

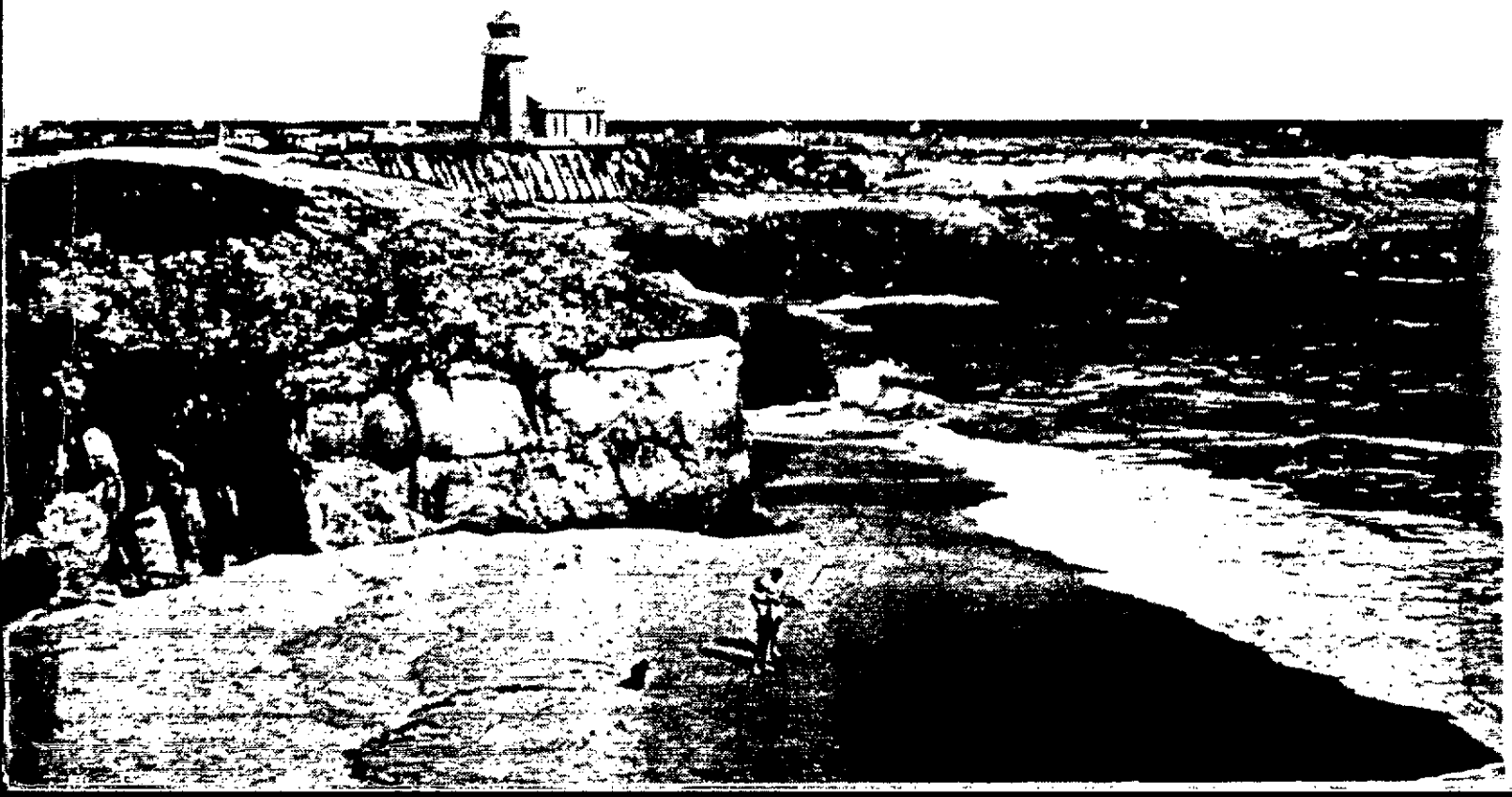
UNIT 474

LIGHTHOUSE FIELD STATE BEACH

GENERAL PLAN

May 1984

General Plan
LIGHTHOUSE FIELD
STATE BEACH



DEPARTMENT OF PARKS AND RECREATION

STATE PARK AND RECREATION COMMISSION

O. BOX 2370, SACRAMENTO 95811



Resolution 46-84
adopted by the
CALIFORNIA STATE PARK AND RECREATION COMMISSION
at its regular meeting in Santa Cruz on
May 11, 1984

WHEREAS, the Director of the Department of Parks and Recreation has presented to this Commission for approval the proposed General Plan for Lighthouse Field State Beach; and

WHEREAS, this reflects the long-range development plans as to provide for the optimum use and enjoyment of the unit as well as the protection of its quality;

NOW, THEREFORE, BE IT RESOLVED that the State Park and Recreation Commission approves the Department of Parks and Recreation's General Plan for Lighthouse Field State Beach preliminary dated January, 1983 with the modification that the current alignment of West Cliff Drive including the existing parking lot would be maintained, and subject to such environmental changes and safety assurances as the Director of Parks and Recreation shall determine advisable and necessary to implement the provisions and objectives of said plan.

GENERAL PLAN
LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
County of Santa Cruz
State of California, Department of Parks and Recreation

September 1984

Prepared by:
CHNB Associates

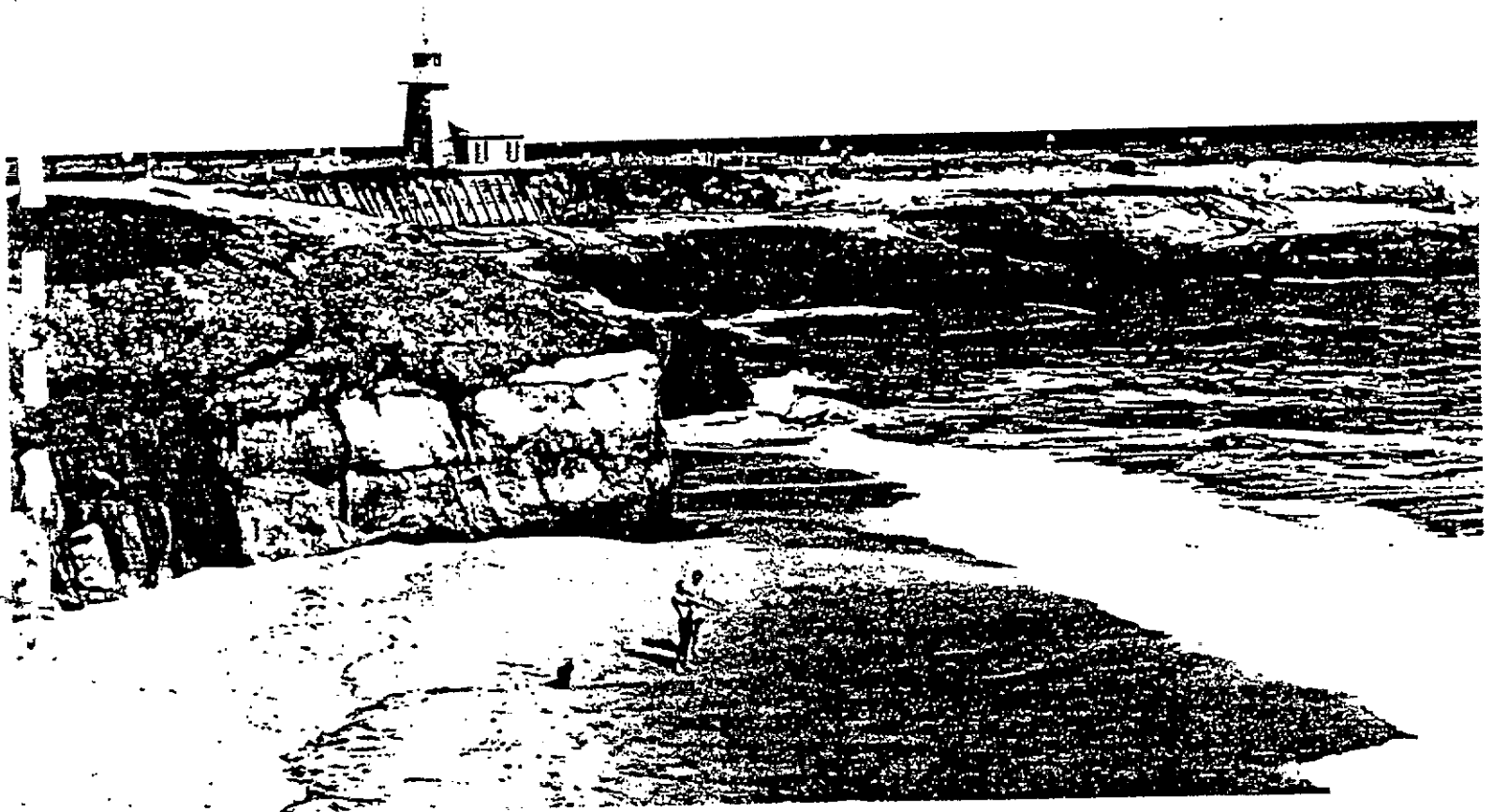
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Summary



I. SUMMARY

Lighthouse Field State Beach is located on the north coast of Santa Cruz County entirely within the boundaries of the City of Santa Cruz. It includes 36 acres of undeveloped coastal terrace and over 4,200 feet of scenic cliffs. Santa Cruz Point, an outcropping of rock which marks the northern end of Monterey Bay, is the site of a lighthouse. There are dramatic ocean vistas from this "Lighthouse Point". To the east the bowl of the Coastal Mountain Range frames Monterey Bay and Santa Cruz Harbor. The State Beach proposed here contains some of the last remaining undeveloped coastal property within the city, as well as a Lighthouse Museum facility, beach areas, significant marine wildlife features and access to Steamer Lane, a well-known surfing area.

The State Beach is a historically important site in Santa Cruz. The first Lighthouse was established in 1869 at the point. The coastal terrace was once the property of James Phelan, mayor of San Francisco in 1897, who erected gardens, an observatory, and cottages in this field. These structures, along with most of the groves of eucalyptus and Monterey cypress have been removed. The new park intends to preserve and enhance the existing historic field which has become a community symbol in an effort to halt intensive coastal development. The field now is a well used unique recreational site for visitors and residents. This Field Zone will comprise 32 of the 36 acres of coastal terrace.

Regional planning considerations, recreational opportunities, visitor use facilities, operational and concession requirements have been identified in the General Plan. As a State Beach facility, the ocean-oriented recreational opportunities enjoyed statewide as well as by Santa Cruz residents are of prime importance. These recreational needs are addressed by providing a more intense use area on the ocean side of the cliff drive consisting of a 33 acre turf field for picnicking, informal play and sightseeing.

Throughout the planning process, the public has been involved in a series of workshops and public forums. The many comments and suggestions have been incorporated into the General Plan.

The diverse preservation and recreation goals inherent at Lighthouse Field State Beach will be addressed in two zones;

Field Zone.

Low-intensity use 32 acre area dealt with in a Resource Management Program which sets policy guidelines for the preservation and perpetuation of the native plant and wildlife population. No concentrated use activities shall be permitted in the field, only informal paths and interpretive trails. This low-use zone will be adequately buffered from higher-intensity use areas across the cliff drive.

Coastal Zone

Moderate to high-intensity use zone (as defined in the Use Intensity Diagram) comprising the area cliffside of the road and concentrated at Lighthouse Point with turf by a Lighthouse Interpretive Center/Concession and Restroom facility. Also included within this use zone are the parking lots and pull-offs as part of an overall circulation plan providing 224 permanent marked parking stalls.

Land use elements and visitor support facilities proposed in the General Plan are summarized below:

West Cliff Drive. Retains its present alignment with two new parking areas and a future access road which helps separate the enlarged turf area from the Field Zone. Continuous curb fieldside of the road to keep out vehicles. Controlled and lighted pedestrian crossings. Pelton to be one-way from Eucalyptus to West Cliff Drive.

Parking. Provide 224 spaces in three new buffered parking lots and two fieldside pull-offs; and 50 spaces in two temporary cliffside parking areas. This will eliminate continuous parking along West Cliff Drive. Parking areas include: Fieldside Lot at northeast entry (80 spaces), Lighthouse Lot (38 spaces), Beach Lot (48 spaces), Existing Surfer/View pull-off parking (15 spaces), Existing Beach/View pull-off parking (43 spaces). Uncontrolled fieldside pull-off parking is eliminated with the addition of a fieldside curb along the road. Two Temporary Fieldside pull-off parking areas (50 spaces) will remain only in the first phase of park development toward the west end of the site. These parking areas mitigate the loss of parking during Phase I park construction. At the end of Phase I and again at the end of all park construction, the parking availability will be reviewed in terms of total demand and visitor load at those points.

Trails. Low key trail configuration within the field (4,800 lineal feet) to remain under the management guidelines. Pedestrian/bike path (10 foot wide asphalt section, 3,000 lineal feet) on the cliffside of the road to remain except for some realignment to provide access to the parking/picnic areas and Lighthouse. Interpretive pathway spurs (300 lineal feet) lead from the coastal ped/bike path to seal and seabird observation areas. Total coastal trails - 8,700 lineal feet.

Planting. Some new planting of native trees, shrubs, and grasses enhancing existing planting within the field as outlined in the management program. Irrigated grass area added by the Lighthouse and new planting at the cliff edge for accent and erosion control. Preserve existing Monterey Cypress.

Picnic Area. Picnic facilities at sixty (60) informal sites in turf area between parking and the Lighthouse. Existing grove of trees provide shade and defines views while buffering the picnic area from the field preservation zone.

Lighthouse Interpretive Center/Concession and Restroom. One small existing Concession and Interpretive Center at the existing Lighthouse Museum (447 square feet) with allowance for appropriate future concession and interpretive considerations. One restroom facility (750 square feet) added

at the active turf area adjacent to access from West Cliff Drive between the Beach and Lighthouse Parking Lots. Portable toilets will be available at peak use periods and special events.

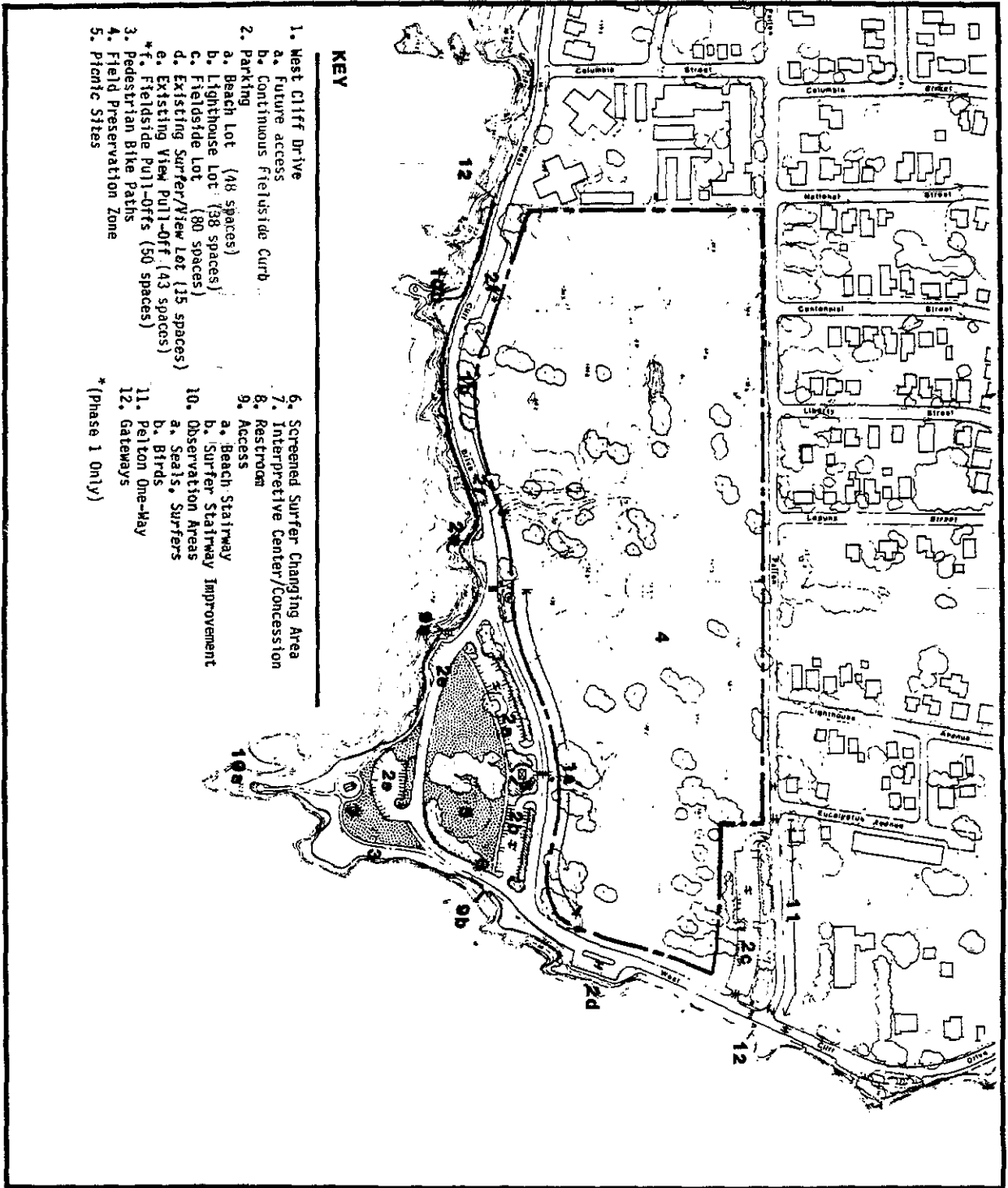
Gateways. Entry signs of appropriate character consistent with other park furniture will be placed at the east and west entrances of the park along West Cliff Drive.

