp	-	-	-	-	-	-	Could not locate - probably submerged
9/1/10 14:11	jp	-	-	0.40	15.3	1237	1542	Surface water was approximately 0.5 below top of casing or roughly parallel with dtw in piezometer.
10/25/10 14:45	jp	-	-	0.46	15.2	1148	1434	SCT increased from top of hole at 1057 µS/cm at 15.1°C to 1238 µS/cm at 15.3°C.
Pond stilling well		Lat: 36°			Long: 121°			
Staff plate zero (0.0')								
12/2/09 15:45	ms	2.11	2.11	-	10.30	712	990	Stilling well and staff plate sunk into soft organics and clay at pond bottom. Staff plate goes from 0 to 10'. Stilling well is 8.23' long, fully slotted along length, capped at bottom. Top of stilling well equals 8.625' on staff plate.
12/4/09 12:55	ms	2.11	-	-	-	-	-	Levellogger and barologger installed. LL on tether, rests loosely at bottom of stilling well. BL installed in 2" diam PVC pipe mounted horizontally on pier railing near pond stilling well. Because water surface is at 2.105, that leaves 1.70 feet of stilling well below water surface, and 6.53 feet of it exposed above water line.
12/31/09 12:41	ms	2.71	-	-	12.5	570	765	HWM=2.71?; Rain washed chalk off of staff plate, but some of it remains on plate screws at 3.25 and above.
1/22/10 10:37	ms	3.84	-	-	-	-	-	
2/17/10 13:03	ms	3.88	-	-	15.2	371	464	HWM=4.07 (last storm?). Pond water level is high, water is clear. Numerous tadpoles (or juvenile fishes).
4/7/10 15:01	ms	4.65	-	-	15.5	281	348	HWM ~ 5.2 from last March storms, local fisherman said easter storm water level rose approximatly 0.3 and will generally rise 6 inches in response to 1 inch of rain, fisherman also said the pond drains and fills quickly
5/18/10 15:24	ms	4.14	-	-	18.3	358	413	no notes
7/9/10 14:45	jp	3.35	-	-	18.2	491	568	STAFF PLATE, STILLING WELL AND SENSORS HAVE BEEN STOLEN. Stage approximated by measuring water level from top of deck and correlating with photos
7/26/10 16:00	jp, ms	3.15	-	-	-	-	-	Recovered missing gage and equipment with the help of Central Coast Bass fisherman. He knew where the vandals had thrown the instruments. Used depth of water of the end of the dock to correlate to previous staff plate install

**Table 1. Summary of hydrologic monitoring observations for Water Year 2010,
Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California**

Site Conditions					Water Quality Observations			Remarks
Date/Time	Observer	Staff plate reading	WSE	Depth to water	Temperature	Specific Conductance at field temp.	Specific Conductance	
		(ft)	(ft)	(ft)	(°C)	(µS/cm)	(µS/cm at 25 °C)	
Elevation of Hole #1 (instrumented piezo)			n/a					
Elevation of Hole #2			n/a					
Elevation of Hole #3			n/a					
Elevation of Hole #4 (piezo)			n/a					
7/26/10 16:05	jp, ms	1.77	-	5.72	-	-	-	NEW pond installation at the radio tower fenced and locked area approximately 50 ft north of previous station at the dock. Pressure transducer was set in approximately 1.03 ft of water out of 1.3 total depth at the installation site.
7-27-10 Notes	jp	-	-	-	-	-	-	Central Coast Bass fellow said in the winter the surface water fills and empties the pond fairly quickly. He said it would fall about 1 inch per hour as he watched it for a good portion of the day while fishing. He also said that once the water level has subsided to a certain level the water dropping is almost non-existent or very slow (most likely due to the clay liner?). Within the last couple of weeks (from mid July) the water turned somewhat dark/black with something - either decaying material or some sort of biological growth.
9/1/10 13:22	jp	1.36	-	-	22.4	690	712	Relaunched levellogger and barologger for data logger time to equal watch time in 15 minute intervals. Water is a brown greenish black with ~0.5 ft visibility. Not much odor. Today is supposed to be the start of a small hot spell.
10/25/10 13:59	jp	1.15			19.5	686	767	Can't see definite high water marks. Relaunched levellogger at 14:30 to synch with laptop time. Water is very murky, black brown green.
Parking lot drainage culvert								
No staff plate								
12/31/09 12:30	ms	--	--	--	--	--	--	No discernible HWM. Evidence of flow into pond from storms during past few days below outfall, but no flow.
Locke-Paddon Pond (Pond #2), data from HRG and Swanson, 1994								
Staff plate and crest stage gage (separate from those used by Balance Hydrologics in this report)								
12/3/1992	--	1.47	--	--	--	--	--	--
12/13/1992	--	1.68	--	--	--	--	--	--
1/5/1993	--	1.40	--	--	--	--	--	crest gage = 1.46
3/21/1993	--	1.57	--	--	--	--	--	crest gage = 1.78
5/13/1993	--	2.05	--	--	18.33	359	--	crest gage = 3.00; pH = 7.8; TDS = 230 µS
6/17/1993	--	1.73	--	--	23.89	565	--	pH = 8.3; TDS = 360 µS
8/16/1993	--	1.00	--	--	25.56	2190	--	crest gage = 3.10; pH = 8.8; TDS = 1400 µS
9/21/1993	--	1.27	--	--	19.44	3125	--	pH = 8.1; TDS = 2000 µS

Notes:

Observer Key: (ms) is Mark Strudley, (jp) is Jason Park, (mw) is Mark Woynshner.

WSE = Water Surface Elevation, HWM= High water mark

Specific conductance: Measured in µS/cm in field; then adjusted to 25°C by equation

$$(1.8813774452 - [0.050433063928 * \text{field temp}] + [0.00058561144042 * \text{field temp}^2]) * \text{Field specific conductance}$$

Table 2. Daily rainfall (inches) for recording rain gage, Water Year 2010
CIMIS Station #116 Salinas North, Monterey County, California^{1,2,4}

	2009	2009	2009	2010	2010	2010	2010	2010	2010	2010	2010	2010	
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.01	0.00	
3	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.09	0.00	0.86	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.06	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	
8	0.00	0.00	0.00	0.00	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.48	0.01	0.00	0.08	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.08	0.00	0.00	0.26	0.00	0.05	0.10	0.00	0.00	0.00	
11	0.00	0.00	0.13	0.00	0.00	0.00	0.43	0.00	0.02	0.00	0.01	0.00	
12	0.00	0.00	0.42	0.27	0.02	0.35	0.21	0.00	0.00	0.00	0.00	0.00	
13	2.02	0.00	0.06	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.01	0.23	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.00	
18	0.01	0.01	0.00	0.32	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.08	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.01	0.00	0.72	0.20	0.00	0.67	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.01	0.18	0.19	0.24	0.00	0.03	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.54	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.04	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.01	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.33	0.34	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.01	0.00	0.27	0.00	0.04	0.13	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.04	0.00	0.01	0.00	0.17	0.01	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.01	0.20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.02	0.00		0.08	0.00	0.00	0.00	0.00	0.00	0.00	
31	0.00		0.00	0.00		0.12		0.00		0.00	0.00		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
	2.15	0.03	1.95	3.71	2.82	2.65	2.76	0.45	0.12	0.00	0.05	0.00	16.69
Ave ³	0.58	1.33	2.50	2.90	2.48	2.10	1.05	0.39	0.09	0.03	0.04	0.17	13.28

- Notes: 1) The rainfall record is from a tipping-bucket recording gage installed by the Department of Water Resources, CIMIS station #116.
- 2) Most hydrologic and geomorphic monitoring occurs for a period defined as a water year, which begins on October 1 and ends on September 30 of the named year. For example, water year 2010 (WY2010) began on Oct. 1, 2009 and concluded on Sept. 30, 2010
- 3) Long term precipitation record taken from CDEC Salinas No.2, Monterey County, CA, 1905 - partial 2011 (WYs 1981-82, 1987, 1989, 2007, and 2010 missing some monthly data).
- 4) Dates of site visits indicated by grey shading.

Table 3. Daily rainfall (inches) for recording rain gage, Water Year 2010
CDEC station FO2, Fort Ord, California^{1,2,4}

	2009	2009	2009	2010	2010	2010	2010	2010	2010	2010	2010	2010	
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.06	0.01	0.53	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.03	0.00	0.44	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.41	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.05	0.00	0.01	0.05	0.00	0.01	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.04	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.44	0.25	0.00	0.30	0.06	0.00	0.00	0.00	0.00	0.00	
13	1.22	0.00	0.10	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.79	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.15	0.13	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.01	0.56	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.12	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.28	0.51	0.25	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.01	0.01	0.25	0.00	0.00	0.16	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.01	0.13		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.01	0.01		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
31	0.00		0.00	0.00		0.15		0.00		0.00	0.00		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
	1.22	0.00	1.53	3.90	2.24	2.18	2.21	0.21	0.00	0.00	0.00	0.00	13.49
Ave ³	0.58	1.33	2.50	2.90	2.48	2.10	1.05	0.39	0.09	0.03	0.04	0.17	13.28

- Notes: 1) The rainfall record is from a recording rain gage at 36.6270°N/121.7869°W.
2) Most hydrologic and geomorphic monitoring occurs for a period defined as a water year, which begins on October 1 and ends on September 30 of the named year. For example, water year 2010 (WY2010) began on Oct. 1, 2009 and concluded on Sept. 30, 2010
3) Long term precipitation record taken from CDEC Salinas No.2, Monterey County, CA, 1905 - partial 2011 (WYs 1981-82, 1987, 1989, 2007, and 2010 missing some monthly data).
4) Dates of site visits indicated by grey shading.

Table 4 - Summary of Regulatory Agencies and Permits

Agency	Permits
U.S. Army Corps of Engineers	CWA §404 (33 U.S.C. 1344) Permit
U.S. Fish & Wildlife Service	ESA §7 (50 CFR part 402) consultation, as determined by USACE
California Regional Water Quality Control Board, Central Coast Region	CWA §401 (33 U.S.C. 1341) Water Quality Certification; and CWA §402(p) (33 U.S.C. 1342) General Permit for Construction Activities
California Department of Fish and Game	Lake and Streambed Alteration Agreement (Code §1602), and compliance with the State Endangered Species Act (Fish and Game Code §2080) and Nesting Bird Protection Codes (Fish and Game Code §3503)
California Coastal Conservancy	Amendment to the Marina Local Coastal Land Use Plan