Amenities. All amenities shall be thought of as a family of park furniture and equipment, consistent in design, material and color. Amenities include: Benches (wood with backs) at viewpoints along the cliff and at the turf area; Fencing (wood with wire mesh) at dangerous cliffside locations; Lighting (street lights, stair lights and building security lights) at crosswalks, stairs and buildings; Stair improvements at Steamer Lane surfing area and beach area west of the Lighthouse; Trash Receptacles throughout the State Beach; Bike Racks, Drinking Fountains and Telephones will be provided at appropriate places along the pedestrian/bicycle path; Signing, Graphics, and Pavement Striping.

Day-Use. Lighthouse Field State Beach is a day-use facility only, no overnight parking or camping due to its location adjacent to a residential area. Also, no formalized recreational playfields are provided since such improvements are attractions in themselves and therefore inappropriate the State Park System. These facilities do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of this coastal resource.

Operations. A seven day a week maintenance worker will staff the park during day time operations. Security will be provided by the local police department. As a condition of the 1978 purchase of the 36 acre field by the State of California, an Operations Agreement was signed between the State of California and City and County of Santa Cruz whereby the City and County assume responsibility for planning, construction and management of the State Beach.

Phasing/Costs. The development plan for the park is presented in two phases as monies become available. Total estimated cost for both phases is \$800,000. Phase I improvements (\$500,000) include the management program, with parking and a turf picnic/informal play area at Lighthouse Point with a Restroom. Phase II (\$300,000) improvements are the parking and entry area at the northeast corner of the park and the access road.. This phase would recommend that Pelton be made one-way from Eucalyptus to West Cliff Drive.



- KEY**
1. West Cliff Drive
 - a. Future access
 - b. Continuous fieldside curb
 2. Parking
 - a. Beach Lot (48 spaces)
 - b. Lighthouse Lot (38 spaces)
 - c. Fieldside Lot (80 spaces)
 - d. Existing Surfer/View Lot (15 spaces)
 - e. Existing View Pull-Off (43 spaces)
 - f. Fieldside Pull-Offs (50 spaces)
 3. Pedestrian Bike Paths
 4. Field Preservation Zone
 5. Picnic Sites
 6. Screened Surfer Changing Area
 7. Interpretive Center/Concession
 8. Restroom
 9. Access
 - a. Beach Stairway
 - b. Surfer Stairway Improvement
 10. Observation Areas
 - a. Seals, Surfers
 - b. Birds
 11. Pelton One-Way
 12. Gateways
- * (Phase 1 Only)

GENERAL DEVELOPMENT PLAN

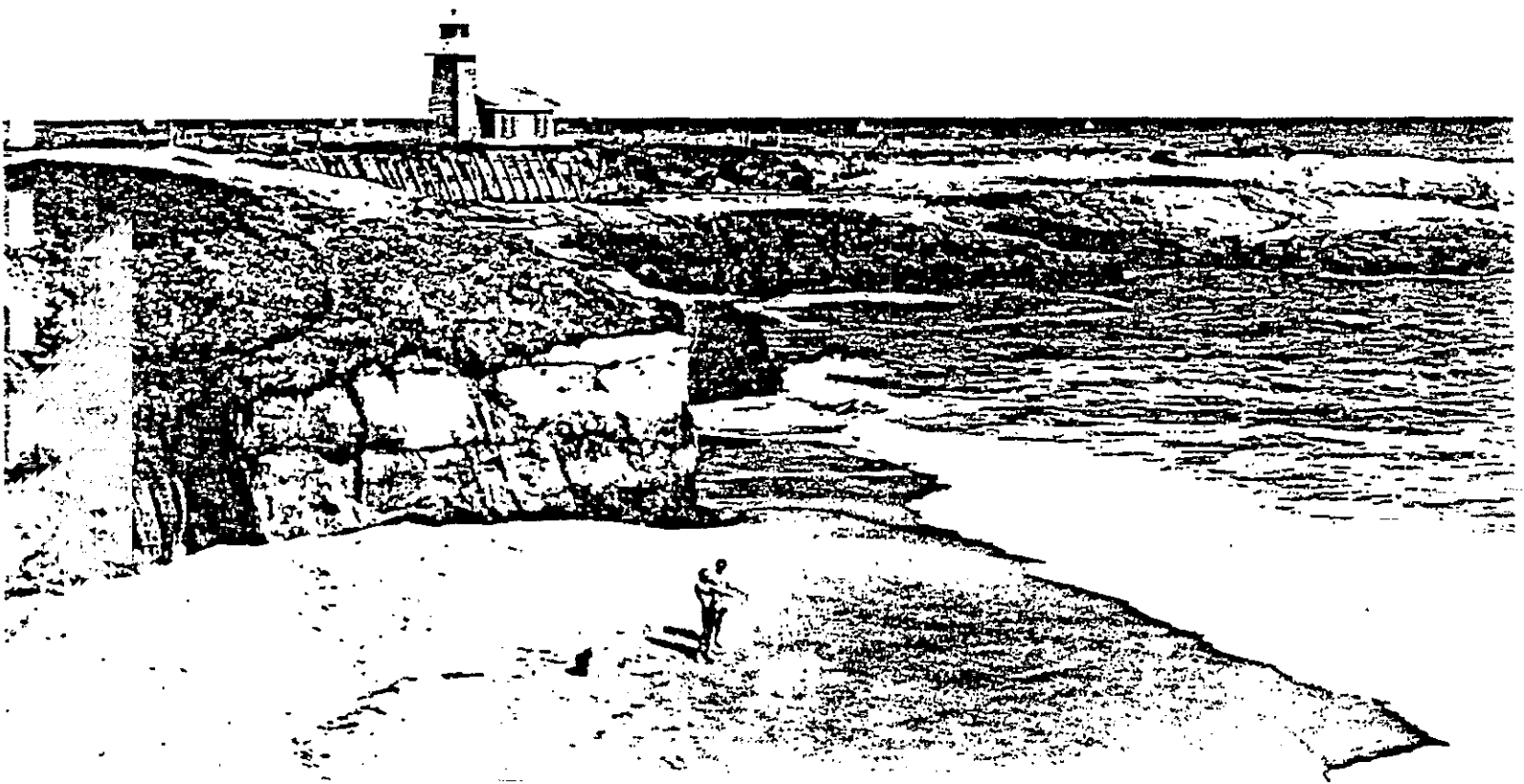
- LEGEND**
- (32 acres) Field Preservation Zone
 - New Turf
 - Existing Trees
 - New Trees
 - Traffic Circulation
 - Pedestrian Crossing
 - Bus Stop
 - Ped/Bike Path
 - Stair Light
 - Street Light
 - Bench Sites

LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
County of Santa Cruz
State of California

CHAMBERS Associates
Torrrey & Torrrey Inc.

▯▯ Introduction



II. INTRODUCTION

A. PURPOSE OF PLAN

As a new addition to the State Parks System, Lighthouse Field State Beach has both opportunities and constraints. This General Plan is the first step in assessing the specific natural character and resources of the site and to propose appropriate park development and management policies. Future specific plans will be a further step in the process of plan implementation.

The State Public Resources Code #5002.2 General Plan requirements reads, in part: "The general plan shall consist of elements that will evaluate and define the proposed land use, facilities, operations, environmental impact, management of resources, and any other matter deemed appropriate for inclusion in the plan." Using these plan guidelines, the following sections of this report deal with these specific requirements; Resource Element, Land Use and Facilities Element, Interpretive Element, Operational Element and Environmental Impact Element. To this will be added a Concession Element to fulfill the requirements of new State Legislation effective September 1982.

The Resource Element is a summary of the natural and cultural resources of the area, and sets the management policies for protection and use of these resources.

The Land Use and Facilities Element describes current and proposed land use and relevant planning issues, and describes proposed facilities and programs.

The Operations and Interpretive Elements describe specific operational requirements and interpretive programs of the park.

The Concession Element evaluates existing concession activity and looks at potential for additional visitor services and revenues.

The Environmental Impact Element provides an environmental assessment as described in the other plan elements. As the City of Santa Cruz is the lead agency in the general plan project, this element is in the form of an Initial Study used to determine whether an Environmental Impact Report (EIR) or Negative Declaration must be prepared.

In preparing the plan, several initial goals and objectives have been established to serve as a general guide:

1. Identify the state beach's cultural and natural resources.
2. Identify the site's environmental and use problems, and provide solution.
3. Determine land use, park development and visitor activities that are compatible with the purpose of the park and the surrounding area.
4. Determine the potential environmental impacts of the land uses and visitor activities.
5. Establish policies for maintenance and operation, protection and preservation, development, and interpretation of the resources.
6. Establish a sequence of park development.

7. Provide an information document for the public, park commissions, State, City and County personnel, and other government agencies.

B. PROJECT DESCRIPTION

Lighthouse Field State Beach is located on the northern coast of Santa Cruz County in a residential area within the City of Santa Cruz approximately a mile south west of the Pacific Avenue Mall, the historic downtown area. The study site is comprised of two distinct sections; a partially wooded 36 acres field and a coastal cliff zone approximately 4,200 feet long which focuses on a .75 acre city park at Lighthouse Point. The entire site is in public ownership with the exception of a small parcel at the east side, which has a public recreation easement.

Access is by West Cliff Drive, which traverses the park and divides the two sections. A regional pedestrian/bicycle path crosses the site along the south side of the cliff drive. Santa Cruz Metropolitan Transit District bus route 7 has a stop at Lighthouse and Pelton on the north side of the park.

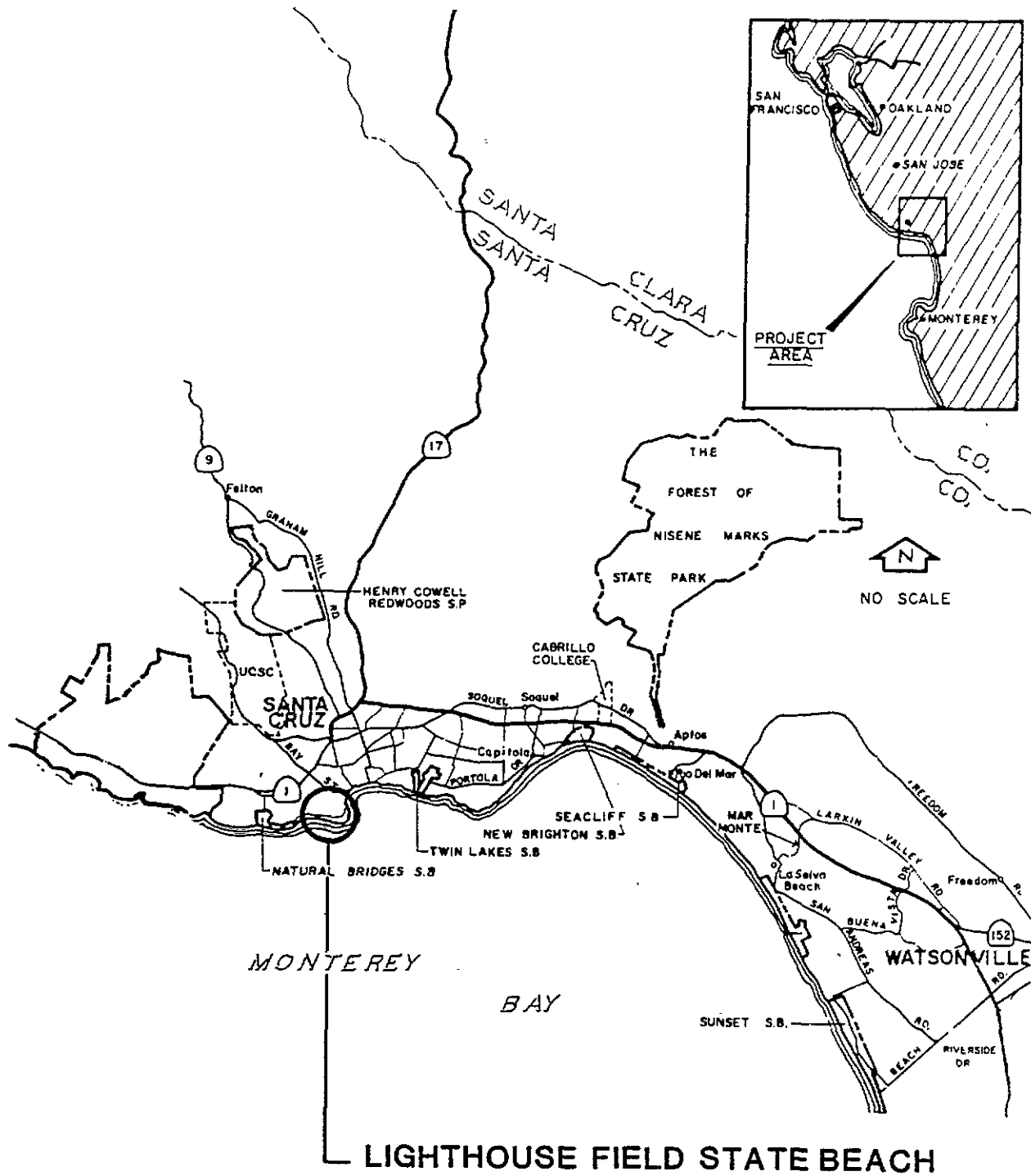
The outstanding natural visual qualities of Lighthouse Field State Beach provide a dramatic contrast to the increasing urban development in this coastal community. Beside the ocean vistas and mountain views of the Monterey Bay, the park offers a wide variety of cultural and natural features including beaches, surfing areas, seal and seabird habitats, cliffs, a Lighthouse Museum, groves of Monterey cypress, and a historic field. On a summer weekend the site is a gathering point for sightseers, surfers, joggers, skaters, photographers, and local residents out for a stroll.

Lighthouse Field State Beach is a combination of State and City lands that will be operated under a joint City and County of Santa Cruz operations and maintenance agreement with the State. Because the State of California Department of Parks and Recreation purchased the 36 acre field, the facility is part of the State Park System. However, the development, operations and maintenance of the park will be the responsibility of the City and County with the City being the lead agency. Development costs will be shared 50% by the City and County up to a maximum of \$250,000 each with additional costs to be allocated by later City/County agreement. The operations and maintenance costs will be shared 75% by the City and 25% by the County. Revenues, if any, generated at the park are to go toward the operations and maintenance costs (See Appendix, City/County/State Agreement).

C. PROJECT HISTORY

The book, 'A Sidewalk Companion to Santa Cruz Architecture' gives a brief synopsis of the area and the site:

"Historically this has been a resort area for visitors coming to enjoy the mild, clear weather and the beach. It was once a choice location for the large homes of the wealthy. Today it is considerably less elegant, marred by the loss of many former landmarks and by some unfortunate new construction. Because increased mobility has led to shorter stays by tourists, the area has lost its prominence as a resort.



LOCATION MAP

At the bend in West Cliff Drive are Santa Cruz Point and Lighthouse Field. The first lighthouse on the point was constructed by the U.S. government in 1869 and torn down in 1948. The present Lighthouse building was erected by Chuck and Esther Abbott in memory of their son Mark, who died in a body-surfing accident at Pleasure Point in 1965.

Lighthouse Field was owned in the 1860s by butcher A.L. Roundtree and later purchased by the Pelton family. It is best known, however, as the estate of the Phelan family, who acquired the property around 1887. James Phelan Sr. made his money during the Gold Rush; his son, James Duval Phelan, was mayor of San Francisco in 1897 and a U.S. senator in 1915. The Phelans remodeled the existing cottages and erected new structures, among them an observatory. The architect for this work was a Mr. Marquis of San Francisco (probably John Marquis). Statues were installed throughout the grounds, which were landscaped and tended by Louis Doeltz. Much of the property was covered with a grove of eucalyptus and cypress trees, and there was a swimming pool filled with salt water from the bay.

A convention center at the field was proposed in 1962 by Peter Pasetta, who then owned the property. For this project William Wesley Peters of the Frank Lloyd Wright Foundation designed an elaborate geometric fantasy, "The Court of the Seven Seas," in the same spirit at the Marin County Courthouse. Santa Cruz was not ready for such a grandiose scheme at the time, and the concept was dropped.

In 1968, however, a Joint Powers Authority Agreement between the City and County of Santa Cruz set up an agency charged with the development of a convention center at Lighthouse Field. Two years later Teachers' Management Investment Corporation agreed to develop the private facilities needed to make the center profitable: hotel, shops, and condominiums. The final design by the Santa Cruz firm of Stevens & Calendar depicted a medium-rise complex pseudo-early California style.

The loss of the city's last major oceanfront open space to a convention center complex generated widespread opposition. The efforts to halt the project culminated in a two-to-one vote of the city electorate against the city's operation of a center on the property. Shortly after this June 1974 vote, the State Coastal Commission rejected the project. As of 1978 negotiations are under way to convert the field to a park as a joint city-county-state project."

D. PLANNING PROCESS

Public Involvement

Public involvement has played an important role in the plan for this park project. Along with a questionnaire survey of 800 people from various locations in and around Santa Cruz, a tabloid (The Lighthouse Field News) was distributed to 28,000 households as an insert in the Santa Cruz Sentinel. Three public planning workshops and a public forum were held in an interactive process between citizens, public officials and professional planners. Emphasis was placed on building a consensus plan - one on which everyone could agree.

Following is a summary of workshop activities and results: .

Workshop 1. (October 17, 1981)

An awareness session where existing site conditions, concerns for issues and opportunities (recreational activities and facilities; natural preservation, wildlife and landscaping; traffic, transportation and parking; maintenance, sanitation, safety and security; pedestrian circulation; adjacent neighborhood) and preliminary concept plans were explored. The first part of the day was spent at the site where participants marked down their comments in notebooks. These notes, along with the results of the days activities were compiled into a workshop report and presented at the second meeting.

Workshop 2. (December 3, 1981)

Here, the public reviewed three alternate plans generated from the preliminary plans at the first workshop. Baseline data and site analysis of soil conditions, natural factors, constraints, opportunities, circulation and land uses were presented by the planning consultant. A matrix decision chart helped people visualize the choices, weighting the three options according to a range of factors (Character or Quality, Quantity/Unit Cost, Development Cost Range, Maintenance, Annual Cost Range and Probable Impacts). One alternative, the low recreational development option, was chosen.

Workshop 3. (January 28, 1982)

A synthesis of the previous two workshops where a draft workshop concept direction was discussed by more than 120 people in terms of park development and maintenance costs, environmental assessment and mitigations of the plan.

Public Forum. (June 3, 1982)

Comments and critiques of the draft workshop concept direction. Areawide representation sought with large tabloid distribution. Next steps in the planning process reviewed.

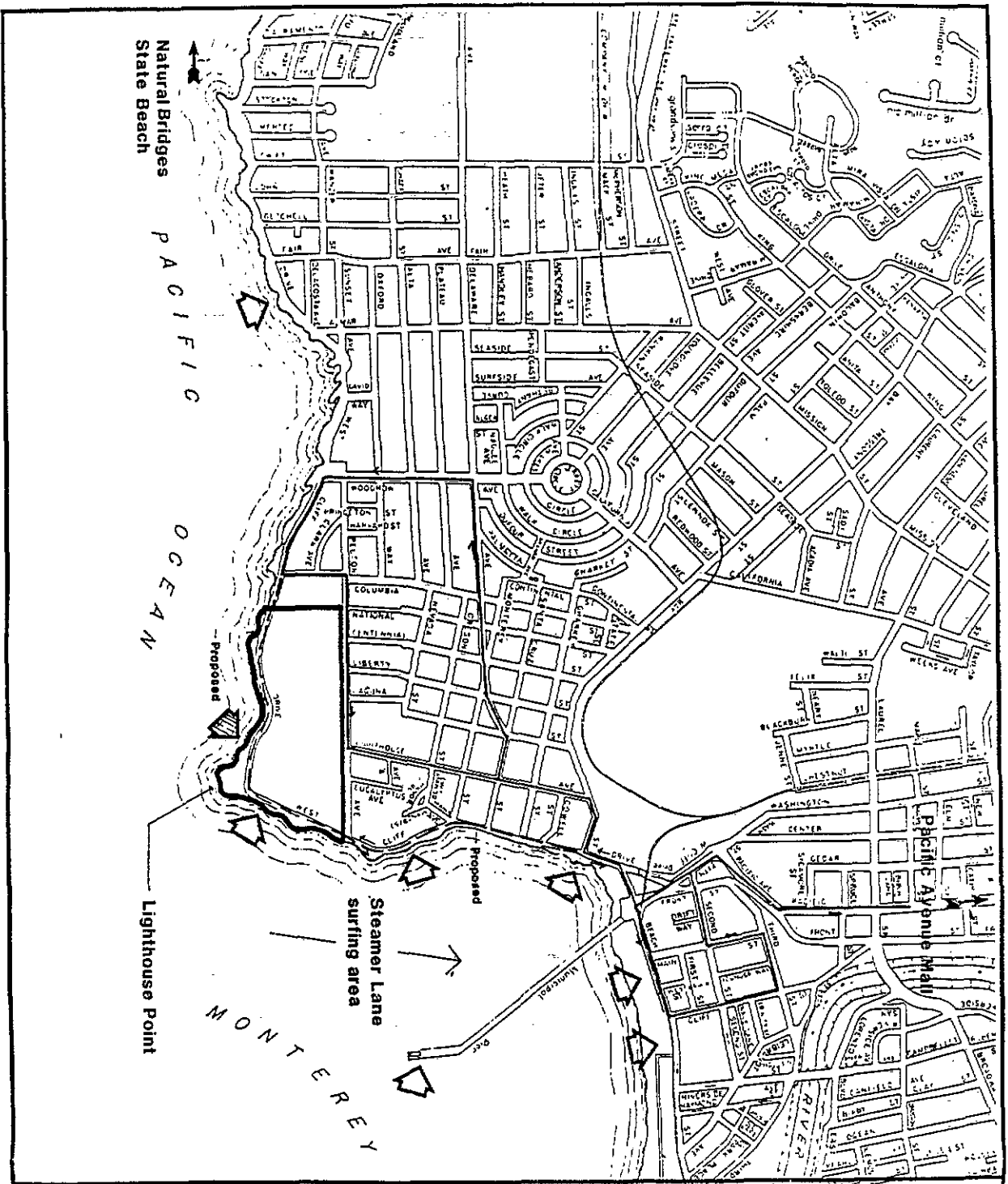
Lighthouse Field Committee Meetings.

This joint committee of the city and county has met at regular intervals to facilitate the planning of the park.

Conformance to Coastal Act of 1976

Various state and local plans that addressed issues relevant to Lighthouse Field State Beach were reviewed in preparing this plan. For example, the Local Coastal Plan prepared by the City of Santa Cruz was consulted to avoid conflicts between this General Plan and the city's planning objectives. Conformance to the Coastal Act of 1976 is of prime importance. Following are essential policies from the Coastal Act:

1. Maximum coastal access and recreational opportunities to be offered, consistent with safety, public and private property rights, and



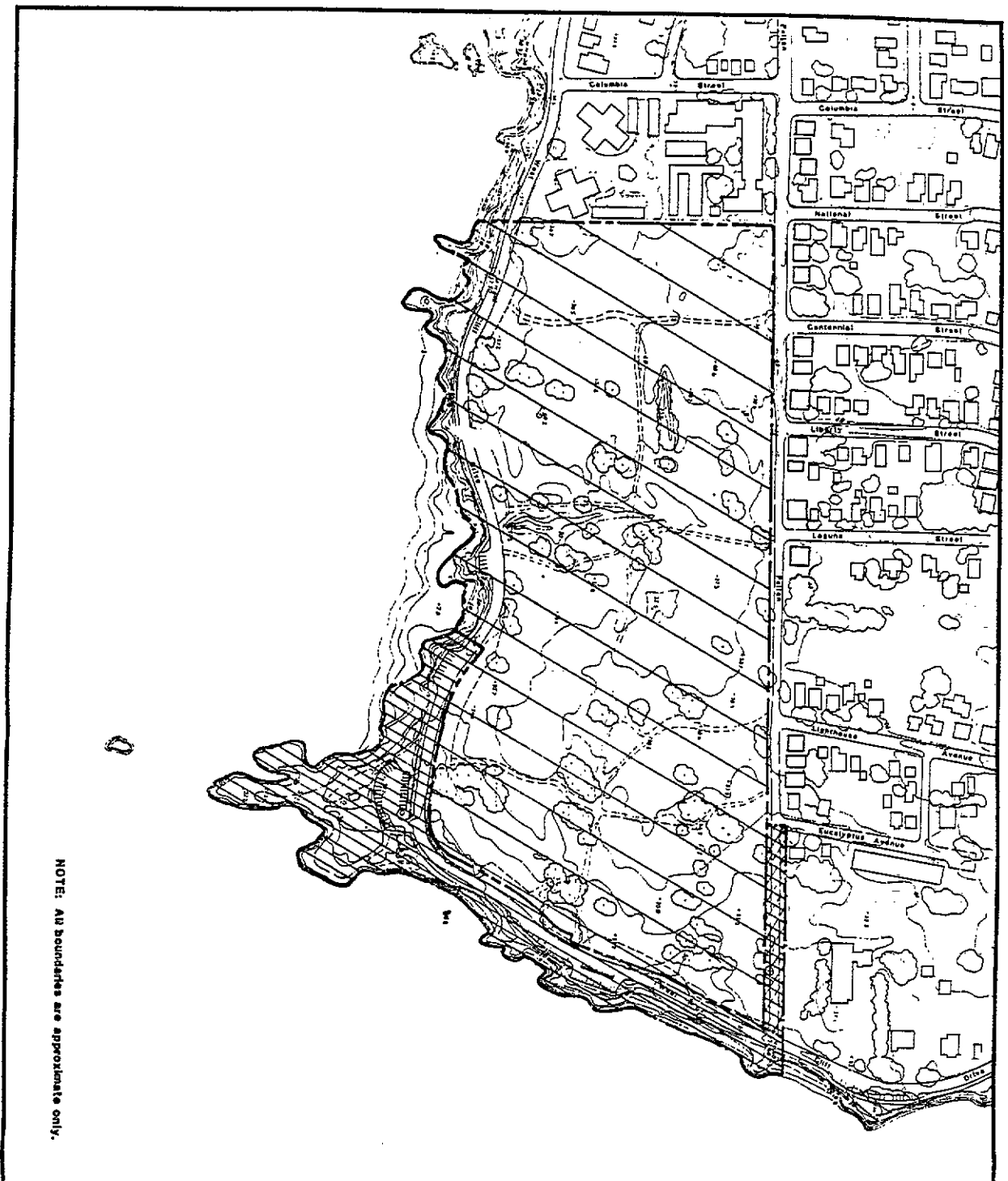
CONTEXT PLAN

- Study Area
- Local Coastal Plan Access Points
- Existing Bus Route (Route 7)

LIGHTHOUSE FIELD STATE BEACH




City of Santa Cruz
 County of Santa Cruz
 State of California

CH2M Associates
 Torrey & Torrey Inc.



NOTE: All boundaries are approximate only.

PROJECT DESCRIPTION MAP

- State acquired lands 
- City owned lands * 
- City owned lands outside study area with recommended action 

* includes private land with recreational easement

LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
 County of Santa Cruz
 State of California



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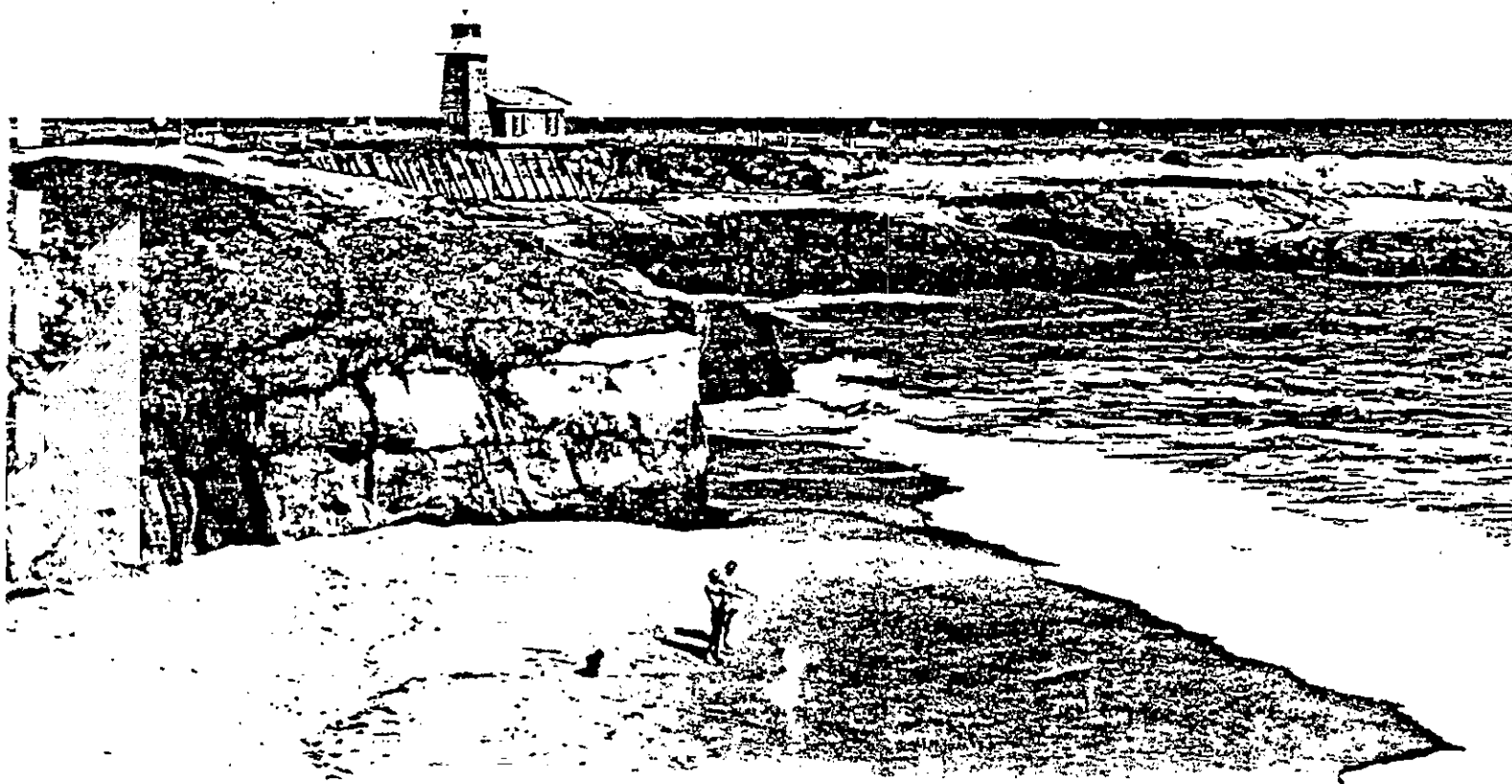
- protection of natural resources.
2. Public facilities, including parking, to be distributed to avoid overcrowding or overuse of any single area.
 3. Lower cost recreational facilities and housing to be encouraged.
 4. Coastal water-oriented facilities that cannot be provided at inland areas to be protected.
 5. Oceanfront land suitable for recreational use to be protected for that use unless demand is already met by existing development.
 6. Supportive uplands areas to be preserved, where feasible.
 7. Environmentally sensitive natural areas to be preserved:
 - a. Habitats preserved.
 - b. Areas adjacent to habitats set aside as buffer zones.
 - c. Marine environment protected.
 - d. Quality of all waters maintained.
 8. Cultural areas to be preserved.