FIGURES

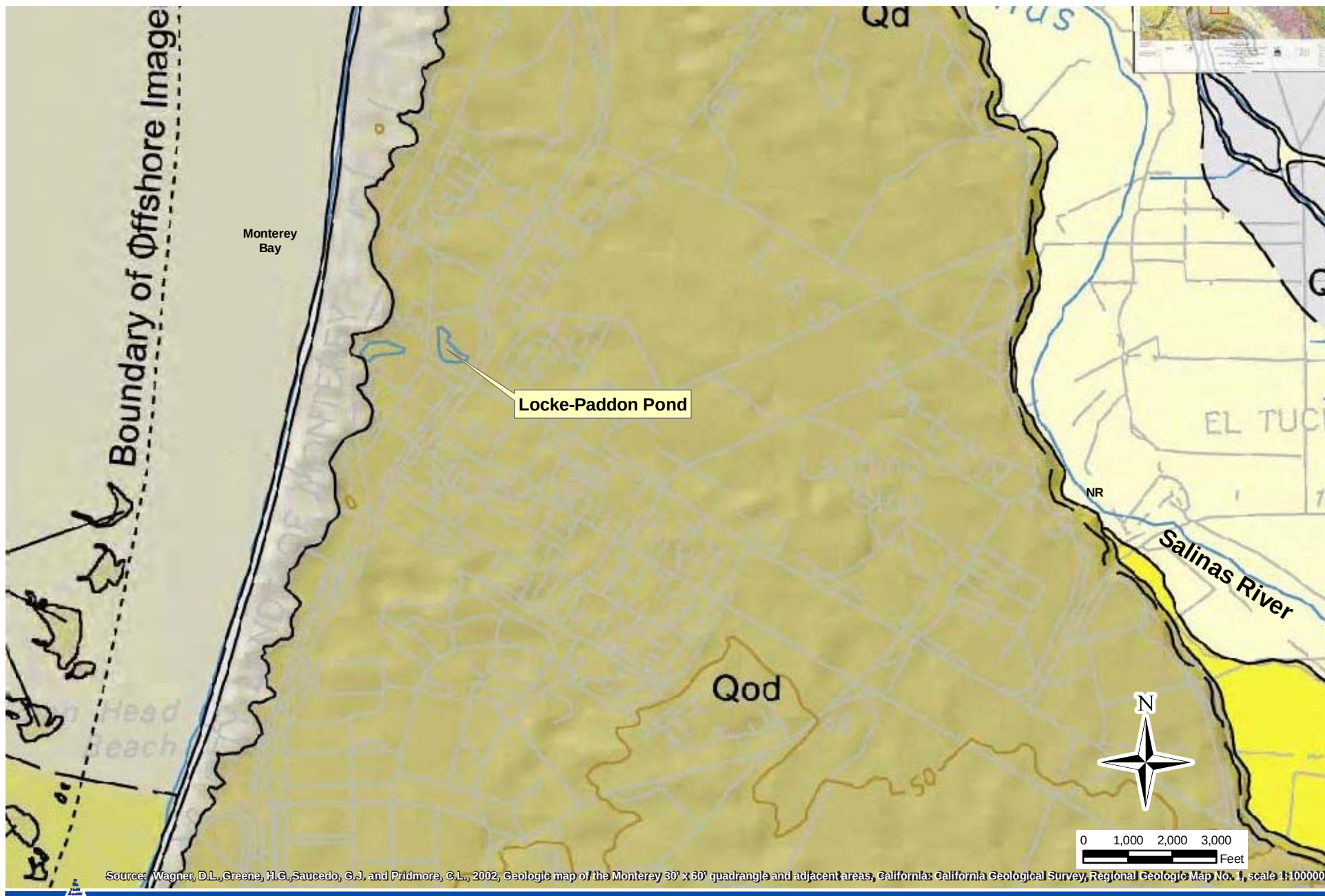


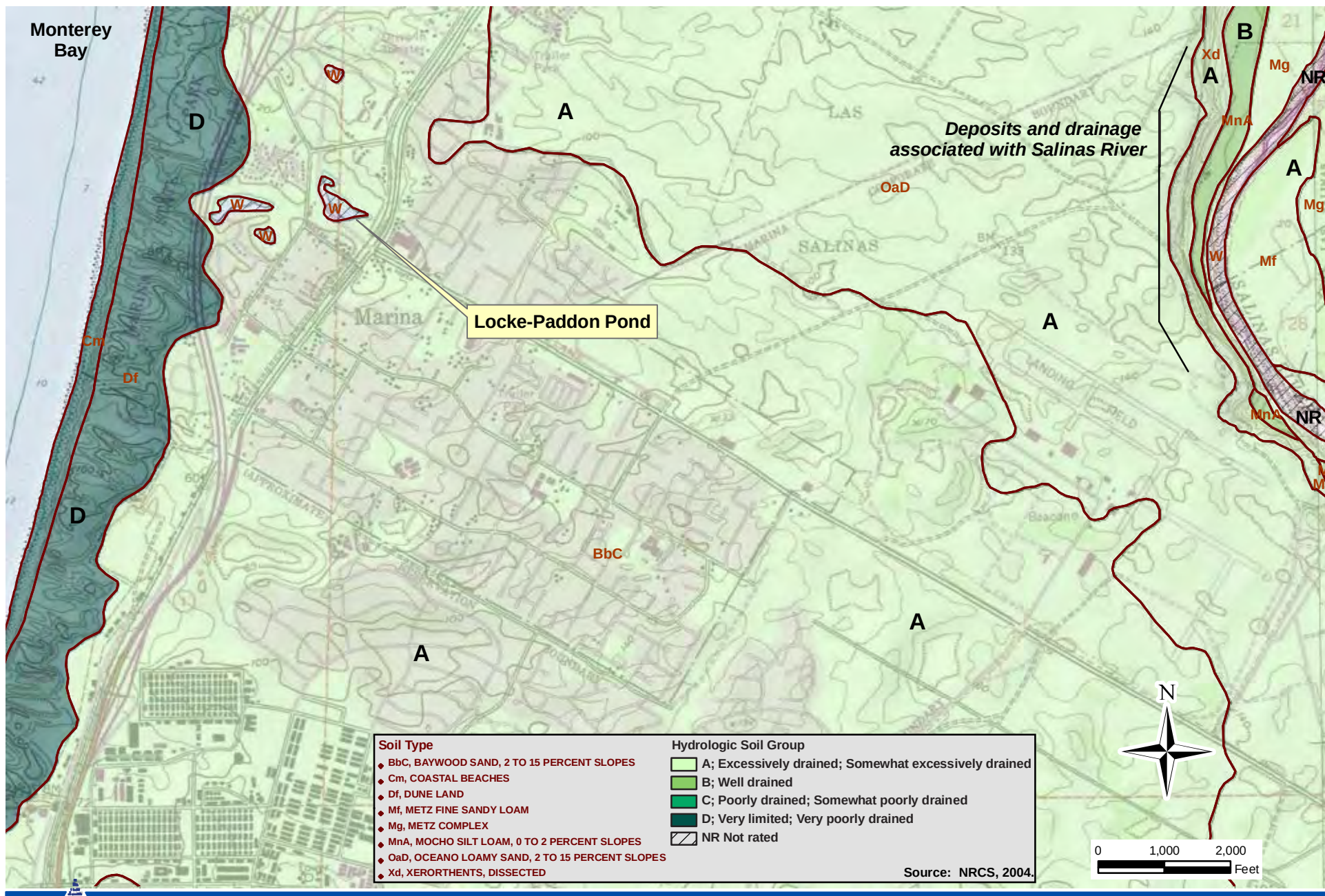
Figure 1. Geologic map, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California



**Balance
Hydrologics, Inc.**

209138 geol map.mxd

© 2011 Balance Hydrologics, Inc.



Sources: USDA NRCS, USGS, ESRI

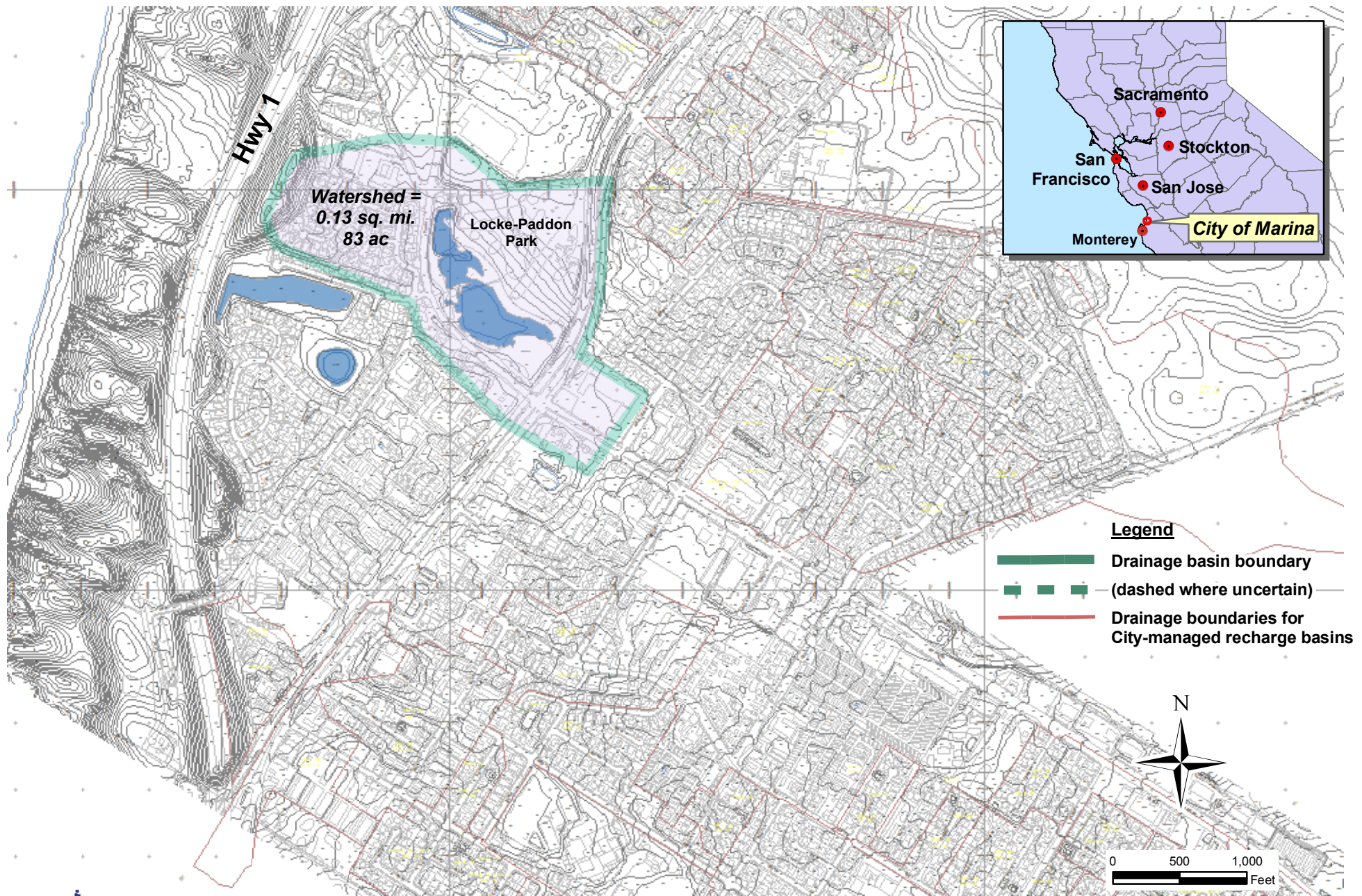
Figure 2. Soil hydrologic groups near Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California



**Balance
Hydrologics, Inc.**

209138 soils map.mxd

© 2011 Balance Hydrologics, Inc.



Sources: City of Marina

Figure 3. Updated 'anthropogenic' drainage basin map for Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California

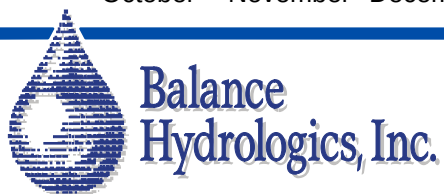
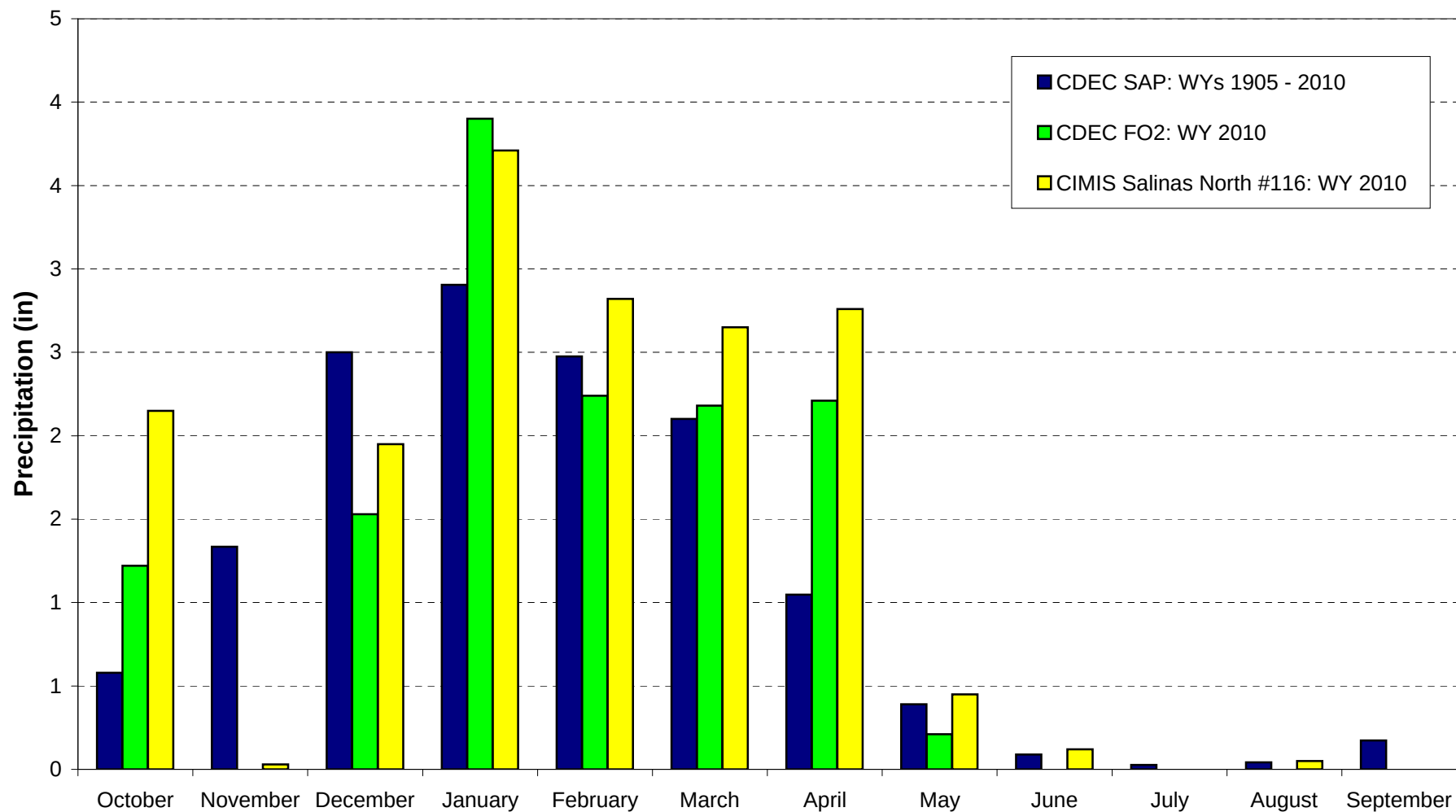


Figure 4.

105-year average rainfall from CDEC SAP by month plotted with monthly total rainfall for Water Year 2010 from CDEC FO2 and CIMIS #116 Monterey County, California.

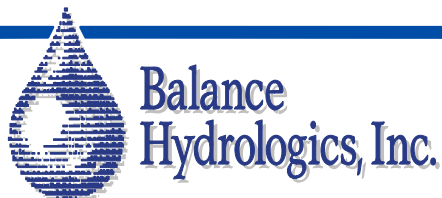
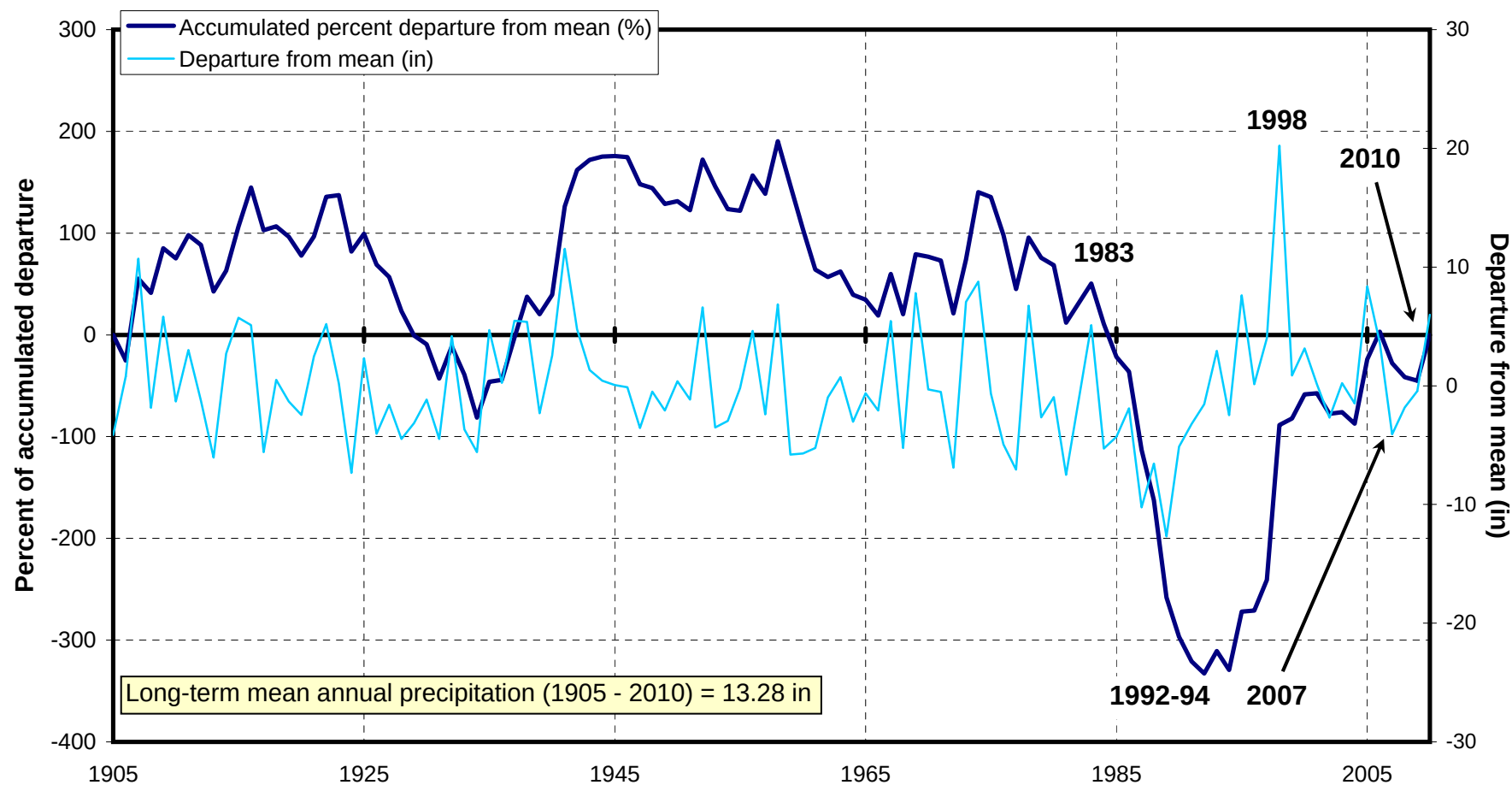


Figure 5. Accumulated departure from long-term mean precipitation, CDEC Station SAP, Salinas No.2, 1905-2010, Monterey County, California.