Summary Statement

The General Plan for Lighthouse Field State Beach expresses a sentiment or philosophy established during the fight to acquire and preserve the land for public use as a park. The desire "to preserve the coastline" underscores the rationale for the recreational use facility proposed, stressing the unique natural amenities and views at the dramatic cliff at Lighthouse Point and the historic, pastoral setting of the field as a piece of undeveloped coastal terrace near the heart of an urban area. The symbolic importance of Lighthouse Field in the fight against urban sprawl and infilling was an underlying theme at the public workshops.

The case for a "natural park" facility was made during alternative studies of the site. Viewed in its context, the site is half a mile away from the most active beach and boardwalk area in Santa Cruz, the Municipal Wharf and Amusement Park. Other State Beaches which provide a choice of recreational use facilities exist near the site; Natural Bridges, New Brighton, Seacliff, Sunset, Twin Lakes. A 4,800 acre Wilder Ranch State Park unit is planned a few miles west. Nearby there are many active playfields and the UC Santa Cruz campus with its recreational facilities lies just to the north. To create another groomed playground or parking and staging area for beach use would be to ignore the uniqueness of the site. The Field, with its history and feeling of openness, will offer a contrast of use and activity to the other beach and park units in the Santa Cruz area. The Field as it stands is well used by visitors and residents.

☐☐☐ Resource Element



III. RESOURCE ELEMENT

A. INVENTORY OF FEATURES - SUMMARY

The Resource Element of the General Plan for Lighthouse Field State Beach identifies the natural resources and establishes the long-range resource management objectives, policies, and activities necessary to protect those resources and to manage the site for the full benefit of future visitors. This element utilizes the guidelines and policies established by the California Department of Parks and Recreation in coordinating the appropriate level of development with the environmentally sensitive areas and with the projected uses of the site.

Lighthouse Field State Beach is located on 36 acres entirely within the City of Santa Cruz on a coastal terrace jutting out into the Pacific Ocean. The terrace is nearly level with scattered groups of Monterey Cypress trees and non-native grasslands. There are steep coastal bluffs along portions of the site which provide dramatic views of the Pacific Ocean and Monterey Bay. The site is also known for its sandy beach and excellent surfing area. A detailed description of the site is contained in the "Lighthouse Field Project Inventory of Features".

Topography

The site is located on a coastal terrace within the geological province known as the Coastal Range. There are two major terrain features within the project area. These are: the coastal bluffs and the coastal terrace. The sandy beach area is scattered at the base of the coastal bluffs, with high tides completely covering the beach. Access to available beach areas is limited due to the steep slope of the bluffs. A 30 to 40 foot drop off exists between the top of the bluffs and the beach area. The coastal terrace is quite flat with no major hills, and terrace slopes are generally less than 5 percent.

Meteorology

Lighthouse Field State Beach is highly affected by ocean breezes characteristic of the season. A daily sea breeze - land breeze system results from local temperature differences between the Pacific Ocean and inland areas. During the summer, high temperatures inland draw cool, moist air in from the ocean, thereby moderating temperatures at the coast. When temperatures inland are cool, a reversal of air flow occurs, with offshore easterly breezes dominating. The seasonal breezes are generally from the west and northwest during the spring and summer with a larger southern and eastern component in the fall and winter.

The average annual daily temperature at Lighthouse Field State Beach is essentially the same as Santa Cruz, about 56.8 degrees Fahrenheit with an average daily of 63.3 degrees Fahrenheit in September, the warmest month, and 49.0 degrees Fahrenheit in January, the coolest month. Average annual precipitation is 28.34 inches with nearly all rainfall between October and April.

Hydrology

The site is within a 50 acre watershed which drains directly to Monterey Bay and the Pacific Ocean. Minor local flooding occurs during times of high intensity rainfall. However, the site is not subject to inundation. Several swales on the site collect surface runoff. Excess water in these areas is discharged beneath West Cliff Drive to the ocean via storm drains.

The geologic conditions beneath the site and the close proximity to the ocean indicate low potential for ground water. Water wells drilled in this area have low yields and poor quality.

Geology

The bedrock underlying the site is the Upper Pliocene Purisima Formation. The Purisima consists of several interbedded subunits: a yellowish gray siltstone, a bluish gray thickly bedded, cross-bedded, semi-friable sandstone and a thin bedded, gray mudstone. Occasional layers or lenses composed almost entirely of mollusk shells are interspersed between these subunits. Jointing and random fracture patterns are common in the mudstone, allowing groundwater to seep out along the cliff face in some locations. Each subunit of the Purisima has a different resistance to erosion and differential erosion of less consolidated rocks and along joints and fractures has created arches, stacks, and sea caves in the cliffs.

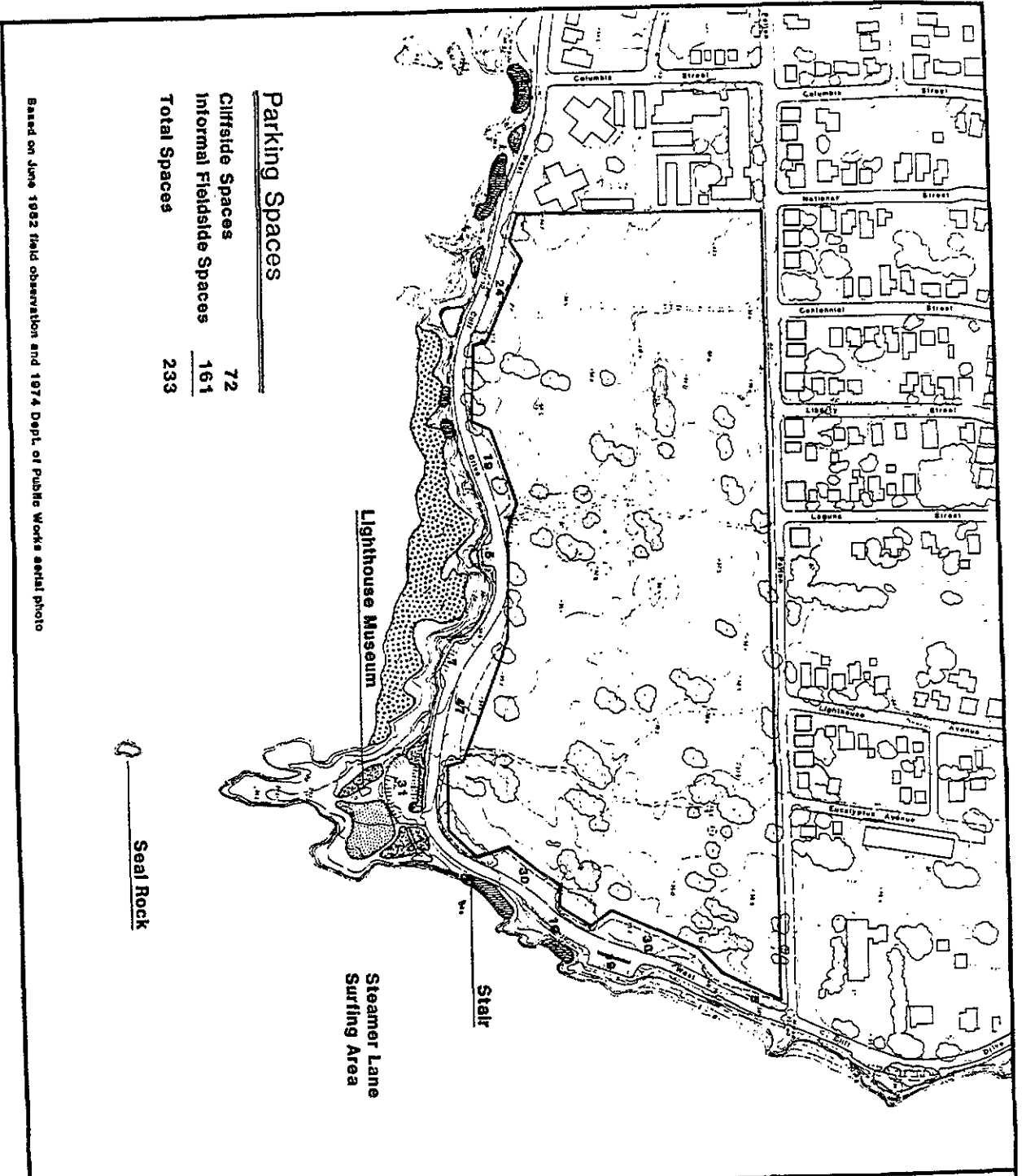
The Purisima is overlain by a thin veneer, about 1 to 3 feet thick, of Pleistocene terrace deposits. These deposits are poorly consolidated and consist of interbedded silts, clays, gravels and conglomerates. The contact between the terrace deposits and Purisima Formation is locally marked by a zone of boulder-size, hard sandstone and siltstone concretions up to several feet in diameter and by a zone of seeps and springs.

Two distinct areas of possible faulting occur adjacent to a sea cave below the lighthouse. One zone of apparent shearing is visible at the mouth of the cave and the other possible fault occurs immediately to the west of the cave opening. These faults are aligned in the same trend as a potentially active fault mapped by the U.S. Geological Survey about 1/4 mile south of Lighthouse Point. Geophysical evidence suggest that this fault may extend within 20 feet of the sea floor. The fault and shear zone found in the point area could be extensions of this potentially active marine fault.

The Purisima Formation is known to contain fossil plants, microfossils, trace fossils, invertebrates and vertebrates. All of these fossil groups are from marine environments with the exception of the plant fossils. The Purisima has yielded larger numbers of fossils than any other formation in the County. At least one species new to science, a walrus-like animal (*Duseganthus Santa-Cruzensis*) was found near Lighthouse Point in 1926. A list of fossil species found in this formation is included in the Inventory of Features.

Microfossils and invertebrates (mainly mollusks) are also found in the terrace deposits. These species are for the most part very similar to species living today.

Long-term average erosion rates for the Purisima are estimated to be about 12



Parking Spaces

Cliffside Spaces	72
Informal Fieldside Spaces	161
Total Spaces	233

Based on June 1982 field observation and 1974 Dept. of Public Works aerial photo

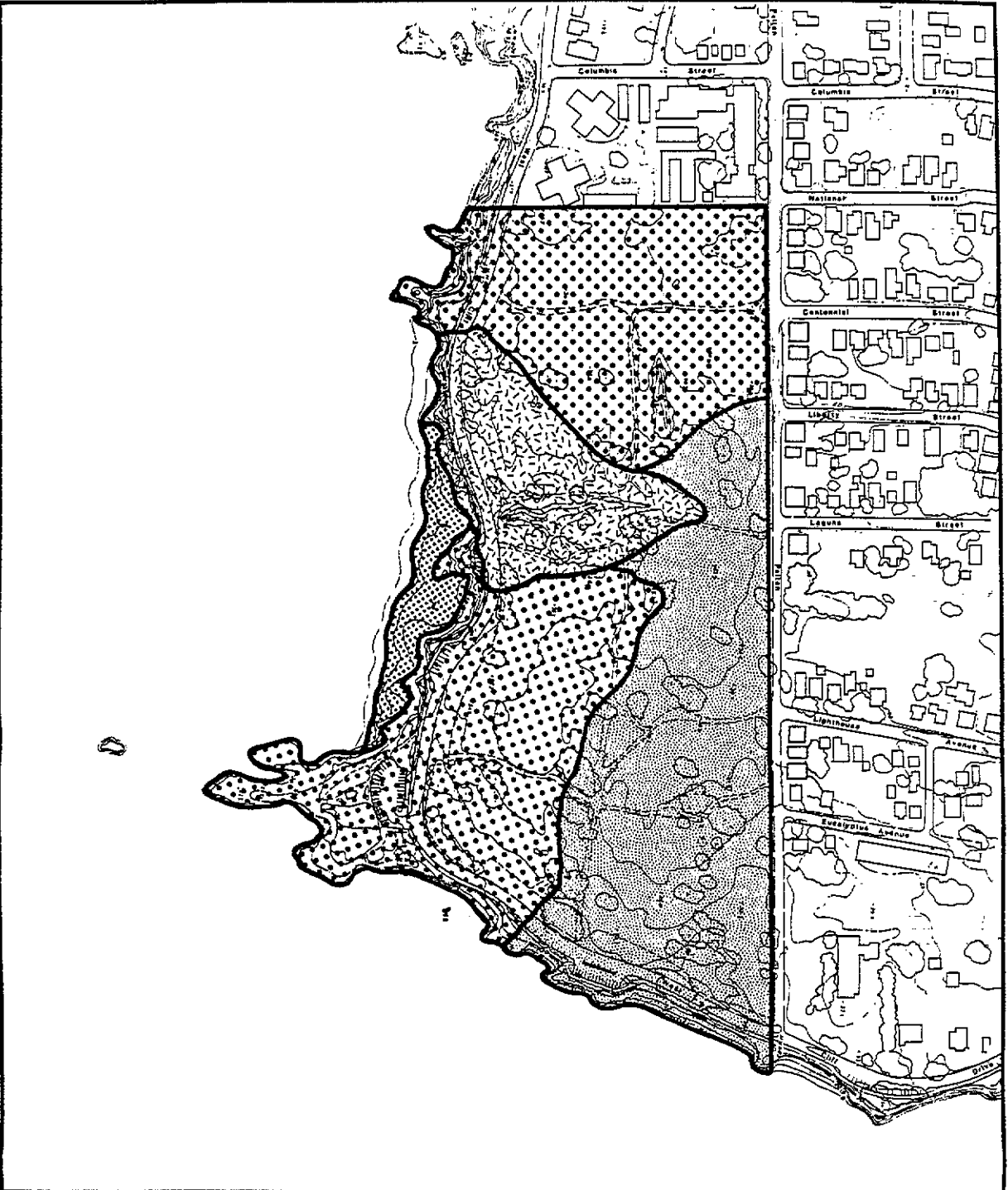
EXISTING CONDITIONS

- Beach
- Serious Erosion Problems
- Turf
- Cliff Edge Planting
- Existing Trees
- Topographic Lines
- The Field
- Earth Barrier
- Top of Cliff
- Asphalt Ped/Bike Path
- Dirt Path
- Marked Cliffside Parking
- Informal Fieldside Parking





LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
 County of Santa Cruz
 State of California

CASAB Associates
 Torrey & Torrey Inc.



EXISTING SOILS

-  Pinto Loam
-  Beach
-  Watsonville Loam (0-2% Slope)
-  Watsonville Loam (2-15% Slope)

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California



CHAMBERS Associates
Torrey & Torrey Inc.

inches per year. Most of the erosion is episodic, and the collapse of ten feet or more of the bluff at one time commonly occurs. The City of Santa Cruz (in cooperation with the Army Corps of Engineers in some cases) has installed rip-rap at the base of highly eroded cliff areas and closed off at least one sea cave in order to retard further erosion. These protective measures will slow down the bluff erosion rates, but continued erosion (at a slower rate) on the site is inevitable. The erosion problem along the bluffs is severe and walkways along West Cliff Drive have already been undermined in several locations.

Soils

The Lighthouse Field area is classified in the Marine Terrace and Old Alluvial Fans and Hills region of Santa Cruz County. These soils are characterized as well-drained to somewhat poorly drained loams and sandy loams formed on moderately steep slopes. The soils on the site differ from the regional description with respect to slope; except for the steep coastal cliffs rimming the eastern and southern portions of the site, Lighthouse Field is nearly level. In addition, the soils on the site appear to have a higher clay content and less favorable drainage characteristics than reflected in the general description.

The Soil Conservation Service has mapped three basic soils types: beaches, Pinto loam and Watsonville loam in two slope categories. Beach soils are found in narrow strips between the ocean and the coastal cliffs. These soils are formed by the deposition of sand, pebbles and some cobbles and stones in protected coves and inlets. The sediments originate from the erosion of coastal cliffs as well as upland areas. The eroded materials are transported to the coast by surface runoff and stream flow. Once in the shoreline environment, beach materials generally move downcoast as a result of longshore currents which move parallel to the coast from north to south. The amount of beach deposits present varies continually, depending on the velocity of the longshore current, the rate of erosion in upland and coastal areas, the amount of seasonal runoff and stream flow and human management practices including the construction of drainage and coastalection structures. The beach deposits on the site are generally covered by water, except at low tide, and thus they are easily eroded by wave action.

The Pinto loam, a soil formed in alluvium located on marine terraces, extends over most of the site. Physical characteristics include low permeability, low shrink-swell potential and slight erosion hazard. In the northern portion of the site and in the vicinity of the existing drainage swale the soil type is the Watsonville loam, a thick-surfaced soil with similar parent material and characteristics as the Pinto loam, although a clayey layer several feet below the surface causes a very low permeability and a high shrink-swell potential. A portion of the site is designated as Watsonville loam, 2 to 15 percent slope; however, only the area immediately adjacent to the drainage swale has a slope greater than 10 percent.