Departures have not been adjusted for partial years or missing data; no record is available at this station for the unusually wet 1981-1982 period, which substantially skews both the accumulated departure curves and the average annual rainfall. Data is also not available for late winter 1987, winter 1989, and winter 2011 (and few other typically dry summer periods).

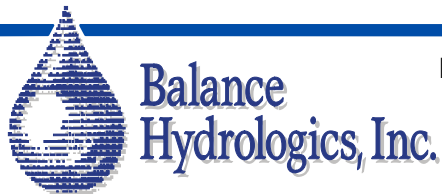
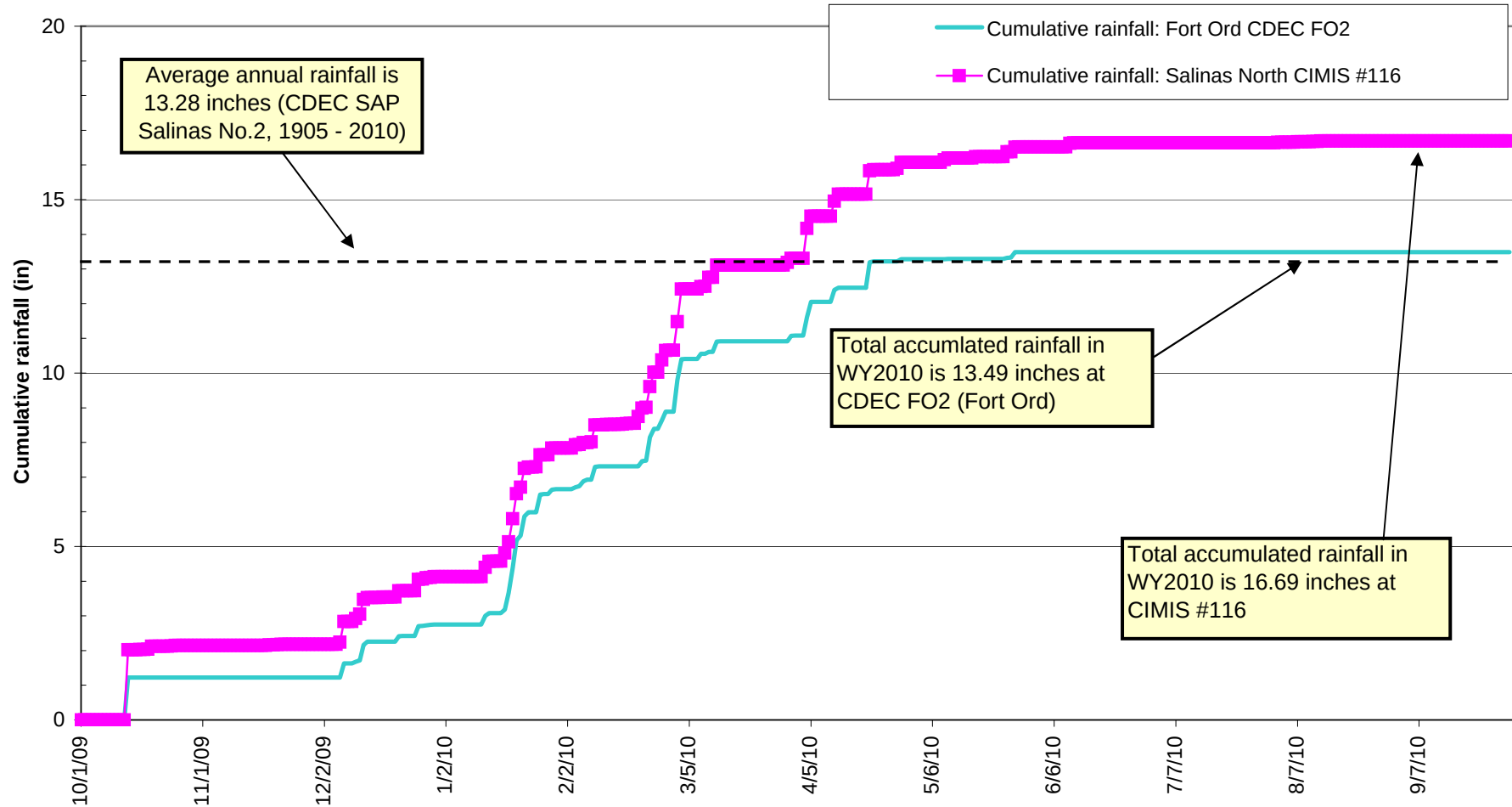


Figure 6.

Cumulative precipitation records for local rain gages, Marina area, Monterey

County, California, water year 2010. A total of 13.49 inches fell in the Fort Ord area in WY 2010 (CDEC FO2), while 16.69 inches fell in the northern Salinas Valley near the coast (CIMIS #116). Mean annual precipitation in the area of 13.28 inches is based on a 105-year record from the CDEC Salinas No.2 station.

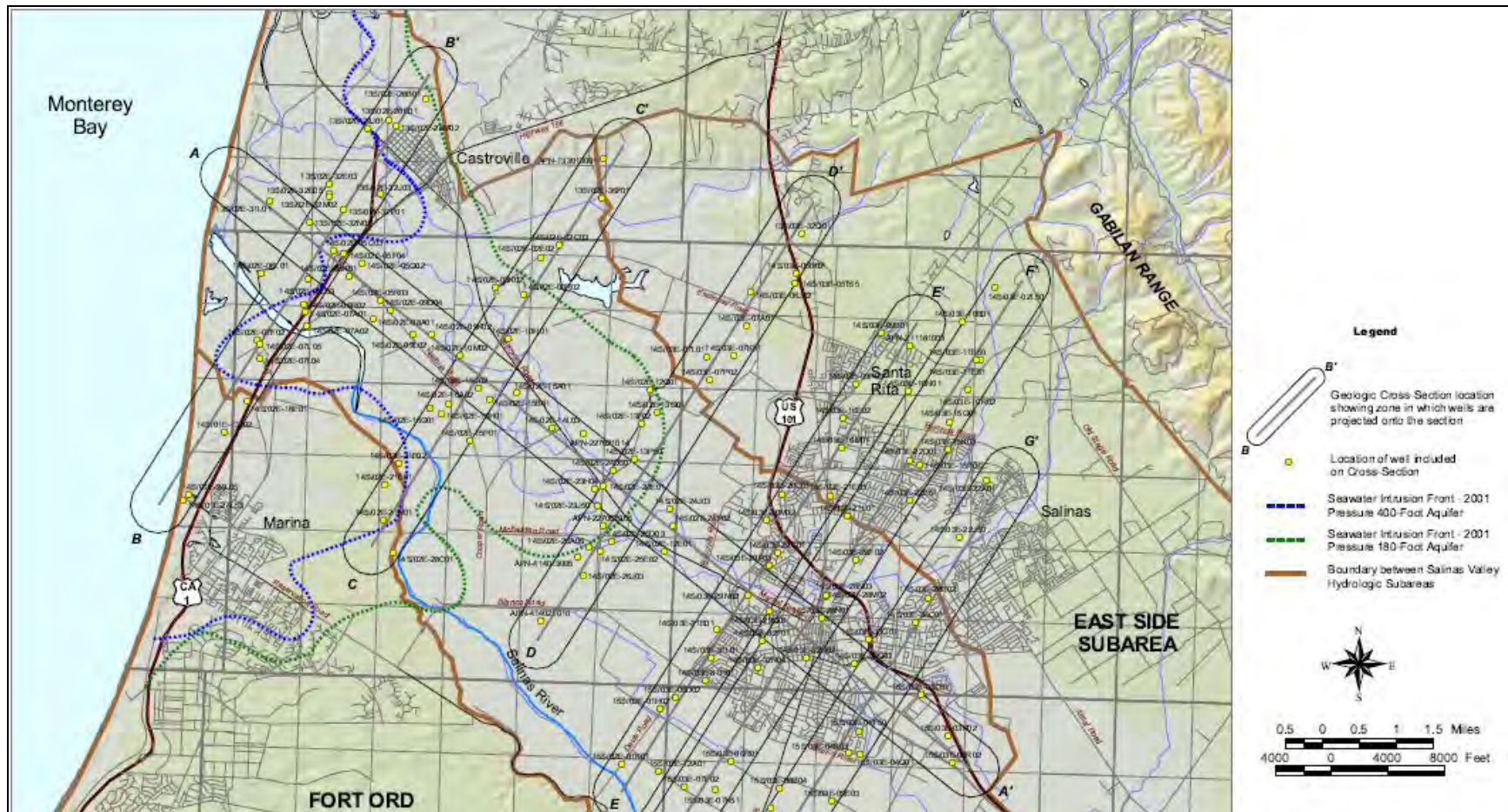
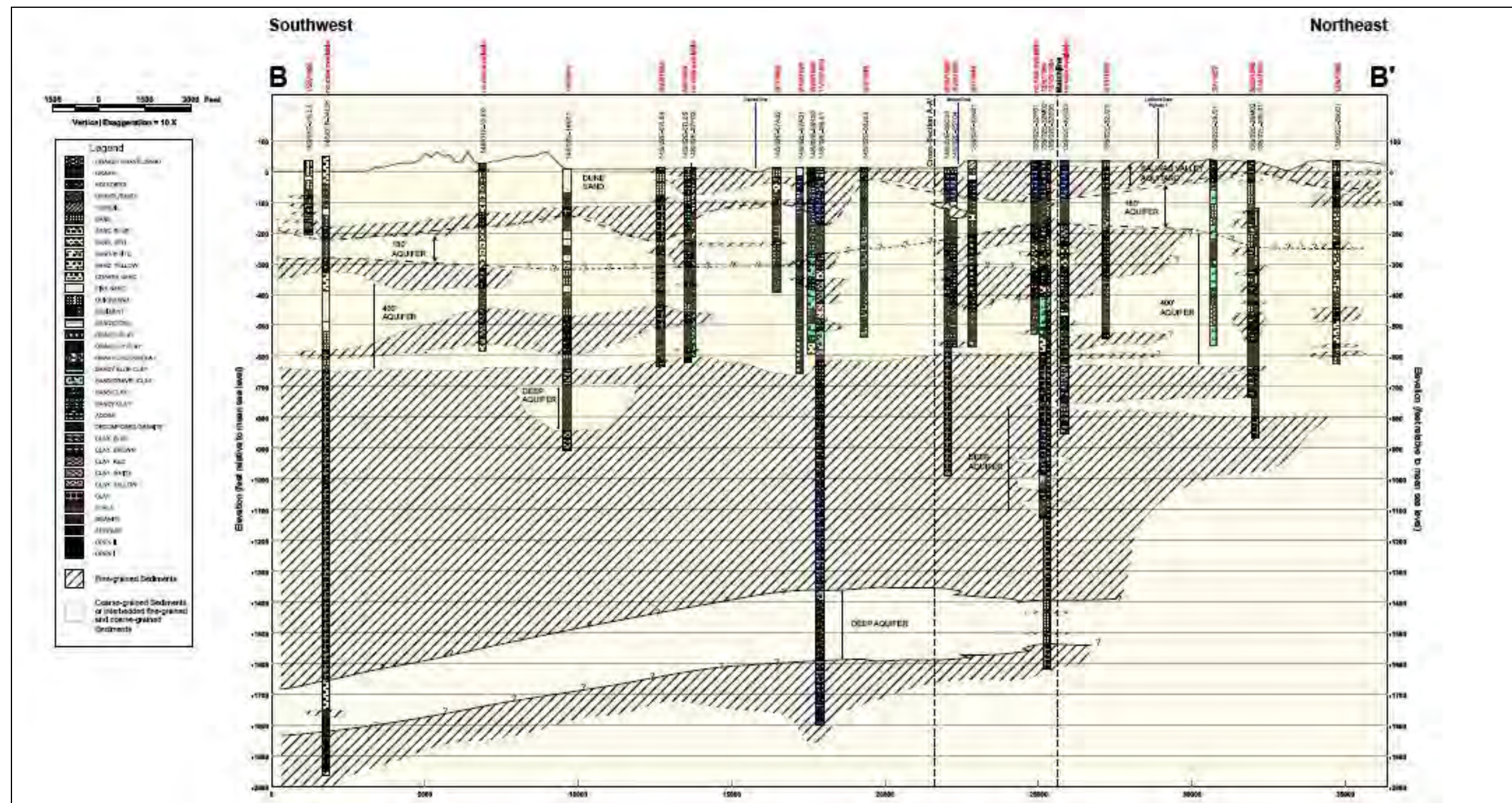


Figure 7. Location of geologic cross sections, Marina and Fort Ord areas and coastal area of Salinas Valley Groundwater Basin (Pressure subarea), Monterey County, California (from Kennedy/Jenks Consultants, 2004). Stratigraphy developed for cross section B-B' shown in Figure 8, pertinent to geologic architecture underlying Locke-Paddon Wetland Community Park.



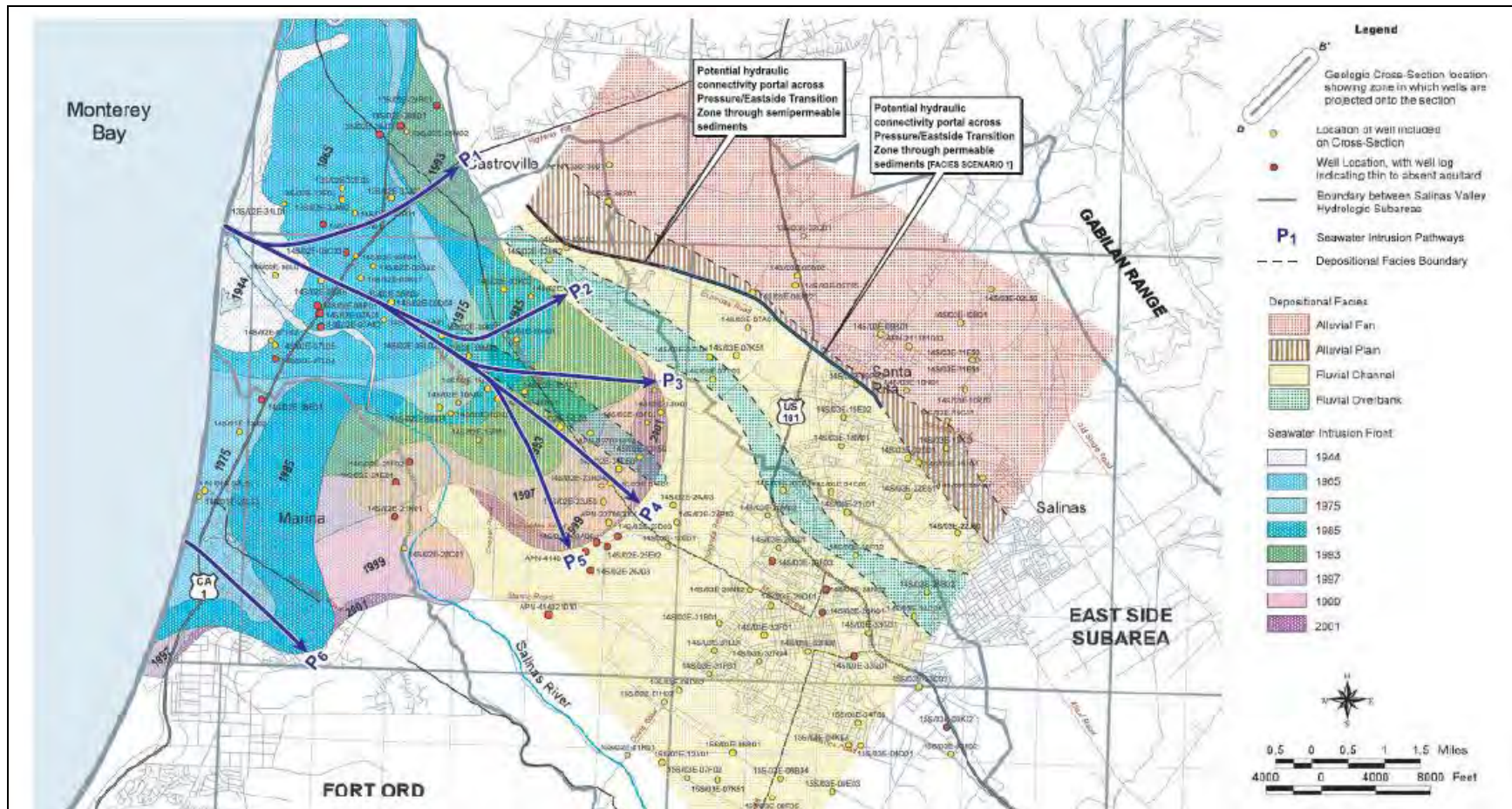


Figure 9. Seawater intrusion map of 'Pressure 180-Foot Aquifer', Salinas Valley Groundwater Basin, Monterey County, California (from Kennedy/Jenks Consultants, 2004). Note that saltwater intrusion had occurred in the Marina area by roughly 1985 for the 'Pressure 180-Foot Aquifer'.

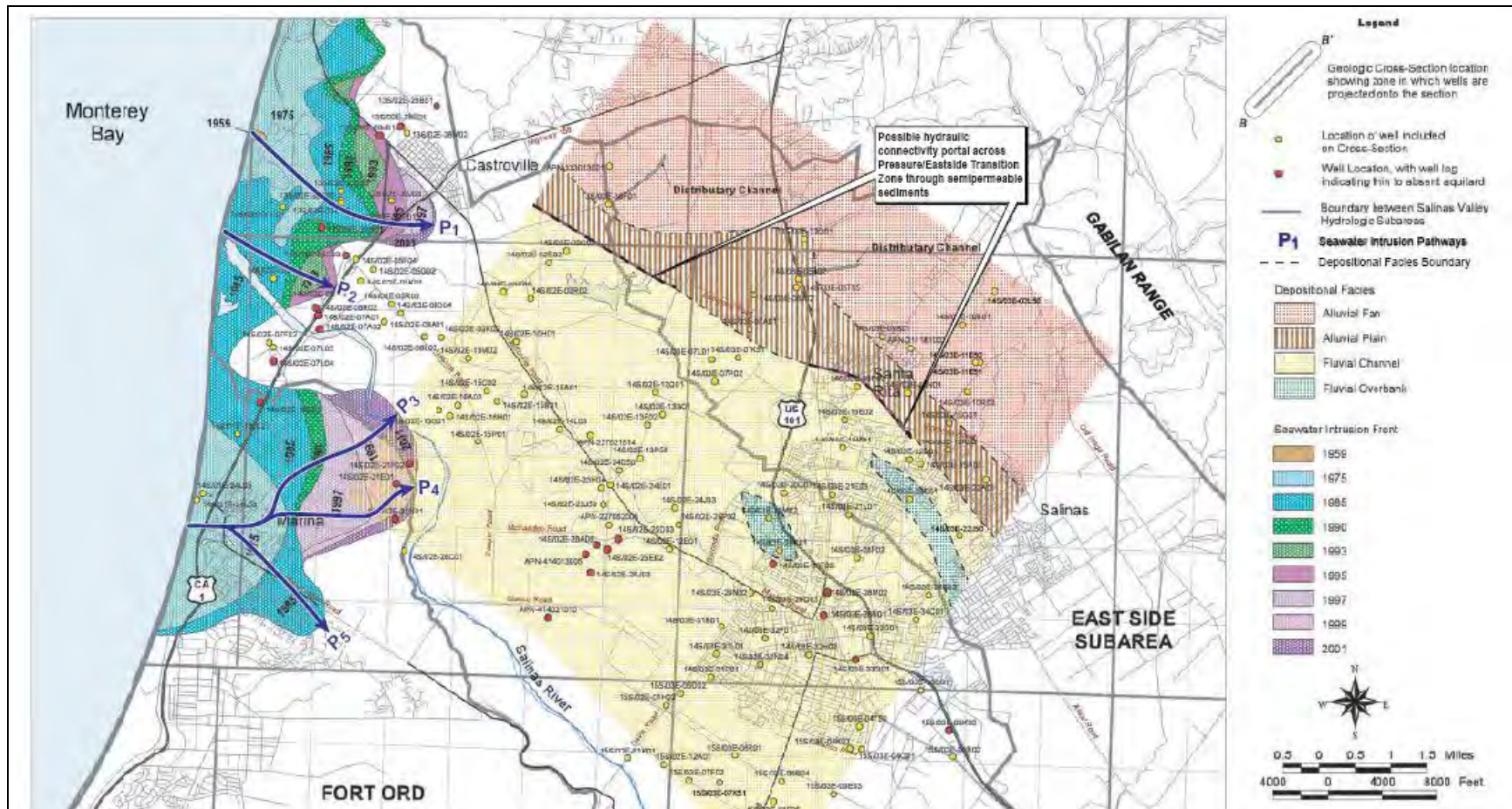
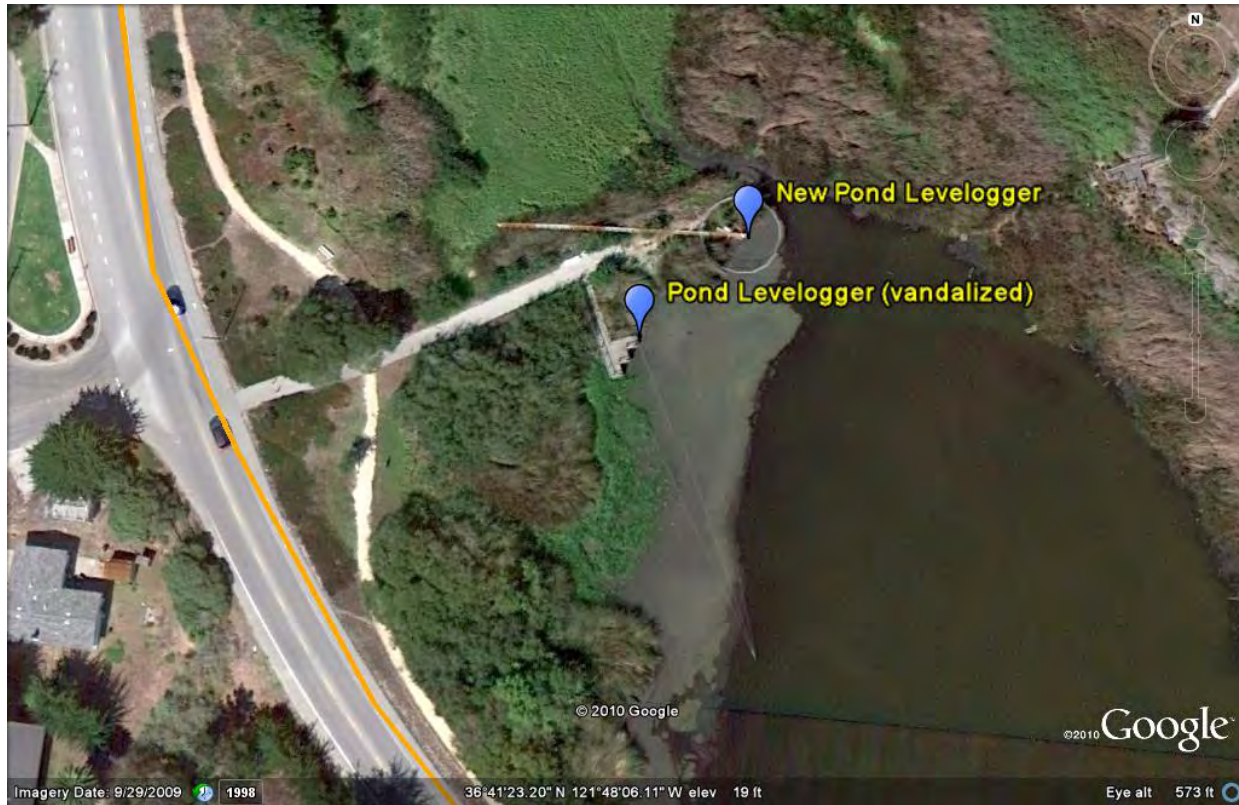


Figure 10. Seawater intrusion map of 'Pressure 400-Foot Aquifer', Salinas Valley Groundwater Basin, Monterey County, California (from Kennedy/Jenks Consultants, 2004). Note that saltwater intrusion had occurred in the Marina area by roughly 1975 for the 'Pressure 400-Foot Aquifer'.



Figure 11. Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California. Our newer gaging site in the Pond is shown ("New Pond Levellogger") at the KIDD radio tower, along with our eastern shoreline piezometer (location of test auger Hole #1).



**Balance
Hydrologics, Inc.**

209138 Figure 12.doc

Figure 12.

Gaging station and soil auger test pit locations, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California. Panel A shows the replacement installation at the KIDD radio tower following vandalism, and Panel B shows Holes #2-4 near the eastern shoreline piezometer installation.

© 2011 Balance Hydrologics, Inc.



**Balance
Hydrologics, Inc.**

209138 environs.mxd

Figure 13. Greater Locke-Paddon Wetland Community Park environs, City of Marina, Monterey County, California. The Marina Landing Shopping Center, Safeway Shopping Center, and other coastal/vernal ponds are shown.