Plant Life

There is a long history of plant introductions to the site which has resulted in vegetation predominantly non-native. The site presently supports groups of Monterey Cypress separated by grassland, willow thickets and some shrubs.

While Monterey cypress (Cupressus macrocarpa) comprise only 5 percent of the field, they dominate in the visual sense. These trees are mostly erect specimens in contrast to their usual low, windswept form. This is probably a result of competition for light with the eucalyptus which were present until about 1960. Monterey cypress occurs naturally at Cypress point north of Carmel and Point Lobos State Park. The trees at Lighthouse Field were probably planted as part of Phelan Park. Cypress seedlings are present and appear to be more numerous adjacent to Pelton Avenue than elsewhere.

A non-native grassland occurs on approximately 95% of the site and is dominated by wild oats (Avena fatua), ripgut grass (Bromus diandrus), and Italian ryegrass (Lolium perene ssp. multiflorum). Various forbs including field mustard (Brassica campestris), wild radish (Raphanus sativus), filaree (Erodium cicutarium), Bermuda buttercup (Oxalis pescaprae), and curly dock (Rumex crispus) are also abundant.

A shrub component is poorly represented and consists of individuals under one meter in height. Dominant species include coyote brush (Baccharis pilularis ssp. consanguinae), poison oak (Toxicodendron diversilobum) and California blackberry (Rubus ursinus). While mowing has undoubtedly limited the spread of these species, salt spray and poor drainage may also be limiting factors.

Willow Thickets (Salix lasiolepis) comprise less than one percent of the site. These thickets occur where drainage is poor and high groundwater provides the damp conditions which willows require. These willow stands, aside from providing wildlife habitat, may harbor native annual vegetation which has escaped previous mowing.

The coastal bluff vegetation is in a constant state of disturbance due to its proximity to West Cliff Drive pedestrian access to the beach can only be attained by passing through this community and foot traffic is heavy in certain areas. Sea fig (Mesembryanthemum sp.) is the dominant cover along the bluffs.

No rare or endangered plants have been reported from the site.

Several non-native species on the site may present a management problem. Blue gum (Eucalyptus globulus), pampas grass (Cortaderia actacomensis), and mild thistle (Silybum marianum) are three species which tend to be invasive and can present severe management problems unless eradicated when young.

Animal Life

The primary wildlife species which utilize the habitats at Lighthouse Field are birds (119 species noted). Rodent species, opossum, mole and striped skunk are expected to occur in the grassland habitat. Two species of reptiles and three species of amphibians are also expected to inhabit the field. Several endangered species occur just off the coast (7 whale species, California sea otter and Brown Pelican). Lighthouse Point is a good observation area for some of these species. However, the site itself is not considered prime habitat. One, or possibly two pairs of black swifts nest on the cliffs, and this is one of only 14 nesting sites for this species in the state. Because of its limited abundance and restricted distribution, it is a species of special concern.

Cultural Resources

There are no known Native American features on the site, and nearly all evidence of historical use by European man has been removed. The lighthouse is the only building remaining; visitation is restricted at present, but increased public use may be feasible in the future.

Aesthetics

The principal natural attribute of the site is that it is the headland of the Monterey Bay. By virtue of its size (36 acres), it is also a significant open space within the City of Santa Cruz. The views provided by this open space are nearly unparalleled along the central California coast, looking out directly on the Pacific Ocean. Slightly to the south the view encompasses all of Monterey Bay, including Santa Cruz and the Municipal Wharf in the foreground, the central Santa Cruz County coastline in the Aptos/La Selva Beach area, the Moss Landing area (as evidenced by the Kaiser smokestacks), the portions of the bay along northern Monterey County, and finally culminating in the view of the Monterey/Pacific Grove Point which defines the southern end of Monterey Bay.

The views in the foreground are especially rich. The site looks out on the Santa Cruz Municipal Wharf and portions of the Santa Cruz main beach and boardwalk. Across this vista, one also sees portions of the Santa Cruz Mountains in the distance. On the Pacific Ocean side of the site (as opposed to the side which faces Monterey Bay proper), there are views of seals, pelicans, and cormorants which frequent prominent rocks adjacent to the site.

The lighthouse itself provides an aesthetically pleasing view from many portions of the site, and it serves as a landmark for the area.

Auditory Resources

The full range of ocean sounds are associated with the Lighthouse Field site. The ocean itself provides the crashing of waves, the lapping of waves at the water's edge, and the interaction of wind and water in this location. Other man-made sounds are associated with this ocean setting, foghorns being a primary example. The area is also blessed with a range of wildlife sounds. Seals can be heard frequently, as well as the sounds of seagulls, pelicans, and other aquatic birds. During more pronounced breezes, the wind also makes noise in the existing trees on the site.

B. CLASSIFICATION

Lighthouse Field was classified as a State Beach by the State Park and Recreation Commission in April 1981. State beaches are elements of the State Park system which generally consists of "areas with frontage on the ocean, or bays designed to provide swimming, boating, fishing and other beach-oriented recreational activities". Many of the resources described in the Inventory of Features pertain to the ocean. The surfing that occurs at Lighthouse Point provides recreation not only for participants but also for sightseers. The focus on beach and ocean-oriented activities is highly compatible with the State Park designation as a State Beach.

C. RESOURCE POLICY FORMATION

Declaration of Purpose

The purpose of Lighthouse Field State Beach is to provide for the protection, maintenance and enhancement of significant open space fronting on the Pacific Ocean. Furthermore, this site is made available to the public for enjoying the natural, cultural, and recreational values of a unique piece of California coastline within the City of Santa Cruz.

A complete listing of Plan Objectives for Lighthouse Field State Beach is given in the Land Use and Facilities Element of the General Plan.

General Resource Management Policies

Management of the resources at Lighthouse Field State Beach is governed by the Resource Management Directives for the California Department of Parks and Recreation (May 1979). These directives put forth general policies to ensure proper management and perpetuation of the resources of every unit in the State Park System for the benefit of present and future generations. The directives specify and explain key policies which the department uses to provide effective resource stewardship.

Although many of the policies stated by the department apply to Lighthouse Field State Beach, the following four concepts provide the background for creating and implementing a resource management plan specific to this unit of the State Park System.

1. It is a primary objective of the department, in all its activities, to assure, insofar as is possible, the perpetuation, unimpaired forever, of the environmental, cultural, and recreational values entrusted to it for public use and enjoyment.
2. In the State Park System, perpetuation of values in today's environment may require a purposeful guiding of dynamic ecological factors that are constantly undergoing a successional trend through the interaction of natural and extraneous forces. This guidance may not always involve simply the static protection of the features or elements that happen to be a part of the existing environment in any particular period of time.
3. In carrying out the provisions of the Resource Elements for units of the State Park System, it is an objective of the department to apply creative and effective techniques of environmental resource management found by scientific analysis to be required to achieve the protection and perpetuation of the values around which the units are built.
4. In order to assure a continuity of effort in management and preservation of resources, it shall be an objective of the department to prepare for each unit of the State Park System a resource management program, identifying the field management actions required to achieve unit purpose(s) in relation to resources. When approved by the director, the resource management program(s) for each unit will form the basis for resource management activities at that unit.

D. RESOURCE MANAGEMENT PLAN

The resource management plan is designed to implement the general policies of the State Parks and Recreation Department and to fulfill the Plan Objectives described in the Land Use and Facilities Element. Specific policies are recommended to ensure greater protection of sensitive resources and, at the same time, to meet public use requirements. Each policy is followed by a management program which includes implementation strategies. The resource management plan recommendations for Lighthouse Field State Beach are summarized on a Management Program Chart which identifies personnel responsible for carrying out the described programs.

Hydrological Resources

Policy: Stormwater runoff shall be conveyed primarily via existing surface channels on the site with provisions for sufficient culvert capacity beneath West Cliff Drive for direct discharge to the ocean.

- Program:**
- a. The existing surface channels and the culverts beneath West Cliff Drive should be maintained by removing accumulated debris prior to the rainy season.
 - b. The established willows and other native species which thrive in near-saturated soils should be encouraged by allowing natural propagation in the swales and drainage channels.
 - c. The stormwater runoff from the neighborhoods north of Pelton Avenue should continue to flow into the surface channels on the site. (No curbs or culverts should be installed along the south side of Pelton.)
 - d. When necessary, the culvert discharge pipes on the ocean bluffs should be replaced to minimize the erosive force of falling water and to present an aesthetically pleasing view of the coastal bluffs. Vertical pipes concealed among the rock sand cliff vegetation should be investigated as an alternative to the existing discharge pipes protruding from the bluffs.

Geologic Resources

Policy: Hazardous geologic formations (i.e. coastal bluffs) shall be posted and/or the hazard reduced to enable the public to use the areas in reasonable safety.

- Program:**
- a. Safety fences and hazard warning signs should be placed and maintained frequently to ensure public safety.
 - b. Particularly hazardous areas where adequate safety measures cannot be provided should be posted and designated as off-limits.
 - c. Signs should be provided directing the public to stairs which descend the coastal bluffs to the beach.

Policy: Additional rip-rap shall be placed at the base of eroding coastal bluffs only when deemed necessary to reduce a severe erosion hazard.

- Program:
- a. Inspection and maintenance of previously placed rip-rap should be accomplished on a regular basis.
 - b. If additional rip-rap is necessary, the rock used should be chosen for its durability as well as its color so that it blends into the surroundings.
 - c. Native groundcover vegetation should be planted on coastal bluffs where soils are exposed (See Native Plant Species With High Potential For Use At Lighthouse Field State Beach for representative list).

Plant Resources

Policy: Aggressively invading exotic (non-native) vegetation shall be removed except in those areas where it is perpetuated for resource management reasons.

- Program:
- a. Systematic removal of pampa grass (Cortaderia atacamensis), blue-gum seedlings (Eucalyptus globulus) and milk thistle (Silybum marianum) should be given first priority.
 - b. Removal should be accomplished by physically removing these plants prior to setting seed in the spring.
 - c. Herbicides should be used only in accordance with City and State Parks policies.

Policy: Native vegetation (groundcovers, shrubs, trees) shall be planted around parking and picnic areas and where exotic species have been removed.

- Program:
- a. A list of potential species for revegetation should be established to ensure compatibility of selected plants with the environment (See Native Plant Species With High Potential For Use At Lighthouse Field State Beach for a representative list). Irrigated turf areas should be the only exception to this policy.

Policy: The existing mature Monterey Cypress trees within the moderate intensity use areas (primarily road margins, picnic, and turf areas) shall be maintained to reduce the hazards of falling limbs and/or the falling of diseased trees.

- Program:
- a. The trees should be inspected and evaluated at least once a year by an experienced forester.
 - b. Pruning, trimming and tree removal should be performed as necessary to ensure safe conditions and increase the lifespan of existing trees.

- c. Removed trees should be replaced with native species selected for compatibility with the coastal environment and the public use area.

Policy: The existing grassland, shrubs and trees on the interior portions of Lighthouse Field shall generally be allowed to undergo natural succession. However initially, limited numbers of young Monterey cypress shall be planted to replace currently declining cypress trees.

- Program:
- a. No vegetation removal (other than problem exotic species) should occur in this area.
 - b. Trees should not be trimmed, pruned or removed.
 - c. Initial planting of replacement cypress trees should be made as soon as possible.
 - d. Fallen trees should be allowed to undergo natural decomposition.
 - e. The grassland area should not be mowed.
 - f. A fire management plan should be developed which includes prevention measures, fuel management, visitor evacuation and safety and acceptable fire fighting procedures.

Wildlife Resources

Policy: Natural wildlife populations shall be protected and perpetuated.

- Program:
- a. Low key interpretive trails with signs should be installed and maintained to inform the public about wildlife which exists at the site and to encourage respect for that wildlife.
 - b. The taking or removal of any terrestrial or marine life forms should be prohibited.
 - c. Pets should be restricted to leashes.

Aesthetic Resources

Policy: The dramatic views from West Cliff Drive shall remain unimpaired and unobstructed by vegetation, structures or accumulated refuse.

- Program:
- a. All utilities should be placed underground.
 - b. Vegetation should be selected which will not attain heights whereby views are obstructed.
 - c. Litter and trash removal should be performed as necessary.

The primary management activities which are necessary to implement the Resource Management Plan are summarized on the following table. Daily management activities are also listed.

RESOURCE MANAGEMENT ACTIVITIES PROGRAM

<u>Management Activity</u>	<u>Methods Employed</u>	<u>Timing</u>	<u>Purpose</u>	<u>Personnel Responsible</u>
•Debris removal from surface channels and culverts	Physical labor	Pre-rainy season	Prevent clogged storm drains	City Staff
•Maintain safety fences and hazard warning signs	Physical labor	As needed	Public safety	City Staff
•Inspect, maintain and/or replace riprap at base of coastal bluffs	Mechanical	As needed	Erosion control	City Staff
•Plant native groundcover on exposed soils	Physical labor	As needed	Erosion control	City Staff
•Remove invading exotic vegetation	Physical/Mechanical labor	Initially, as needed	Reestablish Native Plant/Habitat Associations	City Staff
•Plant native species	Physical labor	Initially, as needed	Reestablish Native Plant/Habitat Associates	City Staff
•Inspect, trim and/or remove hazardous trees (coastal zone only)	Physical/Mechanical labor	As needed	Public safety	City Staff
•Maintain interpretive signs and trails	Physical labor	As needed	Increase Public Awareness	City Staff
•Maintenance, cleaning and solid waste removal	Truck/Physical labor Recycling Program	As needed	Public health	City Staff/contract
•Parking lot gate controls	Swing gate	After sunset; daily	Visitor Use Control	City Staff
•Preventive Maintenance (roads, tables, museum, restrooms, parking areas)	As Prescribed	Annually	Upkeep	City Staff

E. ALLOWABLE USE INTENSITY

Each unit of the State Park System must be evaluated to determine the allowable use intensity for the various areas of the unit. This evaluation guides development planning to protect sensitive resources. The categories of allowable use intensities are generally formulated from the 1) management objectives; 2) visitor perceptions and attitudes; and 3) impact of any development and use on natural and cultural resources.

The management objectives are the plan objectives (given in the Land Use and Facilities Element) combined with the general and specific policies for management of the units resources.

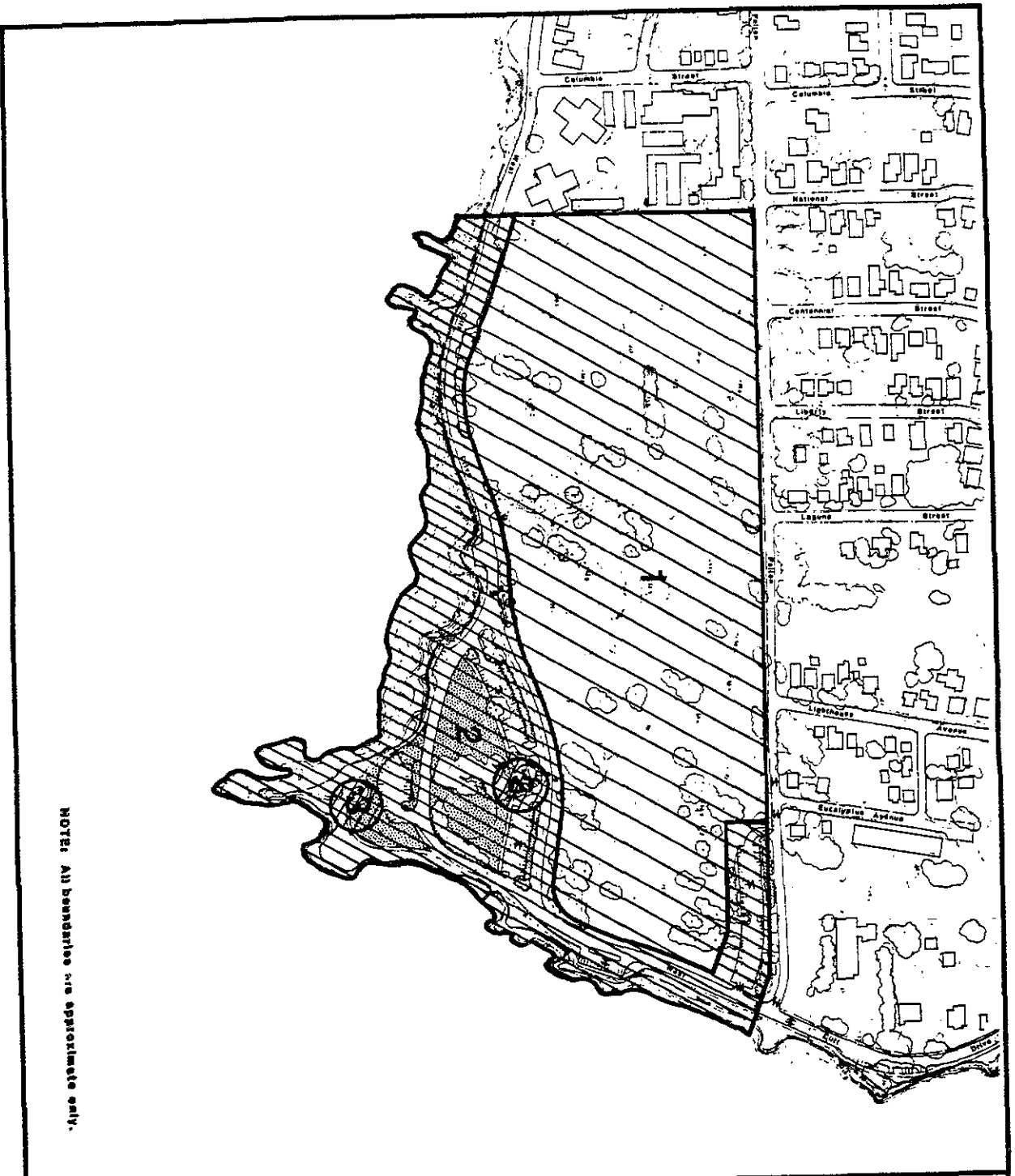
The second component involves a high degree of public input concerning what constitutes acceptable uses in a given environment, what degree of isolation or crowding is acceptable, and the other perceptions and attitudes which reflect visitor experience at the site. For Lighthouse Field State Beach, a wealth of information was received during the public workshops. Much of this was based on direct experience at the site over a considerable period of time.