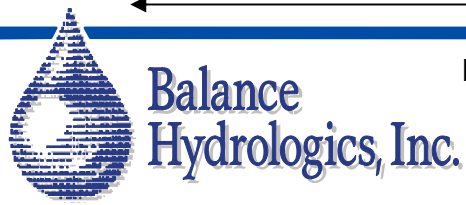
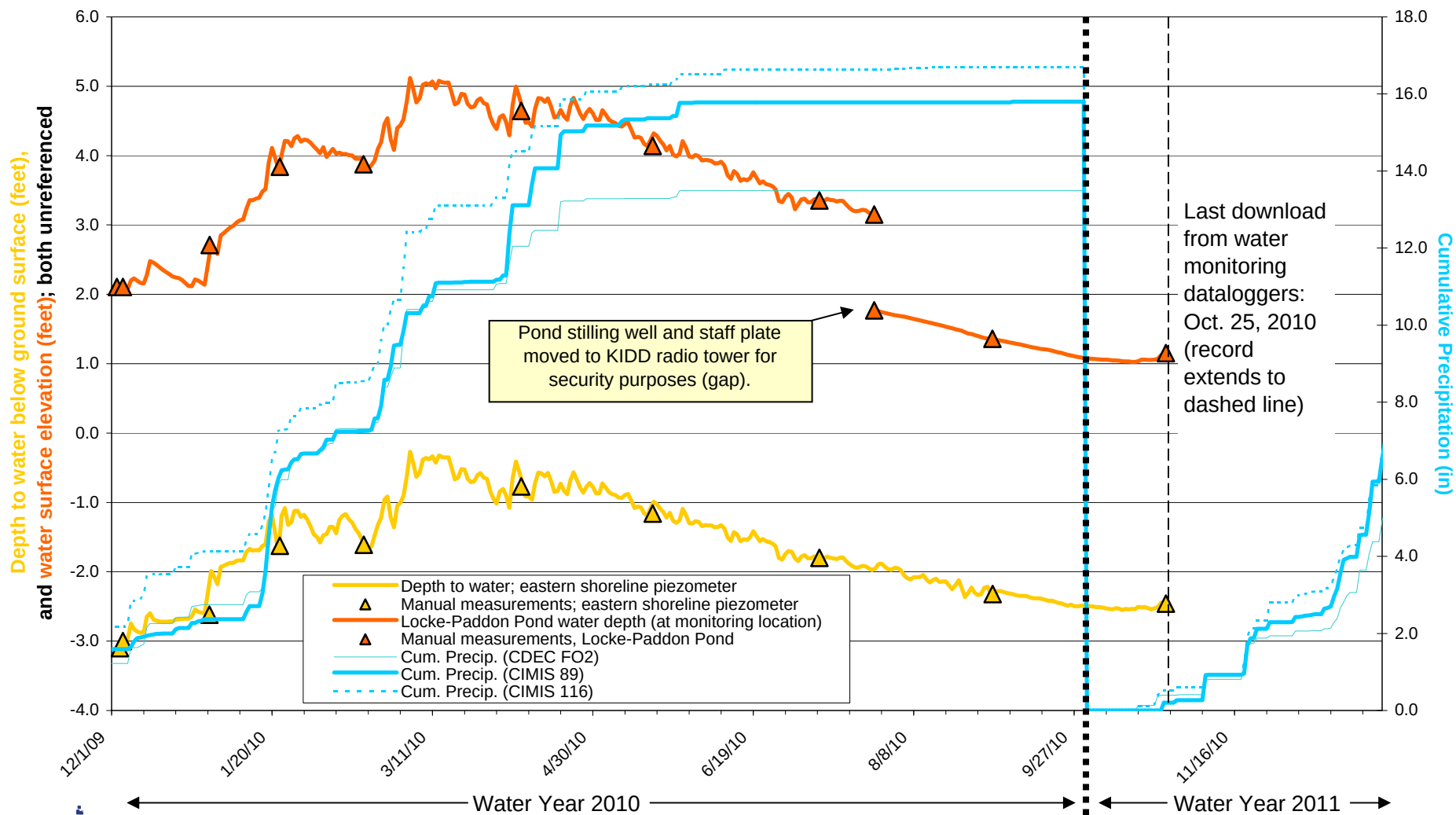
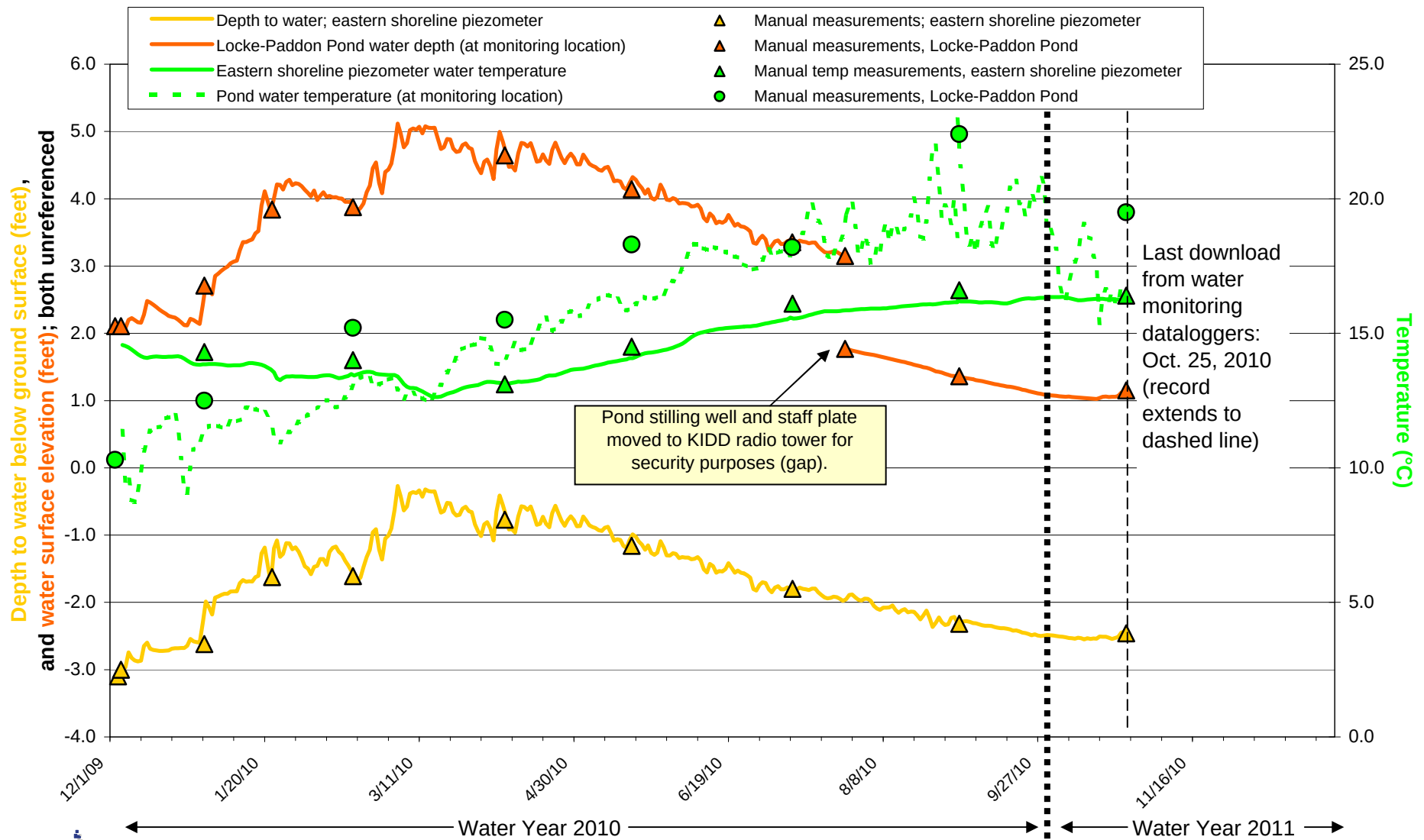
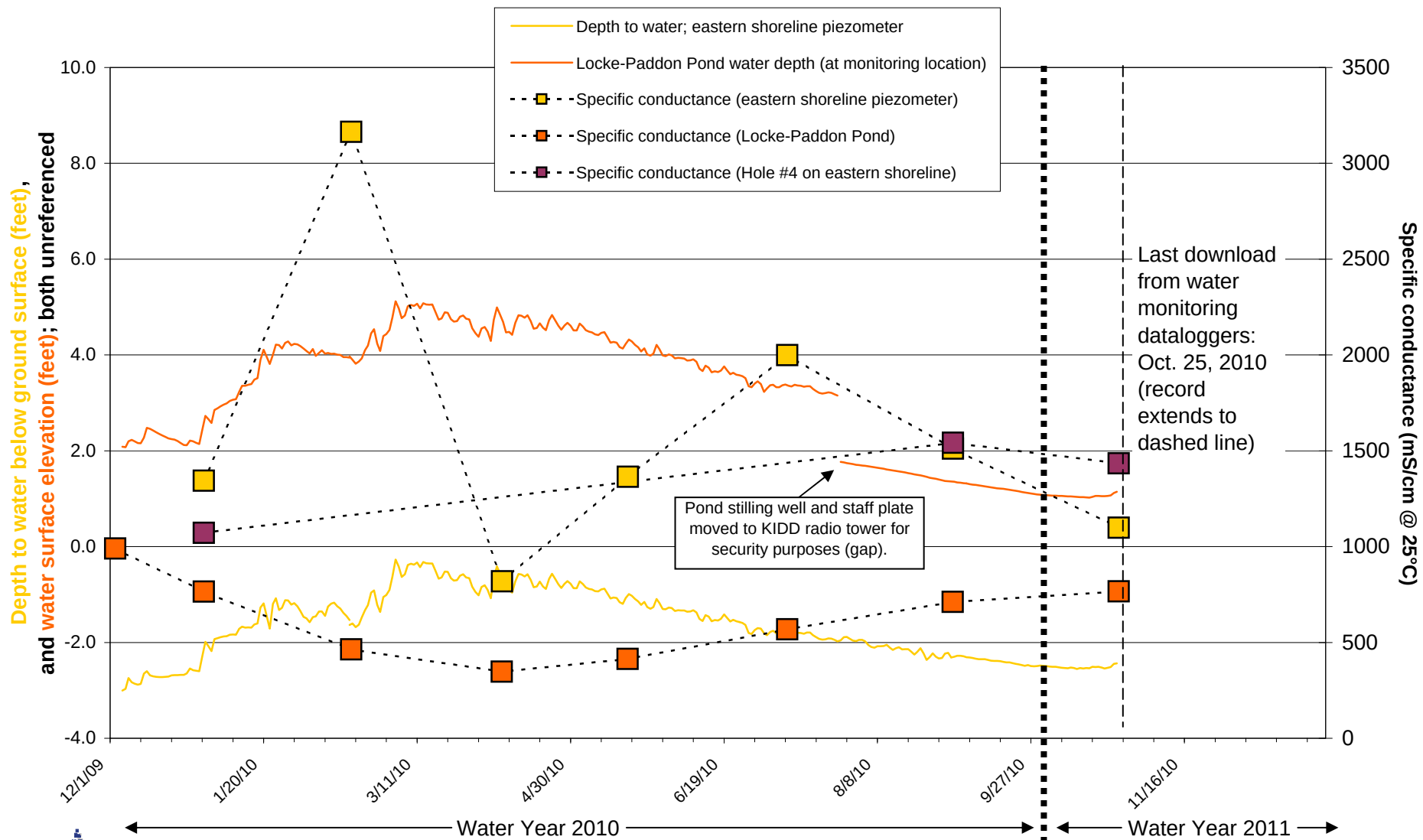


Figure 14. Water depth in Locke-Paddon Pond at western shoreline dock and radio tower, depth to water in shallow piezometer on eastern shoreline, and cumulative rainfall, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California. Note the similarity in water level records between the eastern shoreline piezometer and Locke-Paddon Pond. Water levels are not surveyed to the same benchmark, and thus do not plot on top of each other (the similarity between records suggest they should).



**Balance
Hydrologics, Inc.**

Figure 15. Water depth in Locke-Paddon Pond at western shoreline dock and radio tower, depth to water in shallow piezometer on eastern shoreline, and water temperature, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California. Note the similarity in water level records between the eastern shoreline piezometer and Locke-Paddon Pond. Water levels are not surveyed to the same benchmark, and thus do not plot on top of each other (the similarity between records suggest they should).



**Balance
Hydrologics, Inc.**

Figure 16. Specific conductance and water depth in Locke-Paddon Pond at western shoreline dock and radio tower, and specific conductance and depth to water in shallow piezometer on eastern shoreline, Locke-Paddon Wetland Community Park, City of Marina, Monterey County, California. Specific conductance declines gradually and smoothly for the Pond, while conductance in the eastern shoreline piezometer fluctuates more with seasonality.

Vegetation Types of Locke-Paddon Pond

Tule (Low Marsh)

 *Scirpus acutus*
Scirpus californicus

Tule - Cattail Complex (Low Marsh)

 *Scirpus acutus*
Scirpus californicus
Typha latifolia

Cattail (Low Marsh)

 *Typha latifolia*

Willow - Tule Complex (Low-Mid Marsh)

 *Salix lucida*
Salix lasiolepis
Salix laevigata
Scirpus acutus
Scirpus californicus
*Pennisetum clandestinum**

Silverweed - Bulrush Complex (Mid Marsh)

 *Scirpus maritimus*
Potentilla anserina

Rush - Wild Rye Complex (Upper Marsh)

 *Juncus balticus*
Leymus triticoides
Euthamia occidentalis
Carex pansa
Baccharis pilularis
Baccharis douglasiana
*Pennisetum clandestinum**

Wetland Mosaic (Upper Marsh)

 *Salix lucida*
Potentilla anserina
Leymus triticoides
Juncus xiphioides
Carex pansa
*Holcus lanatus**
*Cirsium vulgare**

Salix lasiolepis
Rubus ursinus
Baccharis douglasiana
Juncus effusus
*Hedera Helix**
*Genista monspessulana**
*Pennisetum clandestinum**

Willow Complex (Riparian Woodland)

 *Salix lucida*
Potentilla anserina
Leymus triticoides
Juncus xiphioides
Juncus balticus

Salix lasiolepis
Rubus ursinus
Baccharis douglasiana
Juncus effusus
Urtica dioica

California Blackberry Complex (Riparian Scrub)

 *Rubus ursinus*
Leymus triticoides
Baccharis pilularis
*Raphanus sativus**

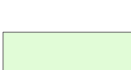
Juncus balticus
Carex pansa
Baccharis douglasiana

Annual NonNative Grasses (AG)

 *Ericameria ericoides*
Heterotheca grandiflora
Artemisia californica
Conyza canadensis
Annual Non-Native Grasses*

Lessingia filaginifolia
Lotus scoparius
Croton californicus
Eschscholzia californica

Coastal Scrub (Coastal Dune Scrub)

 *Ericameria ericoides*
Lupinus chamisonis
Artemisia californica
Carex pansa

Lessingia filaginifolia
Lotus scoparius
Croton californicus
Eschscholzia californica

Coastal Scrub Mitigation Planting (Coastal Dune Scrub)

 *Ericameria ericoides*
Lupinus chamisonis
Artemisia californica
Carex pansa
Eriogonum parvifolium
Eriogonum giganteum
*Rumex acetosella**

Lessingia filaginifolia
Lotus scoparius
Croton californicus
Eschscholzia californica
Artemisia pycnocephala
*Hirschfeldia incana**
Non-Native Annual Grasses*

Monterey Spineflower

 *Chorizanthe pungens var pungens*
(Federally Listed Species - Threatened)

Monterey Cypress

 *Cupressus macrocarpa*

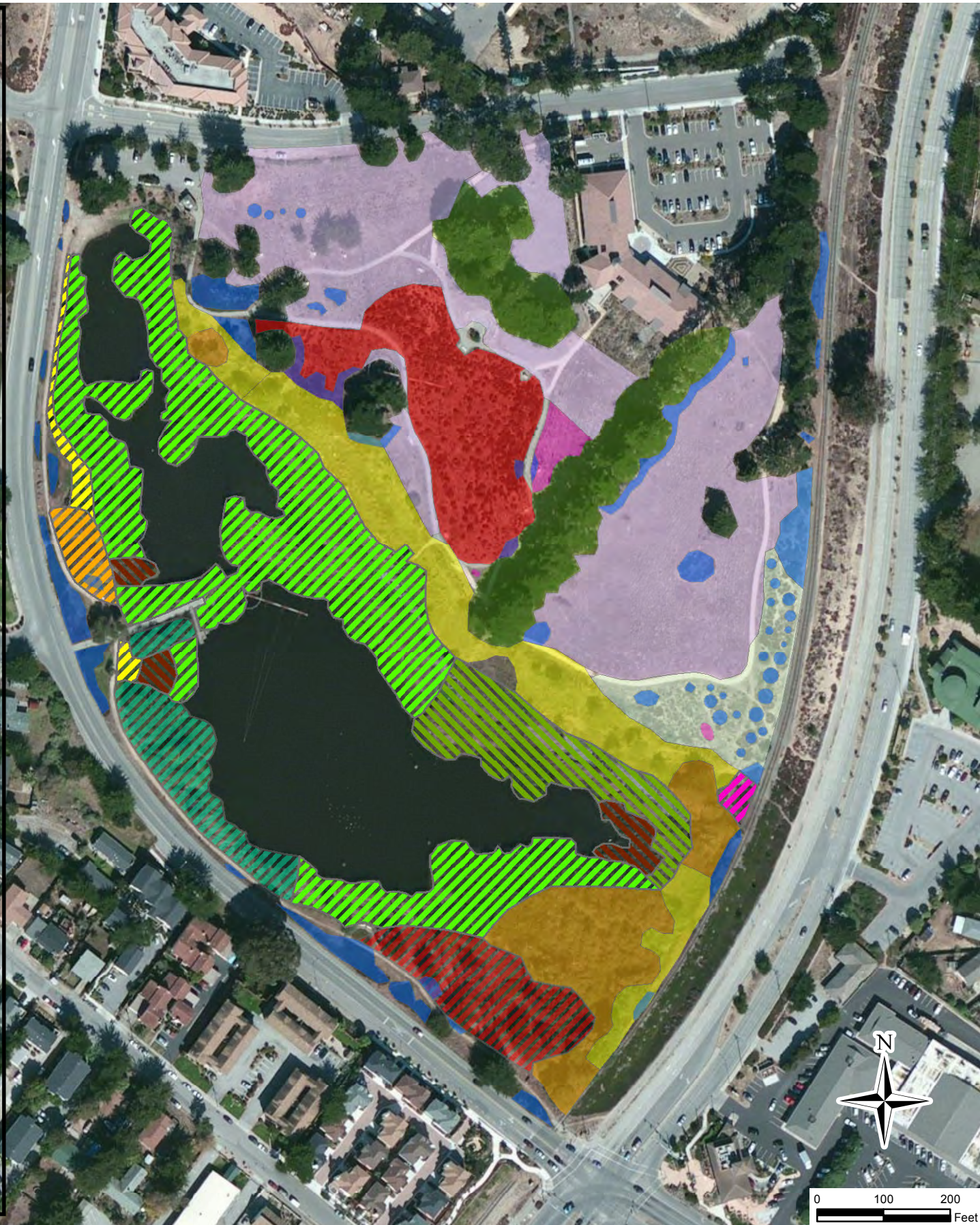
Iceplant

 *Carpobrotus edulis**
*Conicosa pugioniformis**

Poison Hemlock

 *Conium maculatum**

* Exotic Invasive Plant Species



Ecological Concerns Incorporated
Central Coast Wilds
Ecological Landscapes
Habitat Restoration
California Native Plants
lockepaddonvegmap.mxd

Sources: Topography and features from City of Marina cad files, based on aerial photography dated 10-7-96.