The third component is an analysis of the natural, cultural and aesthetic resources resources to determine the physical limitations for development of facilities and the ability of the ecosystem to withstand various human activities. For Lighthouse Field State Beach, this crucial component consists of the complete data base provided in the Inventory of Features, data on past and current levels of use, and an analysis for future recreational needs.

A thorough analysis of these three componenets has resulted in a delineation of allowable use intensities at Lighthouse Field State Beach (See Use Intensity Diagram). Three use intensities have been designated: low, moderate and high. The inner field area is designated for low intensity uses because of the need to create a quiet natural setting with a minimum of management activity. The coastal zone and lighthouse are designated in the moderate and high use intensity categories because of the resources in these areas to withstand higher levels of use.




In order to further guide the development plan for Lighthouse Field, the following policies for each of these use intensity areas were recommended:

1. No concentrated use activities shall be permitted in the low use intensity are.
2. Bicycling, roller skating, and parking shall be confined to the moderate and high use areas.
3. The low use intensity are shall be adequately buffered from the higher intensity use areas.



NOTE: All boundaries are approximate only.

USE INTENSITY DIAGRAM

Category	Activity/Facility
 LOW 1	<ul style="list-style-type: none"> • Nature Observation • Interpretive Trails • Photography
 MODERATE 2	<ul style="list-style-type: none"> • Picnicking, Biking • Informal Play • Beach Activities
 HIGH 3	<ul style="list-style-type: none"> • Historic Museum • Interpretive Facility • Restroom

**LIGHTHOUSE FIELD
STATE BEACH**
 City of Santa Cruz
 County of Santa Cruz
 State of California

CRAB Associates
 Tony & Torry Inc.

IV Land Use and Facilities Element



IV. LAND USE FACILITIES ELEMENT

A. EXISTING LAND USE

Surrounding Land Use

Lighthouse Field State Beach is located in an urbanized area along the north coast of Santa Cruz County. The study area is entirely within the City of Santa Cruz, one mile southwest of the Pacific Avenue Mall, the heart of the Central Business District.

The immediate surrounding land use is single family and multiple residential development, with allowable densities of 4 - 9 units/developable acre and 20 - 25 units/developable acre respectively. In general the area is a mixture of residential, park and institutional land with outlying agricultural and industrial uses.

Santa Cruz is a prime visitor-serving beach recreation destination in summer months due to its proximity to Bay Area communities. Natural Bridges State Beach, a mile west of the site on the cliff drive, has over a half a million visitors each year. Beyond is the University of California Marine Lab facility and the Wilder State Park, a new 4,500 acre addition to the State Park System. Cowell Beach, Santa Cruz Beach, Boardwalk and the Municipal Pier are just east along the coast. The University of California Santa Cruz campus is two miles to the northwest across Highway 1.

Lighthouse Field State Beach is an integral part of the City of Santa Cruz Local Coastal Plan (LCP) access program "with improvements to roads and paths along the Santa Cruz coast, for the purpose of linking recreational and educational facilities. The Lighthouse Field component of the land use plan discusses how the Santa Cruz Beach and Boardwalk, Lighthouse Field, Natural Bridges State Park, and the University of California Marine Lab, and Wilder Ranch and Beaches State Park may be linked to form an almost unparalleled ocean front recreational and educational resource".

In the foreseeable future, urban growth trends in this region are expected to continue and the land uses adjacent to the site will remain residential.

Project Area Land Use

West Cliff Drive, the major access road to the site, divides Lighthouse Field State Beach into two zones; a coastal terrace zone, a nearly flat 36 acre field with scattered groups of Monterey Cypress trees and grasslands, and a steep coastal bluff zone 4,200 feet long, dropping on an average of thirty feet to sandy beach and surfing areas.

The Field

Existing land use for the field is open space protected from auto intrusion by low barrier mounds. The earth mounds were put there by the city in response to illegal overnight campers and off-road vehicular intrusion. Littering, human waste disposal and camping are problem activities presently

causing the most damage to this unique parcel of land which has been saved from development by strong community action.

Previous use of the field has motivated much support for its role as an historic open space close to the city center. "Lighthouse Field is best known as the estate of James Phelan, mayor of San Francisco in 1897 and a U.S. Senator in 1915. The Phelans remodeled the existing cottages and erected new structures, among them an observatory. Statues were installed through the landscaped grounds. Much of the property was covered with a grove of eucalyptus and cypress trees, and there was a swimming pool filled with salt water from the bay" (from 'Sidewalk Companion to Santa Cruz Architecture'). Although the buildings, pool and much of the eucalyptus and cypress groves are gone, the image of the field as a beautiful and historic place remains. However, due to lack of maintenance and supervision, the present state of the field leaves the visitor with a sense of abandonment and neglect. The predominant use of the field is hiking on informal pathways, nature appreciation, relaxing in an open space close to the coastal bluff. The special qualities of this site near the continually built-up urban center are appreciated by Santa Cruz residents and visitors alike.

The Coastal Bluff

The location of this 3/4 mile section of coast marking the northernmost point of Monterey Bay offers broad vistas of the Pacific Ocean and Santa Cruz Harbor, the coastal range to the City of Monterey. The site is also known for its popular surfing area, Steamer Lane.

The lighthouse at the bend in West Cliff Drive is the major focus at Point Santa Cruz. The lighthouse doubles as a museum with exhibits of the history of Santa Cruz Point and Lighthouse Field. The present lighthouse building was erected for the Abbott family in memory of their son Mark, who died in a surfing accident in 1965. Previously a 1869 Victorian lighthouse station, erected by the U.S. government and demolished in 1948, stood further back from the point. It was accompanied by a wood portico spanning the cliff drive just north of Pelton Avenue. This structure also has been torn down with improvements to the road and walkway.

Another feature drawing visitors to use the site is the Seal Rock which lies just off Point Santa Cruz. Deteriorating galvanized chain-link fencing defines the safety limits for viewing sealife and surfers here. The steep 30 to 40 foot cliffs are dangerous at various points along the coastal bluff, either because of their abrupt drop or serious undercutting by wave action. A second group of rocks off the coast which offer nesting areas for seabirds lies further west along the cliff drive.

A 10 foot wide asphalt cliff-edge pedestrian/bicycle walkway provides access to and along the coastal bluff. For the most part it is adjacent to West Cliff Drive.

Beach activities are located just west of the point and are limited to low tide use. This sandy area is known as "Its Beach" due to its temporary disappearance ("its here now"). Access to the beach is by climbing down the cliff which is less steep here than the rest of the site.

Pull-off parking along the cliffside of West Cliff Drive provide a limited

number of spaces for viewing. A parking area with 31 spaces is the major existing marked lot on the site. It occurs at the bend in the cliff road at the lighthouse and is adjacent to 1/3 acre of turf southeast of the lighthouse. Because of the lack of a fieldside curb along West Cliff Drive, an informal zone of pull-off parking spaces on packed dirt has developed. The buffers created to protect the field serve as a boundary to this parking strip. Although this parking is beneficial to visitors, the uncontrolled and haphazard vehicle arrangement makes for continuous visual clutter and road crossing conflicts for autos and pedestrian alike. The parking crunch on summer weekends is indicative of the popularity of and variety of activities in this coastal bluff zone: jogging, biking, skating, walking, nature appreciation, picnicking, visiting scenic areas, sun bathing, surfing, swimming, and fishing.

B. REGIONAL RECREATIONAL NEEDS ANALYSIS

Santa Cruz County is a major recreational destination for many northern Californians. The mild temperature of the coast contrasts with the extreme temperatures of the interior valleys, and the beaches and towering redwoods appeal to the nearby urban populations. It is estimated that more than five million people live in the San Francisco Bay Metropolitan complex while nearly one million persons reside in the Sacramento Valley Metropolitan area. Approximately four and one-half million people live in 1-1/2 hours' travel time of Lighthouse Field State Beach (See Day Use Visitor Origins for State Beaches in Santa Cruz County).

The recently completed Statewide Recreation Needs Analysis included several findings which directly relate to the proposed development of Lighthouse Field State Beach.

The studies showed that the type of activities that occur on the site; walking, nature appreciation, picnicking, visiting scenic areas, jogging, bicycling, etc., are all activities which display high levels of participation, high levels of growth, or high levels of desire for additional participation (See Projected Statewide Recreational Patterns Chart).

The studies also showed that urban residents, in particular, indicated strong desires for access to outdoor, nature-type experiences and low-development open-space. In order to accommodate these trends and desires, recreation suppliers should consider either providing better access to existing open-space, nature-type parks, or provide this sort of experience in or near the urban centers.

Lighthouse Field State Beach provides an ideal opportunity for the latter option and the strong community support for the natural, open-space facility with a minimum of development is consistent with the findings from the State-wide Recreational Needs Analysis.

There are, however, indications of a large deficiency of day-use facilities in this area. Natural Bridges State Beach has its sixty picnic tables filled on almost every weekend of the spring, summer and fall.

The State Department of Parks and Recreation Information System (PARIS)

projects a deficiency of over 700 picnic tables for Santa Cruz County in 1985. This deficiency can be reduced by providing picnic sites at Lighthouse Field State Beach.

Lighthouse Field State Beach will take its place as a natural open space facility close to the city center and will fit into the matrix of park facilities in the Santa Cruz Area (See Recreational Facilities in Santa Cruz Area). The present .75 acre city park at Lighthouse Point will be increased to a 36 acre state beach facility in Santa Cruz County to respond to regional recreational needs of the area and the desires of the local community to preserve open space (See Visitor Attendance for Natural Bridges State Beach).

DAY-USE VISITOR ORIGINS FOR STATE BEACHES IN SANTA CRUZ AREA*

<u>Origin</u>	<u>Percent</u>
San Francisco Bay Area & Central Valley	58
Santa Cruz County	16
Southern California	13
Out-of-state	10

PROJECTED STATEWIDE RECREATIONAL PATTERNS*

<u>Activity</u>	<u>Total State Participation</u>			<u>% Total State For More Participation</u>
	<u>1980</u>	<u>1990</u>	<u>% Growth</u>	
Nature Appreciation	70,460	85,197	17%	8.1%
Picnicking	97,529	114,864	15	5.8
Visiting Scenic Areas	58,862	72,490	19	12.4
Jogging	220,950	264,184	16	7.8
Bicycling	157,929	182,288	13	9.1

VISITOR ATTENDANCE FOR NATURAL BRIDGES STATE BEACH*

<u>Year/Typical Month</u>	<u>Day Use</u>	
	<u>Total</u>	<u>Persons</u>
80 Jul	57,454	250
80 Sep	30,816	
80 Dec	39,022	
81 Apr	41,560	
81 Jun	55,542	4,450
Total Year	541,377	7,900

*Source: State of California Department of Parks and Recreation

RECREATION FACILITIES IN SANTA CRUZ AREA *

Existing State Park Units in Santa Cruz County	ACRES	TRAILS			CAMPING				FACILITIES				WATER RECREATION			COMMENTS
Big Basin Redwoods SP Highway 9, Big Basin	14,576	41 mi.	15 mi.	.6 mi.	36 units	188 units	5 units	●	175 units	●	●	●				Our very first state park unit
Castle Rock SP Intersection Hwy. 9 & 35	1,372				25 units				5 units							
Henry Cowell Redwoods Highway 9, Felton	4,092	10 mi.	15 mi.	1 mi.		113 units		●	261 units							2 main entrances and units. Fall Creek suburb
Forest of Nisene Maria Aptos Creek Rd, Aptos	9,781															In permanent "wilderness" state
Marra State Beach Watsonville	68											●				Plans for development with 65 walk-in sites
Natural Bridges SB Santa Cruz	54			2 mi.					60 units			●				
New Brighton SB Capitola	93	.2 mi.		8 mi.	12 units	115 units		●	37 units				●	●		5,000 LF of ocean frontage
Seacliff SB Aptos	85	.4 mi.				26 mi.			148 units				●	●		Class "T" campsites only
Sunset SB Watsonville	299	.3 mi.			2 units	90 units	1 unit		60 units				●	●		
Twin Lakes SB Santa Cruz	86												●	●		9,500 LF of ocean frontage
Wilder Ranch SP Santa Cruz (incl. school lands)	4,800															In planning stages
Santa Cruz Mission SHP Santa Cruz	1															Not yet open
LEGEND																
EXPLANATION		Hiking Only	Horseback Riding	Interpretive	Trail	Developed Class A	Group	Trailer Sanitation	Picnic	Exhibit	Food Service	Supplies	Swimming	Fishing	Boating	

Existing Santa Cruz County Parks	ACRES	TRAILS			CAMPING				FACILITIES				WATER RECREATION			ADDITIONAL FACILITIES AND COMMENTS
Aptos Village Park Soquel Dr., Aptos	8							●	●	●						Community building has a kitchen
Abbott Square Cooper St., Santa Cruz	.0367															Benches only
Ben Lomond Park Mill St., Ben Lomond	2.5							●	●							Community building has a kitchen. Library with annex.
Freedom Lake Freedom Blvd., Ben Lomond	34										●	●	●			Fishing lake and picnic facilities
Highlands Park Hwy. 9, Ben Lomond	28							●			●					Estate house, seniors cottage, bathhouse, swimming pool
Mesa Village Green Valley, Watsonville	2							●								
Moran Lake E. Cliff, Santa Cruz	8+															No facilities, nature exploration and beach access
Place de Mar	2.6															No facilities
Schwan Lake 17th Ave., Santa Cruz	15															No facilities
Pinto Lake County Park Watsonville	180							●			●	●	●			Caretakers houses, boathouse and barns
Santa Cruz Gardens Katherine Lane, Santa Cruz	2															
Scott Park Freedom Blvd., Watsonville	5							●	●							
Soquel Roadside Park Main St., Soquel	1							●								
LEGEND		Hiking	Equestrian	Interpretive	Trail	Developed	Group	Community Building	BBQ/Picnic	Playground Equipment	Restrooms	Swimming	Fishing	Boating		

Existing Santa Cruz City Parks	ACRES	TRAILS			FACILITIES										H ₂ O REC		ADDITIONAL FACILITIES AND COMMENTS
Bethany Curve	2.5	●															4 blocks of green belt with drainage stream
De Lavega Park	565	●	●	●			●	●	●								Group Picnic to 700. 2 basketball courts with lights
Derby Park	4								●	●							Just opened; skateboard court, rest-room proposed
Fredrick Street Park	4								●	●							Skateboard court and large turf area
Garfield Park	1.8					●			●	●							Tree swing is a main feature
Grant Park	2					●			●	●							
Harvey West Park	2.5	●			●	●	●	●	●	●				●			Small snack stand with train concess in summer. Clubhouse, 6 baseball
John Franks Park	.5								●	●							
Kaiser Plaza	1																Formal park with fountains and benches only
Lighthouse Point	.75								●								Lighthouse museum with telescope
Mike P. Fox	1.5									●							4 tennis courts with lights
Neary's Lagoon	40	●							●	●							Park and wildlife sanctuary. Catwalk proposed
Ocean View Park	2.5																Development to be expected summer 1979
San Lorenzo Park	8	●				●	●	●	●								Duck pond, bowling green, outdoor stage with lighting
Star of the Sea Park	1.8					●	●	●	●								Group picnic to 75 and large open lawn
West Lake Park	7	●							●	●							Lake, fishing for 16 and younger large turf
LEGEND																	

*Source: Wilder Ranch State Park, Preliminary General Plan, State Of California Department of Parks and Recreation, March 1980

C. PLAN OBJECTIVES

The following list of plan objectives for Lighthouse Field State Beach have been determined through the efforts of the Lighthouse Field Committee, public workshops, and city, county, and state parks department staff review:

1. To provide a park with minimum development and minimum maintenance costs.
2. To preserve and protect the open space and enhance the natural qualities of the field. Clean it up and reduce the attractive nuisance.
3. To preserve and enhance coastal views.
4. To provide limited recreational development at Lighthouse Point; Turf, Restroom, Interpretive Center, Parking, Picnic, Surfer Changing Area.
5. To protect the neighborhood.
6. To improve access from the cliffs.
7. To eliminate the continuous parking along West Cliff Drive and provide a limited (224) number of parking spaces in pull-offs and buffered lots.
8. To deal with cliff erosion.
9. To improve the amenities at the State Beach: benches, trash receptacles, signing, fencing, lighting, picnic facilities.
10. To improve safety for pedestrians and traffic at West Cliff Drive.