Figure 17. Vegetation Map, Locke-Paddon Pond,
City of Marina, Monterey County, California



APPENDICES

APPENDIX A

City of Marina Storm Drainage Maps



APPENDIX B

List of all Vascular Plant Species

Locke-Paddon Community Wetland Park
Comprehensive Species List

Species	Origin	Status
Acacia sp.	*	
Amaranthus albus	*	
Anagallis arvensis	*	
Artemisia californica	N	
Artemisia douglasiana	N	
Astragalus gambelianus	N	
Avena barbata	*	
Baccharis douglasii	N	
Baccharis pilularis var. consanguinea	N	
Briza maxima	*	
Bromus diandrus	*	
Bromus hordeaceus	*	
Bromus stamineus	*	
Camissonia cheiranthitolia ssp.	N	
Camissonia micrantha	N	
Cardionema ramosissimum	N	
Carduus pycnocephalus	*	
Carex barbarae	N	
Carex pansa	N	
Carpobrotus edulis	*	
Chorizanthe pungens var pungens	N	Fed Threatened
Chrysanthemum coronarium?	*	
Cirsium vulgare	*	
Conicosa pugioniformis	*	
Conium maculatum	*	
Conyza canadensis	N	
Cotula sp.	*	
Croton californicus	N	
Cupressus macrocarpa	n	
Cynadon dactylon	*	
Cyperus eragrostis	N	
Dactylis glomerata	*	
Drosanthemum floribundum	*	
Ehrharta calycina	*	
Epilobium ciliatum	N	
Ericameria ericoides	N	
Eriogonum giganteum	n	
Eriogonum parvifolium	N	

<i>Erodium botrys</i>	*
<i>Erodium cicutarium</i>	*
<i>Eschscholzia californica</i>	n
<i>Euthamia occidentalis</i>	N
<i>Festuca arundinacea</i>	*
<i>Festuca rubra</i>	n
<i>Frankenia salina</i>	N
<i>Genista monspessulana</i>	*
<i>Geranium dissectum</i>	*
<i>Geranium pelargonium</i> x <i>hortorum</i>	*
<i>Gnaphalium luteo-album</i>	*
<i>Hedera helix</i>	*
<i>Heterotheca grandiflora</i>	n
<i>Hirshfeldia incana</i>	*
<i>Hordeum murinam</i> ssp. <i>leporinum</i>	*
<i>Holcus lanatus</i>	*
<i>Hypochaeris glabra</i>	*
<i>Juncus balticus</i>	N
<i>Juncus bufonius</i>	N
<i>Juncus effusus</i> var. <i>brunneus</i>	N
<i>Juncus xiphioides</i>	N
<i>Lactuca serriola</i>	*
<i>Lavatera assurgentiflora</i>	n
<i>Lessingia filaginifolia</i>	N
<i>Leymus triticoides</i>	N
<i>Limonium sinuatum</i>	*
<i>Lobularia maritima</i>	*
<i>Lolium perenne</i>	*
<i>Lotus purshianus</i> var. <i>purshianus</i>	N
<i>Lotus scoparius</i>	N
<i>Lupinus chamissonis</i>	N
<i>Lupinus nanus</i>	N
<i>Lythrum hyssopifolia</i>	*
<i>Madia sativa</i>	N
<i>Malva</i> (<i>nicaensis</i> ?)	*
<i>Marah fabaceus</i>	N
<i>Medicago polymorpha</i>	*
<i>Melilotus</i> sp.	*
<i>Myoporum parvifolium</i>	*
<i>Pennisetum clandestinum</i>	*
<i>Phalaris aquatica</i>	*
<i>Picris echioides</i>	*

<i>Pinus radiata</i>	n
<i>Plantago coronopus</i>	*
<i>Plantago lanceolata</i>	*
<i>Plantago major</i>	*
<i>Polypogon monspeliensis</i>	*
<i>Potentilla anserina</i> ssp. <i>pacifica</i>	N
<i>Quercus agrifolia</i>	N
<i>Raphanus sativa</i>	*
<i>Rhamnus californica</i>	N
<i>Rosa</i> sp.	*
<i>Rubus ursinus</i>	*
<i>Rumex acetosella</i>	*
<i>Rumex crispus</i>	*
<i>Sagina</i> sp.	?
<i>Salix laevigata</i>	N
<i>Salix lasiolepis</i>	N
<i>Salix lucida</i> ssp. <i>lasiandra</i>	N
<i>Scirpus acutus</i> var. <i>occidentallis</i>	N
<i>Scirpus californicus</i>	N
<i>Scirpus maritimus</i>	N
<i>Senecio vulgaris</i>	*
<i>Silene gallica</i>	*
<i>Sonchus asper</i>	*
<i>Spergularia arvensis</i>	*
<i>Tanacetum parthenium</i>	*
<i>Taraxicum officinale</i>	*
<i>Tetragonium tetragonioides</i>	*
<i>Trifolium angustifolium</i>	*
<i>Trifolium campestre</i>	*
<i>Typha latifolia</i>	N
<i>Urtica dioica</i>	N
<i>Vicia sativa</i>	*
<i>Vulpia bromoides</i>	*

Origin Key

N designates likely native to site

n designates native to California, but probably not to site

* designates not native to California

? designates insufficient data to determine origin

APPENDIX C

City of Monterey City Code on Feeding Wildlife

Appendix C

City of Monterey City Code Park & Wildlife Rules

Park Rules

Chapter 23, Parks & Lakes

Article 2. El Estero Park.

Sec. 23-25. Feeding of Birds and Animals.

It shall be unlawful to feed any bird or animal, except a domestic pet under the person's jurisdiction and control within El Estero Park.

Seven Good Reasons Why You Shouldn't Feed Wildlife

1. Animals have specialized diets and can die from the wrong foods. If a baby animal receives the wrong diet, even for a day or two, it can damage developing bone and muscle forever. The wrong foods cause disease, mouth injuries, throat obstructions and death.
2. Providing an artificial food source causes adults to produce large families that cannot be supported by the natural food supply. Overpopulation leads to starvation and disease, some of which are dangerous to humans.
3. It is illegal to feed wildlife. Monterey County, Pacific Grove, Monterey and other cities all have ordinances that prohibit feeding of wildlife.
4. Feeding causes wild animals to lose their natural fear of humans. Wildlife can become an easy target, or the bold advances of an animal may be misinterpreted as an "attack".
5. Feeding changes behavior, often with catastrophic results. Feeding can cause death by preventing a species from migrating. It can also cause harmful interaction between species who usually don't compete for food.
6. You can be injured when you do not keep a respectful distance from wild animals. Wildlife can misinterpret your actions. They may not know where the food stops and your fingers begin. Once again, animals lose when people complain of being bitten or "attacked."
7. Providing food in residential areas (besides birdseed feeders) often leads to property damage and unwelcome "houseguests". Sometimes people feed wildlife inadvertently when they leave pet food dishes outside or do not secure garbage.

You can help our wildlife by not feeding them and by passing this info onto someone who is not yet informed.

RESOLUTION NO. 87-16

APPROVING AGREEMENT WITH CALIFORNIA STATE COASTAL CONSERVANCY

-oOo-

WHEREAS, The City of Marina and the California State Coastal Conservancy have approved the KIDD Pond Enhancement Plan which was prepared in large part by funds received as a grant from the California State Coastal Conservancy; and

WHEREAS, The California State Conservancy, on March 19, 1987, did meet and approve the grant request submitted by the City of Marina; and

WHEREAS, The California State Coastal Conservancy has developed the attached Agreement with the City of Marina (State Contract Number 86-061) to allow disbursement of the grant of \$320,000.00 to implement portions of the KIDD Pond Enhancement Plan.

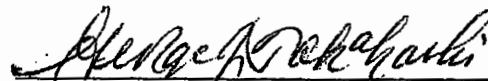
NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Marina hereby approves said Agreement with the California State Coastal Conservancy, authorizes the City Manager to execute the Agreement, agrees to the terms and conditions of this Agreement, and dedicates the properties to open-space, wildlife habitat, and passive recreation.

PASSED AND ADOPTED by the City Council of the City of Marina at a regular meeting duly held on May 19, 1987, by the following vote:

AYES: COUNCILMEMBERS: Ayers, Ouye, and Mayor Takahashi

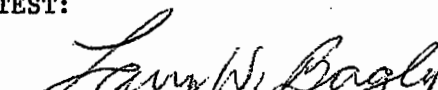
NOES: COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: Blake and Kosorek



GEORGE A. TAKAHASHI, Mayor

ATTEST:



LARRY W. BAGLEY, City Clerk

STANDARD AGREEMENT — APPROVED BY THE ATTORNEY GENERAL

STATE OF CALIFORNIA
STD. 2 (REV. 2/85)

- ☐ CONTRACTOR
- ☐ STATE AGENCY
- ☐ DEPT. OF GEN. SER.
- ☐ CONTROLLER
- ☐
- ☐
- ☐

THIS AGREEMENT, made and entered into this 30th date of April, 19 87,
in the State of California, by and between State of California, through its duly elected or appointed,
identified and acting

TITLE OF OFFICER ACTING FOR STATE Executive Officer	AGENCY State Coastal Conservancy	hereafter called the State, and	CONTRACT NUMBER 86-061	AM. NO.
City of Marina		hereafter called the Contractor,	CONTRACTOR'S I.D. NUMBER n/a	

WITNESSETH: That the Contractor for and in consideration of the covenants, conditions, agreements, and stipulations of the State hereinafter expressed, does hereby agree to furnish to the State services and materials, as follows:

(Set forth service to be rendered by Contractor, amount to be paid Contractor, time for performance or completion, and attach plans and specifications, if any.)

SCOPE OF AGREEMENT

Pursuant to Section 31251 et seq. of the Public Resources Code, the State Coastal Conservancy (hereinafter the "Conservancy") hereby grants to the City of Marina (hereinafter the "Grantee") a sum not to exceed three hundred and twenty thousand dollars (\$320,000), subject to the terms and conditions of this Agreement. These funds shall be used to implement portions of the KIDD Pond Enhancement Plan (hereinafter the "Project") as described herein and in the Conservancy Staff Recommendation of March 19, 1987, which is attached hereto as Exhibit 1 and incorporated herein by this reference. The Grantee shall implement the Project in accordance with the terms of this Agreement. Consistent with the List of Assurances (Exhibit 2 hereto), the Grantee shall provide any funds beyond those granted herein which are needed to complete the Project.

(continued next page)

CONTINUED ON _____ SHEETS, EACH BEARING NAME OF CONTRACTOR AND CONTRACT NUMBER.

The provisions on the reverse side hereof constitute a part of this agreement.

IN WITNESS WHEREOF, this agreement has been executed by the parties hereto, upon the date first above written.

STATE OF CALIFORNIA		CONTRACTOR			
AGENCY State Coastal Conservancy		CONTRACTOR (IF OTHER THAN AN INDIVIDUAL, STATE WHETHER A CORPORATION, PARTNERSHIP, ETC.) City of Marina			
BY (AUTHORIZED SIGNATURE) X		BY (AUTHORIZED SIGNATURE) X			
PRINTED NAME OF PERSON SIGNING Peter Grenell		PRINTED NAME AND TITLE OF PERSON SIGNING			
TITLE Executive Officer		ADDRESS			
AMOUNT ENCUMBERED \$ 320,000.00	PROGRAM/CATEGORY (CODE AND TITLE) Capital Outlay		FUND TITLE Fish & Wildlife		Department of General Services Use Only I certify that this grant agreement is exempt from Department of General Services approval.
UNENCUMBERED BALANCE \$	(OPTIONAL USE) Kidd Pond				
ADJ. INCREASING ENCUMBRANCE \$	ITEM 3760-301-748(1)	CHAPTER 186	STATUTE 1986	FISCAL YEAR 86/87	
ADJ. DECREASING ENCUMBRANCE \$	OBJECT OF EXPENDITURE (CODE AND TITLE) Enhancement				
I hereby certify upon my own personal knowledge that budgeted funds are available for the period and purpose of the expenditure stated above.		T.S.A. NO.	B.R. NO.		
SIGNATURE OF ACCOUNTING OFFICER		DATE			
I hereby certify that all conditions for exemption set forth in State Administrative Manual Section 1209 have been complied with and this document is exempt from review by the Department of Finance.					
SIGNATURE OF OFFICER SIGNING ON BEHALF OF THE AGENCY X		DATE			

WORK PROGRAM

Prior to commencement of construction, the Grantee shall submit to the Executive Officer for review and written approval as to its consistency with the terms of this Agreement, a detailed Work Program including (1) construction plans and specifications which have been certified by a registered architect or engineer, or approved by the Grantee's Public Works Director; (2) a schedule of completion for the Project specifically listing the completion date for each Project component; and (3) a detailed Project budget. Such Project budget shall describe all labor and materials costs to be incurred to complete the relevant component of the Project, and shall also contain a listing of all intended funding sources to complete the relevant component, including the Conservancy's grant and all other sources of monies, materials, or labor. The Grantee also shall review and explain the plans on site with staff of the Conservancy.

Where all or a portion of the construction to be funded under this Agreement will be performed by third parties under contract with the Grantee, prior to initiating any request for contractor bids, the Grantee shall submit for review and written approval of the Executive Officer the bid package including construction plans and specifications which have been certified or approved as described above. Upon approval by the Executive Officer, the Grantee shall proceed with the bidding process. The Grantee shall thereafter comply with the above paragraph regarding submission and approval of a Work Program prior to construction.

The Grantee shall develop the Project in accordance with the approved Work Program and the Project shall consist of the following tasks:

Task 1

Acquire the Walton Radio, Monterey Regional Water Pollution Control, and Lovell Austin properties at or below fair market value and obtain a conservation easement or lease on the Sophie Rose Pozar property within 90 days of signing this Agreement.

Task 2

Implement the KIDD Pond Enhancement Plan which includes constructing and deepening circulation channels, installing grease traps, constructing a deep water well and discharge line, creating additional open water and bankside habitats, providing roosting and nesting areas for waterfowl, constructing a protective fence, removing exotic vegetation, enhancing mosquitofish population, maintaining a minimum 100-foot marsh buffer, planting native vegetation, and related improvements described in the Enhancement Plan including plans, specifications, and engineering for the work described above.

WORK PROGRAM (continued)

Task 3

Construct public access and park improvements which include constructing a new pedestrian walkway, observation platform, interpretative trails and signs, parking lot, restroom, information kiosk, radio tower enclosure, outdoor classroom, picnic tables and trash enclosures; installing an open meadow and irrigation system; demolishing an existing barn, and related improvements described in the Enhancement Plan.

Task 4

Provide annual monitoring reports on the KIDD Pond for five years after Project Completion. These reports, at a minimum, shall include vegetation mapping, water quality analyses, a list of observed species, a report of the effectiveness of the grease traps, and recommendations on how to maintain and improve pond and adjoining habitats.

Conservancy funds shall be used to acquire the Lovell Austin and Monterey Regional Water Pollution Control properties, to implement the enhancement work described in the approved Enhancement Plan, to monitor the enhancement work for five years, and to construct two portions of the access improvements: the walkway along Reservation Road, from Del Monte Boulevard to the existing levee, and the observation/broadwalk from the levee to the proposed park loop. Funding for the remaining portions of the Project shall be provided by the City of Marina and the Monterey Peninsula Regional Park District.

WORK PRODUCTS

Grantee shall provide monthly reports to the Conservancy describing all work performed during that month, results of property negotiations and progress on other project components, and an outline of expenditures as described under the "COSTS AND DISBURSEMENT" section of this Agreement.