D. PROPOSED LAND USE

The proposals for land uses are meant to accommodate cultural and natural resource values studied and evaluated to meet both the needs of the local community in preserving the field and to anticipate recreational needs, opportunities, and operational considerations along the coastal bluff.

Field Zone

It is proposed that 32 acres of the Lighthouse Field be set aside as a field preservation zone incorporating the policies of protection and enhancement as defined in the Resource Element of the General Plan. This zone responds to the desires for access to open-space, nature-type experiences near urban centers consistent with findings from the State-wide Recreational Needs Analysis.

Auto intrusion from West Cliff Drive will be eliminated with a continuous curb. Limited fieldside parking will be provided on the northeast in a buffered and recessed lot. Pull-off fieldside parking at the west part of the cliff drive will be provided only in the first phase of park plan implementation to accommodate displacement of current fieldside parking.

The current informal trails within the field will be followed and incorporated into a field interpretive trail system. Only day-use activities will be permitted in the field zone, no overnight camping. The following is a list of low-intensity recreational activities that should be included in the field zone (these are, for the most part, activities that currently take place on the site): nature observation, walking and hiking, natural and cultural interpretation, photography.

Coastal Zone

It is proposed that a coastal zone be defined along the ocean side of West Cliff Drive. Additional access could be provided at the current bend in the road near Lighthouse Point, serving the parking lots and making more usable cliffside land area for low to moderate intensity recreational activities: picnic, sight-seeing, nature observation, jogging, bicycling, photography, surfing, swimming, sunbathing, general beach activities, informal play.

Along with the existing cliffs, beach and surfing staging areas, the coastal zone includes a four-acre irrigated turf area at the Lighthouse Point adjacent to the Lighthouse Museum and proposed landscaped and buffered parking lots.

As with the field zone an interpretive program will be initiated along the cliffside trail emphasizing the natural habitats of seals and seabirds at outlook points. An interpretive center facility will be incorporated into an expansion of the Lighthouse Museum. A restroom facility will be built at West Cliff Drive between two parking areas which are adjacent to the turf picnic/informal play area.

As with the field zone, day use only of the coastal zone will be permitted with no overnight parking or camping.

E. PROPOSED VISITOR FACILITIES AND ACTIVITIES

Visitor support facilities at Lighthouse Field State Beach will be designed and located in a manner that will achieve both resource preservation goals and meet the recreation needs of park visitors. As illustrated in the Land Use and Facilities Plan, proposed visitor support facilities will be located in the Coastal Zone. The most intensive park developments will be adjacent to the existing Lighthouse Museum Building at the bend in West Cliff Drive. The Field Zone will be treated as an existing open-space and addressed in a management program which preserves and enhances its natural qualities.

To protect the high visual quality of the park setting, especially as seen from West Cliff Drive and across the expanse of field, park facilities will be sited to reduce visual impact. Parking lots will be recessed where feasible and buffered with low shrub planting and mounding. Facilities requiring structures are incorporated into the existing site structure (Interpretive Center/Concession) or buffered with planting (Restroom). Signing, fencing and park furniture will be designed to incorporate similar themes and materials. In general, all facilities will be designed to fit in with their surroundings.

The following elements of the general plan are organized in three use intensity categories relating to an activity or facility: 1. Low Intensity (nature observation, hiking and interpretive trails); 2. Moderate Intensity (parking, picnicking, biking, informal play, general beach activities, surfing); 3. High Intensity (lighthouse/interpretive center/concession, restroom).

The Coastal Zone has a majority of the moderate to high intensity activities/facilities: parking, cliffside trail, turf, picnic, gateway, amenities, Lighthouse/Interpretive Center/Concession and Restroom. The Field Zone is the low use intensity area.

1. Low Intensity Use Activities/Facilities

Nature Observation.

As part of the Plan Objectives, the flora and fauna of the Field Zone will be protected and the natural characteristics of the field preserved. Under a comprehensive resource management program the field will be cleaned up and its attractive nuisance qualities eliminated.

Hiking Trails.

One of the objectives of the field management guidelines is to maintain a low-key trail network connecting significant natural features, view corridors, neighborhood desire-lines to the cliff, surfing area and the Lighthouse facility. This trail type differs in width, material, and function from the asphalt cliffside trail in the moderate use intensity areas. The hiking trail network will follow the existing packed earth pathways. Trails will be limited to pedestrians traffic only. Bikes, skateboards, and rollerskate traffic will be encouraged to use the cliffside

trail.

The informal parking areas existing along the fieldside of West Cliff Drive will be eliminated and the continuous packed earth strip planted to give the field a soft edge. Any pathway following along the fieldside of the road will be set back from this curbed and planted edge to discourage automobiles from hopping the curb and parking as before.

Interpretive Trails.

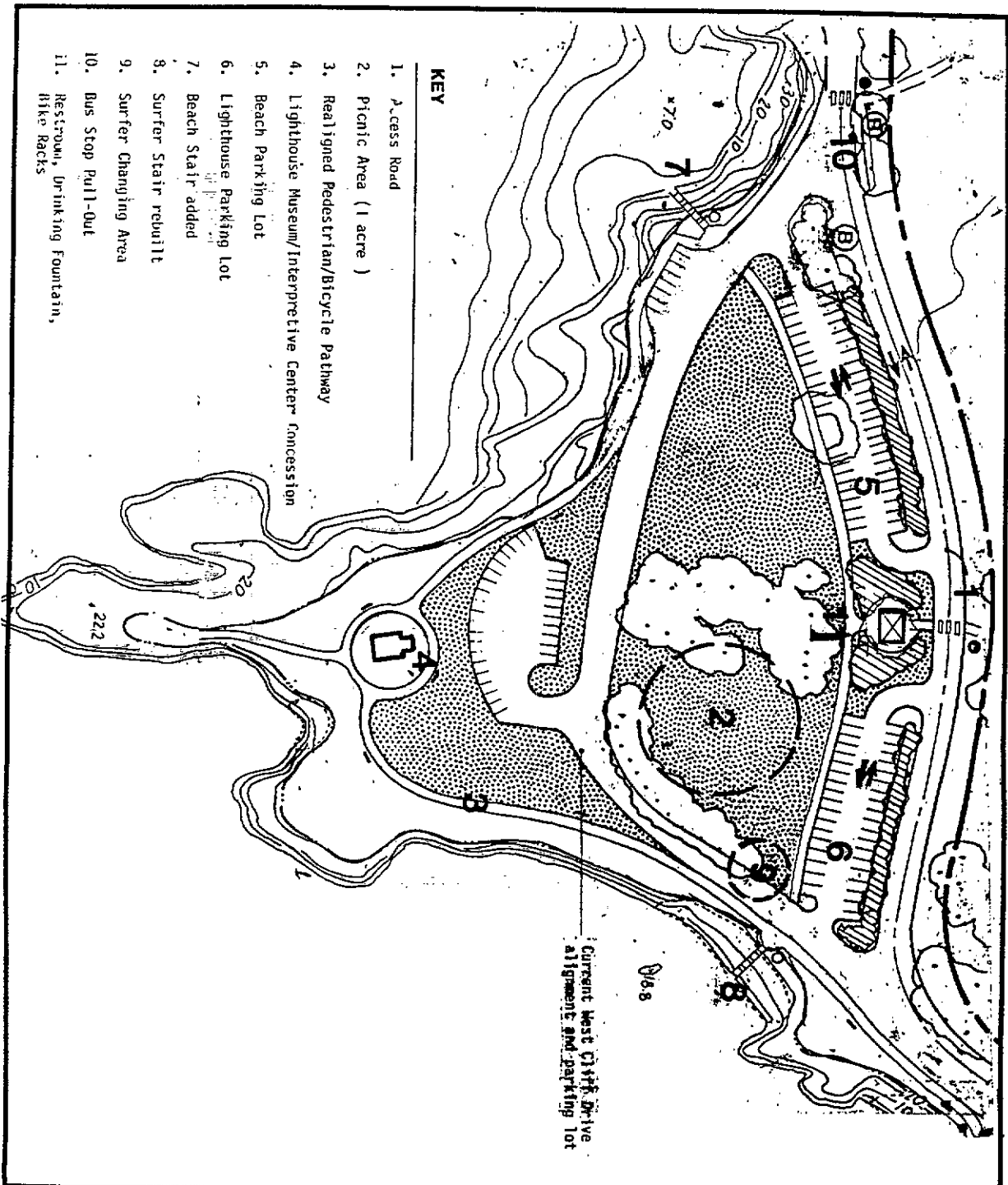
Portions of the hiking trail network within the field will be used for interpretive trail purposes. The purpose of these special trails is to provide an opportunity for the park visitor to experience the diverse resources of the field. The field interpretive trails will be linked with a cliffside interpretive trail in a loop system emphasizing the differences of Field and Coastal Zone ecologies. Trails will have interpretive signing pointing out significant natural and cultural features of the park. The cliffside interpretive trail follows the coastal Pedestrian/Bike Path with short loop trails to scenic overlooks at the seal and seabird habitats. (See Interpretive Element).

2. Moderate Use Intensity Activities/Facilities

Parking.

Parking facilities at Lighthouse Field State Beach will be provided along West Cliff Drive in defined lots and curbed pull-in spaces. Continuous informal parking along the fieldside will be eliminated with the construction of a fieldside curb. The objectives of the new parking plan are:

1. To create a pedestrian oriented experience in the park instead of the visual clutter of a linear parking strip along the road.
2. To group automobiles in efficient buffered lots (90 degree stalls), improving the driving experience for visitors along West Cliff Drive by reducing continuous roadside parking.
3. To limit the traffic conflicts associated with continuous pull-off parking on traffic flow and pedestrian crossings. Fewer entrances and exits, while reducing the number of conflicts in turning movements (especially the left hand turn against traffic) also makes an opportunity for marked and well lighted pedestrian crossings.
4. To be able to control the hours of parking with the use of gates at lot entrances as is done at the existing Lighthouse lot.
5. To provide designated parking for all park users: visitors to beach, picnic, restroom, Lighthouse, ocean and surfing views, field.
6. To provide for easy accessibility to parking areas, all lots will have two-way circulation and right angle parking. This configuration will also provide the most number of parking stalls



- KEY**
1. Access Road
 2. Picnic Area (1 acre)
 3. Realigned Pedestrian/Bicycle Pathway
 4. Lighthouse Museum/Interpretive Center Concession
 5. Beach Parking Lot
 6. Lighthouse Parking Lot
 7. Beach Stair added
 8. Surfer Stair rebuilt
 9. Surfer Changing Area
 10. Bus Stop Pull-Out
 11. Restroom, Urinking Fountain, Bike Racks

LIGHTHOUSE/ PICNIC AREA PLAN

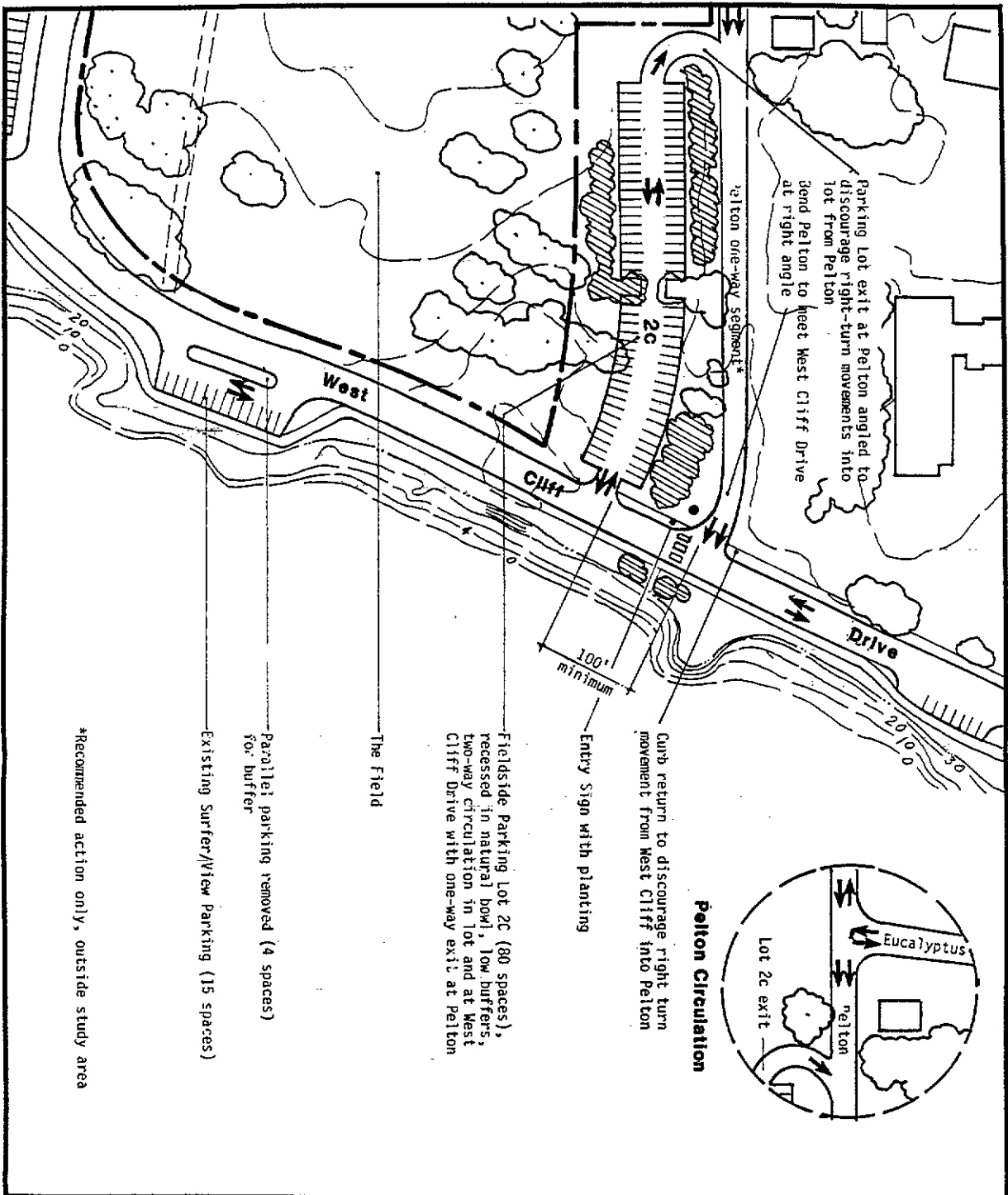
LEGEND

- (32 acres) Field Preservation Zone
- New Turf
 - Existing Trees
 - New Trees
 - Traffic Circulation
 - Pedestrian Crossing
 - Bus Stop
 - Ped/Bike Path
 - Star Light
 - Street Light
 - Bench Sites

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California

CHAMBERS Associates
Torrey & Torrey Inc.