SUBCONTRACTS

Where all or a portion of the tasks to be funded under this Agreement will be performed by third parties under contract with the Grantee, prior to initiating any request for contractor bids, the Grantee shall submit for the review and written approval of the Executive Officer, the Request s for Proposal and the proposed contract. Upon approval by the Executive Officer, the Grantee shall proceed with the bidding process. Grantee shall submit the names of all proposed subcontractor(s) to the Executive Officer for approval. This section does not apply to the hiring of subcontractors for the purpose of preparing plans, specifications, and engineering for the Project.

BONDING

In the event that the Grantee intends to use any sub-contractor(s) to complete the construction of any portion of the Project to be funded under this Agreement, construction shall not commence until such sub-contractor(s) has furnished a performance bond in favor of the Conservancy and the Grantee, in the following amounts: for faithful performance, one hundred percent (100%) of the contract value; and for labor and materials, one hundred percent (100%) of the contract value.

SIGNING

In addition to the other Project components described herein, the Grantee shall erect signs visible from the nearest public roadway directing the public to the Project. The Grantee shall also put up placards acknowledging Conservancy assistance; such placards shall be provided by the Conservancy to the Grantee for this purpose. Plans describing the number, design, placement, and wording of such signs and placards shall be submitted to the Conservancy for review and written approval prior to construction of the Project. Final reimbursement may be withheld by the Conservancy pending placement of the signs and placards in the manner approved by the Conservancy.

PROJECT COMPLETION

Upon completion of Project construction, the Grantee shall supply the Conservancy with evidence of such completion by submitting a final report which includes: (1) an inspection report by the Grantee's Public Works Director certifying completion of the construction according to the approved Work Program and consistent with the Plan, and (2) a fully executed final "Request for Disbursement" form (Exhibit 3).

ESSENTIAL DEED PROVISION

The deed or other instrument of conveyance by which the Grantee obtains title to the Monterey Regional Water Pollution Control and Lovell Austin properties (collectively referred to hereafter as the "Properties") shall set forth the following essential provisions:

1. That the Properties acquired by the Grantee pursuant to a grant funds from the State Coastal Conservancy, an agency of the State of California, for open-space, wildlife habitat, and passive recreational purposes and that no other use of the Properties than is consistent with these purposes is permitted, except by specific act of the Legislature.

ESSENTIAL DEED PROVISIONS (continued)

2. That the Properties (including any portion thereof or interest therein) may not be used as security for any debt without written approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
3. That the Properties (including any portion thereof or interest therein) may not be transferred without the approval of the State of California, acting by and through the Executive Officer of the Conservancy, or its successor.
4. That if any of the above essential provisions are violated, all Grantee's right, title and interest in the Properties shall automatically vest in the State of California for the benefit of the Conservancy or its successor, upon acceptance thereof, provided, however, that the State, acting by and through the Executive Officer of the Conservancy, or its successor, may designate another public agency or a nonprofit organization to accept said right, title and interest, in which case vesting shall be in that agency or organization rather than the State.

CONDITIONS PRECEDENT TO ACQUISITION, CONSTRUCTION AND DISBURSEMENT

Property Acquisition

The Grantee shall not acquire the Monterey Regional Water Pollution Control or Lovell Austin properties, and the Conservancy shall not be obligated to disburse any funds under this Agreement, unless and until the following conditions have been met:

- (1) A Resolution has been adopted by the Grantee authorizing the execution of and approving the terms and conditions of this Agreement and dedicating the Properties to open-space, wildlife habitat, and passive recreation.
- (2) The Executive Officer of the Conservancy has reviewed and approved in writing:
 - (a) all title and acquisition documents pertaining to acquisition of the subject properties, including appraisals, preliminary title reports, agreements for purchase and sale, escrow instructions, and instruments of conveyance;
 - (b) evidence that the City of Marina has determined that the Project is consistent with the certified Local Coastal Program;

CONDITIONS PRECEDENT TO ACQUISITION, CONSTRUCTION AND DISBURSEMENT
(continued)

(c) evidence that the Monterey Peninsula Regional Park District has acquired fee title to the Walton Radio Property and dedicated the Walton Radio Property for open space, wildlife habitat, and passive recreation; and

(d) evidence that the Grantee has determined that the KIDD Pond Enhancement Plan is consistent with the certified Local Coastal Program for the City of Marina pursuant to Public Resources Code Section 31257;

(3) The purchase price of any interest in land purchased under this Agreement may not exceed fair market value as established by the approved appraisal.

Plan Implementation

The Grantee shall not construct any portion of the Project, and the Conservancy shall not be obligated to disburse any funds for any construction unless or until the following conditions have been met:

(1) The Executive Officer of the Conservancy has reviewed and approved in writing:

(a) evidence that the Grantee has acquired the Monterey Regional Water Pollution Control and Lovell Austin Properties and secured a conservation easement or lease on the Sophie Rose Pozar Property;

(b) evidence that all applicable federal, state, and local permits and approvals have been obtained;

(c) all subcontracts, the Work Program, and bid documents;

(d) written evidence that each subcontractor has complied with the bonding requirements described in the "BONDING" section of this Agreement; and

(e) evidence that all additional funding necessary to implement, maintain, and manage the Project have been secured.

COSTS AND DISBURSEMENTS

Upon determination by the Conservancy that all "CONDITIONS PRECEDENT TO ACQUISITION, CONSTRUCTION AND DISBURSEMENT" have been fully met, the Conservancy agrees to disburse to the Grantee, in accordance with the approved Project budget, a total amount not to exceed three hundred and twenty thousand dollars (\$320,000), as follows:

COST AND DISBURSEMENT (continued)

The purchase price of the Monterey Regional Water Pollution Control and Lovell Austin Properties, plus closing costs consisting of escrow, recording and title insurance fees to the extent not included in the purchase price, shall be disbursed to the Grantee upon submitting a "Request for Disbursement" form (Exhibit 3). The entire amount of these costs shall not exceed one hundred and fifteen thousand dollars (\$115,000).

Additionally, the Conservancy will disburse an amount not to exceed one hundred thirty-four thousand six hundred dollars (\$134,600) for the enhancement of KIDD Pond, sixty-eight thousand dollars (\$68,000) for public access facilities, and two thousand four hundred dollars (\$2,400) for monitoring of the pond for five years.

The Grantee shall request disbursements by filing with the Conservancy a fully executed "Request for Disbursement form" (Exhibit 3), which contains the name and address of the Grantee, the number of this Agreement, the date of the submittal and the period of time covered, the amount of the invoice, an itemized description of the work for which disbursement is requested, and the signature of an official authorized by the Grantee to sign such invoices. Additionally, each form shall be accompanied by any supporting invoices or other source documents from subcontractors hired by the Grantee to complete any portion of the Project funded under this Agreement, and shall be accompanied by written substantiation of completion of the work for which disbursement is requested. Failure to fully execute and submit the Request for Disbursement form, including attachment of supporting documents, will relieve the Conservancy of its obligation to disburse funds to the Grantee unless and until all deficiencies in the form are rectified.

EXPENDITURE OF FUNDS AND ALLOCATION OF FUNDING AMONG BUDGET ITEMS

The Grantee shall expend funds in the manner described herein and after in the approved Project Budget. The allocation of the Conservancy's total grant among various items contained in such budget may vary by as much as ten percent (10%) without approval by the Executive Officer. Any difference in the allocation among budget items of over ten percent must be approved in writing by the Executive Officer. The Conservancy may withhold payment for changes in particular budget items which exceed the amount allocated in the Project budget by more than ten percent and which have not received the approval required above. The total amount of this grant may not be increased except by amendment to this Agreement, and any increase in the funding for any particular budget item shall mean a decrease in the funding for one or more other budget items unless there is an amendment to this Agreement.

TERM OF AGREEMENT

This Agreement shall be deemed executed and effective upon receipt in the offices of the Conservancy of the Agreement which has been signed on the first page in original ink by an authorized representative of the Grantee, and which is accompanied by the Resolution described in the "CONDITIONS PRECEDENT TO ACQUISITION, CONSTRUCTION AND DISBURSEMENT" section of this Agreement.

The term of this Agreement shall run from the effective date of this Agreement as described herein and shall continue through January 1, 1994 (the "Termination Date") unless otherwise terminated or amended as provided herein.

The Grantee agrees to complete construction of the Project by January 1, 1989 (the "Completion Date"). Prior to the Completion Date, either party may terminate this Agreement for any reason by providing the other party with seven (7) days notice in writing.

In the event of termination by the Conservancy, prior to the Completion Date, the Grantee agrees to take all reasonable measures to prevent further costs to the Conservancy under this Agreement, and the Conservancy shall be responsible for any reasonable and non-cancelable obligation incurred by the Grantee in the performance of this Agreement until the date of the notice to terminate, but only up to the undisbursed balance of funding authorized in this Agreement.

In the event that the Grantee fails to complete the Project in accordance with this Agreement, or fails to fulfill any other obligations of this Agreement prior to the Termination Date, the Grantee shall be liable for immediate repayment to the Conservancy of all amounts disbursed by the Conservancy under this Agreement. The Conservancy may, at its sole discretion, consider extenuating circumstances and not require repayment for work partially completed. This paragraph shall not be deemed to limit any other remedies the Conservancy may have for breach of this Agreement.

OPERATION, MAINTENANCE, AND MONITORING

The Grantee agrees to provide for the operation, maintenance and monitoring the Project as open-space, wildlife habitat, and passive recreation in accordance with the Enhancement Plan (Exhibit 1 of the Staff Recommendation) in perpetuity, including without limitation maintenance of the pond, grease traps, marsh buffer and fence, public access trails and walkway, and other facilities identified in the KIDD Pond Enhancement Plan. The Grantee agrees to assume all maintenance costs of the Project. These obligations may be subcontracted out to the Monterey Peninsula Regional Park District and other responsible

OPERATION, MAINTENANCE AND MONITORING (continued)

parties upon the written approval of the Executive Officer, which shall not be unreasonably withheld. The Conservancy shall not be liable for any cost of such maintenance or management and the Grantee may be excused from its obligations for maintenance of the Project only upon the written approval of the Executive Officer.

The Grantee agrees to establish and undertake a monitoring program for the Project for five years and report annually to the Conservancy the results of its monitoring. Up to \$2,400 of the Conservancy grant may be used for monitoring costs, if so provided in the approved Project budget. The Grantee shall not be liable for all other monitoring costs above and beyond the \$2,400 provided by the Conservancy.

For purposes of this Agreement, "maintenance costs" include ordinary repairs and replacements of a recurring nature necessary to prolong the life of improvements and basic structures, and the expenditure of funds necessary to replace or reconstruct improvements or basic structures. "Monitoring costs" include the monitoring grease and sediment into the pond, the effectiveness of the grease traps, water quality analysis, vegetation mapping, shorebird use of the pond and adjoining habitats, and other information pertinent to the success of the Project, and reporting this information to the Conservancy on an annual basis.

LIABILITY

The Grantee shall be responsible for, indemnify and save harmless the Conservancy, its officers, agents and employees from any and all liabilities, claims, demands, damages or costs resulting from, growing out of, or in any way connected with or incident to this Agreement, except for active negligence of the Conservancy, its officers, agents or employees. The duty of the Grantee to indemnify and save harmless includes the duties to defend as set forth in Civil Code Section 2778. This agreement supercedes Grantee's right as a public entity to indemnity (see Gov. Code Section 895.2) and contribution (see Gov. Code Section 895.6) as set forth in Gov. Code Section 895.4.

The Grantee waives any and all rights to any type of express or implied indemnity or right of contribution from the State, its officers, agents or employees, for any liability resulting from, growing out of, or in any way connected with or incident to this Agreement.

Nothing in this Agreement is intended to create in the public or any member thereof rights as a third party beneficiary hereunder.

AUDITS/ACCOUNTING/RECORDS

The Grantee shall maintain satisfactory financial accounts, documents, and records relating to the acquisition, construction, maintenance and monitoring of the Project. The accounts, documents, and records relating to acquisition and construction of the Project shall be retained by the Grantee for three years following the date of final disbursement by the Conservancy for construction costs and shall be subject to examination and audit by the Auditor General during this period. The accounts relating to monitoring of the Project shall be retained by the Grantee for three years following the Termination Date of this Agreement. The Grantee may use any accounting system which follows the guidelines of "Generally Accepted Accounting Practices" published by the American Institute of Certified Public Accountants.

NONDISCRIMINATION

During the performance of this Agreement, the Grantee and its subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age or sex. The Grantee and its subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. The Grantee and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Administrative Code, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12900 et seq., set forth in Chapter 5 of Division 4 of title 2 of the California Administrative Code, are incorporated into this contract by reference and made a part hereof as if set forth in full. The Grantee and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. This nondiscrimination clause shall be included in all subcontracts entered into by the Grantee to perform work provided for under this Agreement.

INCORPORATION OF EXHIBITS TO THIS AGREEMENT

The two attachments to this Agreement entitled "List of Assurances" (Exhibit 2) and "indemnification and Standard Provisions" (Exhibit 4) describe additional rights and responsibilities of the Conservancy and the Grantee arising out of this Agreement. Each of these Exhibits is an integral part of this Agreement, and each is incorporated herein by this reference.

CONSERVANCY APPROVALS

All actions and approvals required to be taken by the Conservancy under this Agreement shall be taken by the Executive Officer of the Conservancy or his designate. Reed Holderman is designated as the Conservancy's project coordinator for this Agreement and he or his successors shall be consulted regarding any questions or problems arising thereunder.

RESOLUTION

The signature of the Executive Officer of the Conservancy on this Agreement certifies that at its March 19, 1987 meeting, the Conservancy approved a grant of three hundred and twenty thousand dollars (\$320,000) to the Grantee for the development of the project described in the attached Conservancy Staff Recommendation (Exhibit 1).

This Agreement is deemed to be entered into in the County of Alameda.

COPY / CERTIFIED COPY

“If this document contains any restriction based on race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, familial status, marital status, disability, veteran or military status, genetic information, national origin, source of income as defined in subdivision (p) of Section 12955, or ancestry, that restriction violates state and federal fair housing laws and is void, and may be removed pursuant to Section 12956.2 of the Government Code. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.”

RECORDING REQUESTED BY:
STEWART TITLE OF CALIFORNIA, INC.
WHEN RECORDED MAIL TO:
MONTEREY PENINSULA REGIONAL
60 GARDEN COURT, SUITE 325
MONTEREY, CA. 93940

MAIL TAX STATEMENTS TO:

SAME AS ABOVE

Stephen L. Vagnini
Monterey County Recorder
Recorded at the request of
Stewart Title

RALICIA
4/20/2004
8:00:00

DOCUMENT: **2004037553**

Titles: 1/ Pages: 4



Fees...
Taxes...
Other...
AMT PAID

ESCROW NO. **02156659**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

A.P.N.: 033-121-002

The undersigned grantor(s) declare(s):

Documentary transfer Tax is \$ **TRANSFER TO PUBLIC ENTITY**

City Conveyance Tax is \$ _____

Monument Preservation Fee is \$ _____

(**XX**) computed on full value of property conveyed, or

() computed on full value less value of liens and encumbrances remaining at time of sale.

(**XX**) Unincorporated area: () City of _____, and

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

PAULA RAE ISAKSON, TRUSTEE OF THE ISAKSON FAMILY TRUST DATED
FEBRUARY 3, 1995

hereby GRANTS to

MONTEREY PENINSULA REGIONAL PARK DISTRICT, a public entity

the following described real property in the **unincorporated area**
County of **MONTEREY**, State of California.

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF, FOR THE
LEGAL DESCRIPTION

SEE EXHIBIT "B" ATTACHED HERETO AND MADE A PART HEREOF, FOR CERTIFICATE OF
ACCEPTANCE HEREIN

DATE: **March 25, 2004**

FOR SIGNATURES SEE PAGE 2 ATTACHED HERETO
AND MADE A PART HEREOF

MAIL TAX STATEMENTS AS DIRECTED ABOVE

GRANT DEED



PAULA RAE ISAKSON, TRUSTEE OF THE ISAKSON FAMILY TRUST DATED
FEBRUARY 3, 1995

STATE OF CALIFORNIA }
COUNTY OF Monterey } ss.

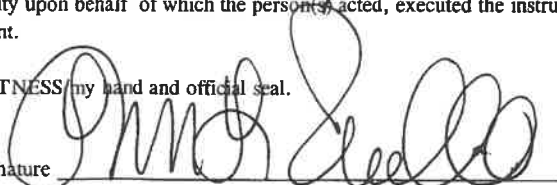
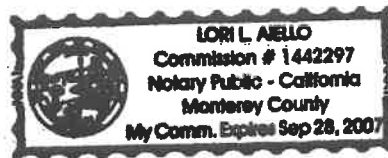
On 4-12-04, before me LORI L. AIELLO

personally appeared PAULA RAE ISAKSON

~~personally known to me~~ (or proved to me on the basis of satisfactory evidence) to be the person(s), whose name(s) is/~~is~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity (~~ies~~), and that by ~~his~~/her/~~their~~ signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature

(This area for official notarial seal)

EXHIBIT "A"

LEGAL DESCRIPTION

ESCROW NO.: 02156659
ORDER NO.: 02156659

LOT 43, AS SHOWN UPON THAT CERTAIN MAP ENTITLED, "LOCKE-PADDON COMPANY'S BAYSIDE SUBDIVISION OF MONTEREY CITY LANDS," FILED FEBRUARY 8, 1916 IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF MONTEREY, STATE OF CALIFORNIA, AND NOW ON FILE AND OF RECORD IN SAID OFFICE IN MAP BOOK VOLUME 2 OF MAPS AND GRANTS, (OUTSIDE LANDS) AT PAGE 15 THEREIN.

EXCEPTING THEREFROM 25% OF ALL OIL AND MINERAL RIGHTS, AS RESERVED IN THE DEED FROM GREAT WESTERN SYNDICATE, A CORPORATION, TO JOHN CAMPOY, ET UX, RECORDED DECEMBER 16, 1921 IN LIBER 184 OF DEEDS AT PAGE 431, MONTEREY COUNTY RECORDS.

APN: 033-121-002



Certification of Acceptance

EXHIBIT "B"

ISAKSON PROPERTY

This is to certify that the interest in real property being conveyed by Grant Deed, and identified by the legal description attached as Exhibit A, dated January 15, 2004, by Stewart Title of California, to the Monterey Peninsula Regional Park District ("The Park District"), a public entity, is hereby accepted by the undersigned General Manager of The Park District on behalf of The Park District, pursuant to authority conferred by Board action taken at the regularly scheduled Board meeting of April 5, 2004, and with The Park District's consent to recordation thereof by the undersigned General Manager of The Park District.

Dated: April 16, 2004



JOSEPH DONOFRIO, General Manager
Monterey Peninsula Regional Park District

END OF DOCUMENT

Safeco Title No. 157304-RR

RECORDING REQUESTED BY:

Anne D. McGowan
DE LAY, LAREDO & MCGOWAN

WHEN RECORDED MAIL TO:

Anne D. McGowan, Attorney at Law
DE LAY, LAREDO & MCGOWAN
Attorneys at Law
3855 Via Nona Marie, Suite 204
Post Office Box 221878
Carmel, CA 93922-1878
Telephone: (408) 624-4151

MAIL TAX STATEMENT TO:

Monterey Peninsula Regional Park District
Post Office Box 935
Carmel Valley, CA 93924

REEL 2085 PAGE 534

RECORDED AT REQUEST OF
SAFECO TITLE INSURANCE COMPANY

APR 15 3 33 AM '87

23077

OFFICE OF THE CLERK
COUNTY OF MONTEREY
SALINAS, CALIFORNIA

NO FEE

GRANT DEED RESERVING EASEMENT IN GROSS

The undersigned Grantor declares: Documentary Transfer Tax is
\$ No Taxable Consideration

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, WALTON RADIO, INC., a Nevada corporation, hereby grants the MONTEREY PENINSULA REGIONAL PARK DISTRICT, a California public agency, real property ("Servient Tenement") in the County of Monterey, State of California, described in Exhibit A, attached, and made a part hereof.

Grantor RESERVES from the above-described grant an easement in gross, as follows:

1. Description. The easement reserved herein is the right of Grantor to maintain two (2) existing (which together produce 1 kilowatt) AM radio broadcast transmission towers, approximately 360 feet high, with their accompanying fences (surrounding the base of said towers), guy wires and subsurface radial grounding system, together with the right of ingress and egress for the purpose of repair or replacement of said existing structures and equipment.
2. Location. The easement reserved herein is the general easement located on the Servient Tenement. Grantee shall have the right to relocate subsurface radials, RF feed lines, ground straps, etc., from their existing location with the consent of the Grantor, which consent shall not be unreasonably withheld, provided such relocation, or any adjacent area construction, alternations, lake changes, or any other category, of changes, do not affect the overall RF pattern or coverage, do not affect the tower impedance, do not affect the mechanical make-up of the array or make the station illegal regarding Part 73 of the FCC Rules, and first obtain the written authorization of FCC where required. (See Title 47, Code Fed Regs Part 73.)

Grantee shall bear the total expenses of any alterations, constructions, repairs or engineering corrections which may be required to the station antenna system caused by any activity, repairs, changes, alterations, constructions, etc., of Grantee on any portion of the antenna array or to the adjacent property which has any effect on the station antenna system. Furthermore, Grantee shall at its sole expense erect appropriate fences or such other safety devices as may be needed around the tower and guy anchor points to protect the public from accident or injury in compliance with the guidelines of the office of Science and Technology of the Federal Communications Commission.

3. Term. The easement reserved herein shall be in perpetuity subject to termination by cessation of use as provided in Paragraph 4 below.
4. Termination by Cessation of Use. Notwithstanding Paragraph 3 above, the easement reserved herein shall be terminated automatically two (2) years after cessation of use by Grantor. Cessation of use shall be evidenced by, but not be limited to, removal of the existing towers, fences, guy wires or subsurface radial grounding system without replacement, or non-repair of the aforementioned equipment or their replacements.

Notwithstanding the foregoing (or any other provisions of this Deed Reserving Easement in Gross, if it appears to Grantee that Grantor has ceased using the easement, then following written notice to Grantor by Grantee of such apparent non-use, the easement reserved herein shall be terminated automatically two (2) years following the date of such notice, unless prior to that time Grantor has provided a written response indicating to Grantee that the easement is in use.

Grantor further agrees to execute and record a Quitclaim Deed or other document evidencing the termination of its easement, if requested by Grantee, upon termination of the easement pursuant to this paragraph.

Upon termination of this easement, Grantor shall remove, at Grantor's cost, all structures, lines, fences and equipment constructed and/or maintained by Grantor.

5. Use by Grantee. Grantor acknowledges that the Servient Tenement upon which the easement reserved herein is located consists of wetland marsh area, that said property shall be open to the public for passive recreation, and that Grantee may construct such development as may be required for, or which may enhance, the use of said Servient Tenement by the public.

6. Indemnification. Grantee shall hold Grantor harmless from all damages arising out of any damage to any person or property occurring in, on, or about the Servient Tenement, except that Grantor shall be liable to Grantee for damages resulting from the acts or omissions of Grantor or its authorized representatives; Grantor shall hold Grantee harmless from all damages arising out of such damage.
7. Governing Law. This reservation of easement shall be governed by the laws of the State of California.
8. Entire Agreement. This instrument contains the entire agreement between the parties relating to the subject matter of this instrument. Any oral representations or modifications in connection with this instrument shall be of no force and effect, excepting a subsequent modification in writing, signed by the party to be charged, and duly recorded in the official records of the County of Monterey, State of California.
9. Attorneys' Fees. In the event of any controversy, claim or dispute relating to this instrument or the breach thereof, the prevailing party shall be entitled to recover from the losing party reasonable expenses, attorneys' fees, and costs.
10. Binding Effect. All obligations in this instrument shall be binding upon the heirs, successors and assigns of the Grantor and Grantee. All benefits herein contained shall inure to the benefit of the heirs, successors, and assigns of the Grantor and Grantee.

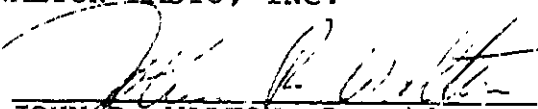
Grantor shall, upon assignment sale, transfer, or other conveyance of its interest or any part thereof, in said easement in gross, notify Grantee immediately in writing.

Dated: June 12, 1987.

GRANTOR:

WALTON RADIO, INC.

By:


JOHN B. WALTON, President

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property being conveyed by the grant deed reserving easement in gross dated March 12, 1987, from WALTON RADIO, INC., a Nevada corporation to the MONTEREY PENINSULA REGIONAL PARK DISTRICT, a political corporation and/or governmental agency, is hereby accepted in accordance with the terms and conditions of the "Grant Deed Reserving Easement in Gross", dated March 12, 1987, by the undersigned officer or agent on behalf of the MONTEREY PENINSULA REGIONAL PARK DISTRICT, pursuant to authority conferred by Resolution of the MONTEREY PENINSULA REGIONAL PARK DISTRICT, adopted on October 6, 1986, 1986, and the Grantee consents to recordation thereof by its duly authorized officer.

Dated: March 20, 1987.

By: Lee Han

President, Board of Directors,
MONTEREY PENINSULA REGIONAL
PARK DISTRICT

Grant Deed (Walton Radio/MRPD)

ACKNOWLEDGMENT

REEL 2085 PAGE 538

STATE OF COLORADO)
County of EL PASO) ss.

On this 12th day of March, 1987, before me, the undersigned Notary Public, in and for said County and State, personally appeared JOHN B. WALTON, personally known to me, or, proved to me on the basis of satisfactory evidence, to be the President of the corporation that executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

[SEAL]

Donna Jo Reissig
Notary Public for STATE OF
COLORADO

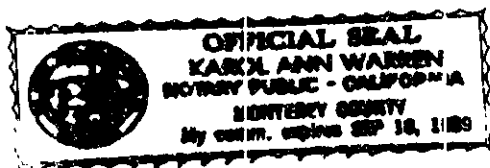
My Commission expires: 7/10/88.

ACKNOWLEDGMENT

STATE OF CALIFORNIA)
County of Monterey) ss.

On this 20th day of March, 1987, before me, the undersigned, a Notary Public, in and for the said County and State, personally appeared SEAN FLAVIN, personally known to me, or proved to me on the basis of satisfactory evidence, to be the President of the Board of Directors of MONTEREY PENINSULA REGIONAL PARK DISTRICT, and known to me to be the person who executed the within instrument on behalf of said political subdivision, and acknowledged to me that such District executed the same.

[SEAL]



Karyl Ann Warren
Notary Public for the State of
California

My Commission expires: 9/18/89.

157304
DESCRIPTION

DESCRIPTION

REEL 2085 PAGE 539

PARCEL 1:

Certain real property situate in the City of Marina, Monterey County, California, being a portion of Lots 40, 41, 42, 46, 47 and 48, as shown on the map entitled, "Locke Paidon Company's Bayside Subdivision of Monterey City Lands," recorded in Volume 2 of Maps and Grants (Outside Lands) at Page 15, particularly described as follows:

BEGINNING at a point on the northeasterly line of Reservation Road, as said Road is shown on that certain map entitled, "Right of Way Map, Marina to Merritt St. at Castroville, 85.8/R92.8," Sheet No. 6D of 30 Sheets, on file with the California Department of Transportation, District 5, San Luis Obispo, said point being at the intersection of said northeasterly line of Reservation Road with the southeasterly line of said Lot 46; and running thence along said northeasterly line of Reservation Road

(1) N. 51° 09' 20" W., 207.47 feet; thence

(2) Non-Tangentially, from a tangent which bears N. 42° 02' 09" W., 620.38 feet along the arc of a curve concave to the northeast having a radius of 808 feet through a central angle of 43° 59' 29" (long chord bears N. 20° 02' 24 1/2" W., 605.25 feet) to the intersection of said northeasterly line of Reservation Road with the common line between said lots 40 and 48; thence along said common line between lots 40 and 48

(3) S. 51° 09' 20" E., 87.01 feet; thence leaving said line

(4) Non-tangentially, from a tangent which bears N. 39° 52' 54" E., 162.47 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 30° 43' 22" (long chord bears N. 55° 14' 35" E., 160.53 feet); thence

(5) Non-tangentially, from a tangent which bears N. 9° 37' 09" W., 79.76 feet along the arc of a curve concave to the east having a radius of 303 feet through a central angle of 14° 59' 14" (long chord bears N. 2° 07' 32" W., 79.03 feet); thence

(6) Tangentially, N. 5° 22' 05" E., 273.00 feet to a point on the southerly line of Seaside Avenue, as said avenue is shown on said Right of Way Map; thence along said line

REEL 2085 PAGE 540

- (7) N. 80° 36' 17" E., 15.51 feet; thence leaving said line
- (8) S. 5° 22' 05" W., 182.80 feet; thence
- (9) Non-tangentially, from a tangent which bears N. 23° 28' 30" E., 89.17 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 16° 51' 44" (long chord bears N. 31° 54' 22" E., 88.85 feet); thence
- (10) Non-tangentially, N. 80° 36' 17" E., 391.69 feet; thence
- (11) Non-tangentially, from a tangent which bears S. 59° 07' 40" E., 504.57 feet along the arc of a curve concave to the southwest having a radius of 303 feet through a central angle of 95° 24' 40" (long chord bears S. 11° 25' 20" E., 448.26 feet; thence
- (12) Radially, S. 53° 43' E., 58.00 feet to a point on the southeasterly line of said Lot 42; thence along said line and its prolongation along the southeasterly line of said Lot 46
- (13) S. 36° 17' W., 710.42 feet to the point of beginning.

PARCEL II:

Right to use and maintain existing underground copper lines for the operation of radio transmission facilities over a parcel of land described as follows:

BEGINNING at the northeasterly terminus of above described course numbered 10 of the above described 12.275 acre parcel, and running thence

- (1) Southwesterly, 425.90 feet along the arc of a curve concave to the southeast having a radius of 303 feet through a central angle of 80° 32' 06" (long chord bears S. 80° 36' 17" W., 391.69 feet); thence
- (2) N. 80° 36' 17" E., 391.69 feet to the point of beginning.

NOTE: Bearings and Distances shown above are grid bearings and distances based on the California Co-ordinate System, Zone 4. To obtain ground distances, multiply grid distances shown by 1.0000587.

A.P. NO. 033-132-01
033-121-06

END OF DOCUMENT