NORTHEAST ENTRY PLAN (Phase 2)

LEGEND

- (32 acres) Field Preservation Zone
- Existing Trees
- New Trees
- Traffic/Circulation
- Pedestrian Crossing
- Bus Stop
- Ped/Bike Path
- Slar Light
- Street Light
- Bench Sites

LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
 County of Santa Cruz
 State of California

CHMMB Associates
 Torrey & Torrey Inc.

within a limited area thereby reducing the amount of paved surface at the park.

7. To buffer all parking lots thereby lessening the impact of asphalt and automobiles. These buffers will have an approximate height of three feet, allowing people in autos to see available spaces in the lot while driving along the cliff road. Also, all buffers will be low enough for police surveillance of parking areas.

A total of 224 permanent marked spaces will be provided at Lighthouse Field State Beach with an additional 50 temporary fieldside parking spaces in Phase I. This is an increase of 152 spaces over the existing 72 marked stalls. The fieldside parking, unlike those currently existing, will be marked and provided with curbs. The existing unplanted dirt mounds erected to keep autos out of the field will be removed and a soft, planted field border created behind the curb.

Following are the proposed parking facilities for Lighthouse Field State Beach: (See Land Use and Facilities Plan).

Beach Parking Lot. (48 spaces)

This parking lot is nearby both beach and turf areas. It is located by the future access road off West Cliff Drive at Lighthouse Point. An "eyebrow" planting strip separates the lot from the future access road with approximately three foot high shrubs. Existing trees at the west entrance and along the south are saved by lot configuration. An asphalt path along the south edge of the lot serves as access to the beach, cliff-edge pedestrian/bicycle path and adjacent parking area.

Lighthouse Parking Lot (38 spaces)

This lot is near the Beach Parking Lot, also off West Cliff Drive and the future access road. It is adjacent to a grove of trees which serve as planted edges for the turfed picnic sites. This lot has a asphalt path on its southern edge leading to the cliff-edge pedestrian/bikeway and connecting directly to the improved stair access for the surfing area of Steamer Lane. As with the Beach Lot, "eyebrow" planting strips buffer the lot from the road. A new grove of trees planted between the Beach and Lighthouse Lots mitigates the impact of continuous parking. A restroom facility is located within this new grove.

Fieldside Parking Lot. (80 spaces)

This lot is located at the north east entrance to the park on the fieldside of West Cliff Drive just south of the Pelton intersection. It is parallel to Pelton and perpendicular to a section of the cliff road that is not to be realigned. The east access to the lot is located at a minimum of 100 feet from the Pelton intersection to avoid turning conflicts. This access point is two-way leading into a two-way, right angle parking configuration. The access here is also bent southward in order to make a 90 degree connection to West Cliff Drive. This relationship allows for easy movements either north or south from the parking lot and at the same time creates a more generous space for a

landscaped entrance to the state beach at the west landing point of the portico. The west access of the lot is one-way and sharply angled easterly onto Pelton (also one-way east) to prevent free right turn movements into the lot from Pelton. The one-way out at Pelton is to ease the circulation of the parking lot with a second exit while not impacting Pelton with traffic in search of parking as a two-way access point there would. The parking lot siting takes advantage of an existing natural depression and a bowl shaped backdrop of trees. These will be reinforced with new planting to buffer the field to the west and school adjacent to the north.

Existing Surfer/View Parking (15 spaces)

This will be a single loaded parking lot located on the cliffside of West Cliff Drive just north of the bend in the realigned road section. The four parallel parking spaces on the roadside of the existing planter strip will be eliminated in favor of a wider "eyebrow".

Existing Beach/View Parking (43 spaces)

There is an existing pull-off parking area located on a flat ocean overlook just west of the future access road to the new parking lots and another existing parking area near the Interpretive Center. These will provide viewing spaces oriented to the southern ocean vistas, the Lighthouse to the east and will also serve the Interpretive Center.

Temporary Fieldside Pull-Off Parking (20 spaces)

To mitigate the initial loss of parking spaces by the phased development plan, temporary fieldside pull-off parking spaces will be created for use during the first phase (See Proposed Plan Phasing and Costs). This parking area will have curbed auto stops to prevent vehicle intrusion in the field. This area will be removed when Phase II is implemented subject to a review of parking impacts at that time.

Temporary Fieldside Pull-Off Parking (30 spaces)

This pull-off parking area is located at the western end of the park on the fieldside of West Cliff Drive. It takes the place of the existing packed dirt informal parking strip with fieldside earth mounds. As with the adjacent pull-off area above, this will be a marked asphalt area with curbed wheel stops. This area will be removed when Phase II is implemented if parking demand studies at that time concur.

Pedestrian/Bicycle Path.

The existing 10 foot wide asphalt pedestrian/bicycle path on the ocean side of West Cliff Drive is part of a larger coastal bluff pathway system extending beyond the boundaries of Lighthouse Field State Beach. For this reason the width and material of the path will be kept the same in the park plan. However, as is stated in a plan objective "to create a pedestrian oriented experience in the park", wherever possible, the pathway should separate from the traffic of the roadway. This opportunity occurs near the new parking lots and near the Interpretive Center.

The Pedestrian/Bicycle Path is part of a trail network throughout the park. Sections of the cliff-edge path become pieces of an Interpretive Trail where signs and markers indicate a natural or cultural place of interest. At specific locations or "nodes" (seal and seabird outlooks, lighthouse, informal play areas, surfing areas) benches are integrated with the path.

The coastal path links with the Hiking and Interpretive Trails in the field across West Cliff Drive at marked pedestrian cross-walks.

Finally, the Pedestrian/Bicycle Path has 10 foot wide asphalt paths leading to parking areas. A loop path connects the Beach and Lighthouse Parking Lots to stair access points at the beach and surfing area.

Turf.

A 3.3 acre irrigated turf area will be created at the bend of West Cliff Drive in the space provided by the future access road and the new parking lots (an increase of 2.05 acres from the existing turf area adjacent to the Lighthouse). The turf area provides a focus for the moderate use intensity activities at Lighthouse Field State Beach: picnic, informal play. It also forms a planted foil for the Lighthouse Museum and offers a zone of accessible green-space close to parking and viewing destination points.

Picnic Sites.

In response to the anticipated deficiency in picnic facilities projected for Santa Cruz County in 1985 by the State-wide Recreation Needs Assessment Analysis, a limited number of picnic sites (60) are proposed for Lighthouse Field State Beach. These sites will be located in the new turf area just south of the Lighthouse Parking Lot which provides easy vehicle access and maintenance. Two existing groves of trees form a protected area which delineates the picnic zone and offers shade to users. An opening between the groves offers views of the Lighthouse immediately to the south. Picnic sites will consist of undesignated picnic areas for informal blanket picnics and designated areas with wood picnic tables, wood benches and trash receptacles. There will be no barbecues pits or permanent grills.

Surfer Changing Area

During public workshops, a need was expressed for a screened changing area near parking and the stair accessway to the surfing area, Steamer Lane. A hedge maze, located on the turf side of the coastal bluff at the northern edges of the existing tree grove, would provide a semi-private area for this purpose. The maze, planting over staked wire mesh, should be shaped in plan to have overlaps at the entrances. The height should allow for police surveillance.

3. High Intensity Use Activities/Facilities

Lighthouse Museum.

The existing Lighthouse Museum is a small (447 square feet) one story brick structure with an attached three story lighthouse tower. It is located at

Lighthouse Point at the bend in West Cliff Drive. With the creation of a larger turf area, there is an opportunity to enhance the setting of the Lighthouse with planting. The Pedestrian/Bicycle Path will provide access to the structure, which becomes a circular node in plan on the park trail network. The path should be able to accommodate service and emergency vehicles from the Lighthouse to West Cliff Drive.

Interpretive Center .

The Interpretive Center will be the existing 447 square foot Lighthouse Museum. It contains natural and cultural information keyed to the site. Booklets about the new State Beach should augment the existing museum photograph collection and historical data. Entry to the Center is through the existing museum door. The facility is presently not handicap accessible. A ramped entry extending north will be added to the existing landing and three steps. The Interpretive Center will be monitored from the existing desk/concession in the northeast corner of the building. A drinking fountain, bike rack and public telephone would be appropriate external additions to the Interpretive Center. Adequate security lighting will be added to the building .

Any future interpretive facility deemed necessary should minimize its impact as a structure in this exposed park with appropriate buffering and sensitive siting. The possibility of using on-site energy generation by wind generators and/or solar photovoltaic cells should be explored. Generally, any development or addition to Lighthouse Field should be as energy efficient as possible (See Interpretive Element for further discussion).

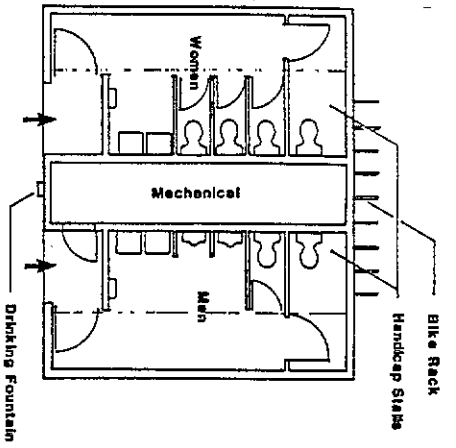
Concession .

There is presently a small concession located in the northeast corner of the Lighthouse Museum. This concession should remain and have longer hours of operation (See Concession Element) .

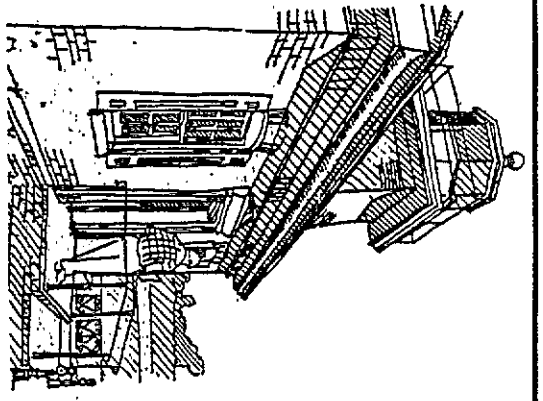
Restroom .

A 750 square foot Restroom Facility is to be added to Lighthouse Field during the first phase of improvement. It is to be located adjacent to West Cliff Drive for easy access and maintenance. The facility will be sandwiched between the Beach Parking Lot and the Lighthouse Parking Lot, buffered by a new grove of trees. It is also adjacent to the turf picnic/informal play zone and is connected directly to beach and surfer access trails. The restroom should be a simple semi-covered building open to natural lighting and ventilation. As with the Interpretive Center, the restroom would be an appropriate place for a drinking fountain, bike racks, trash containers, and telephone. Also, energy efficiency should be explored. With an open building the use of natural lighting lessens energy consumption. The use of only cold water eliminates the need for a water heater. Possible use of composting toilets might be considered. Any water and sewer lines needed should be located as to minimize disruption of the field planting and existing trees.

4. Other Plan Elements/Facilities .

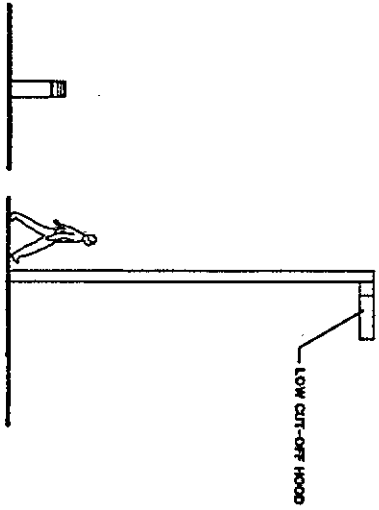


RESTROOM
750 st

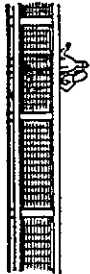


INTERPRETIVE CENTER/CONCESSION
(Existing Lighthouse Museum)

AMENITIES
RESTROOM
INTERPRETIVE CENTER
CONCESSION
PARK FURNITURE



WOOD PICNIC TABLE



WOOD/WIRE MESH FENCING



WOOD BENCH

PARK FURNITURE

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California

CHWARD Associates
Torrey & Torrey Inc.

Gateways .

There are two entryways to Lighthouse Field State Beach - the northeast intersection of West Cliff Drive and Pelton and the western entrance along West Cliff Drive just east of Columbia Street. The main entrance will be on the northeast or the downtown side of the park, the west gateway being the secondary entrance. Both entryways are along the cliff drive, a well travelled collector street (6,000 cars/summer day) running through the site. The objective of the gateways are two-fold; first, to slow down thru traffic and second, to announce to visitors that they are entering a state beach facility which is sited entirely within the Santa Cruz city limits.

Entry Sign .

Entry signs will act as gateways at both east and west end of Lighthouse Field State Beach at West Cliff Drive. The signs are to be in the same style as the other park furniture.

Amenities .

Visitor facilities are enhanced with a family of park amenities: Benches, Picnic Tables, Trash Receptacles, Telephones, Bike Racks, Drinking Fountains, Interpretive Markers, Local Art.

Benches .

Wood benches with backs are to be placed along the trails at viewing or activity areas as shown on the General Development Plan.

Picnic Tables .

Wood picnic tables compatible in design with the wood benches will be located at the picnic site as proposed in the Moderate Use Intensity Facilities section above.

Trash Receptacles .

As part of the campaign to clean up the field and coastal zone as outlined in the Operations Element, trash receptacles will be distributed at convenient sites around the park. The receptacles will be durable but inexpensive. The final design should give consideration to recycling needs for separation of materials.

Drinking Fountains .

One drinking fountain will be located at the Lighthouse Museum Expansion and at the Restroom. The fountain will be attached to the building faces restroom in order to cut down on the number of free standing elements which may detract from views at Lighthouse Point. The fountain will be accessible for handicapped persons and children.

Telephones .

Public telephones should be considered as part of the amenities at

either/or the Interpretive Center and Restroom.

Bicycle Racks .

Bike racks are proposed at the Lighthouse Museum and at the new Restroom facility. As with the drinking fountain above, they should be placed close to the building to minimize detractions from the views here. Other locations may be appropriate for bike racks along nodes at the cliffside pedestrian/bike path.

Interpretive Markers .

As part of the Interpretive Program proposed, markers with illustrations and information about natural and cultural features of the site will be placed at specific points along the pathways and interpretive trails and loops. These markers should be coordinated in design with the signing and other site amenities as part of a family of park furniture.

Local Art

As part of the overall amenities which should be included at Lighthouse Field State Beach, local art needs to be considered. Local art is defined as a wide variety of art concepts, such as murals or sculptures which reflect the setting and/or give opportunities for local artists to exhibit their work. This art work can also be interpreted as art which is incorporated in designs developed for park facilities by the architect. Local art should be considered during the first year of park operation, after a better idea of what art should be included can be reached. Art from local sources and with local themes should be incorporated in the management plan. The cost can be offset by considering the allocation of 1% of construction funds toward local art.

Safety and Security Elements .

Another category of park facilities are safety and security elements: Fencing, Signing, Lighting, Stair Accessways, Pedestrian Crossing Markers, Handicap Curbs and Ramps. As with the park amenities, these elements and equipment should be thought of as a design family and sited to be least intrusive to views and vistas.

Fencing .

Where West Cliff Drive, the Pedestrian/Bicycle Path or Interpretative Trail Loops are located close to abrupt, eroded or dangerous cliff edges, fencing will be required. Wood frame and wire fencing, similar to Natural Bridges, is proposed for Lighthouse Field State Beach. The open, see-through quality of the wire mesh is preferable to heavy or solid fencing which detracts from ocean vistas.

Signing .

The regulatory and warning signs required along the cliffs and field should be designed to fit into the family of site markers and furniture (wood standards and sign faces) and carefully sited to fulfill their

function and not detract from views.

Lighting.

Three kinds of lighting are proposed at the state beach, Street Lighting, Stair Lighting and Building Security Lighting.

Street Lighting consists of tall standards (24 to 30 feet) which are necessary along the road to prevent accidents at night. There are now several galvanized metal pole "cobra-head" luminaires along the northwest section of West Cliff Drive. One fixture is located on the cliffside of the road. This is to be avoided in the placement of new fixtures because the cliffside pole detracts from ocean vistas. The most important place for new Street Lighting is at the three Pedestrian Crossings on West Cliff Drive. Another place for these standards is to light parking lots for security at night. Finally, lighting should be considered for the bend in West Cliff Drive. Wherever possible, these standards should try to do double duty (crosswalk lighting spilling into parking areas). The number of street lighting standards should be kept to a minimum for safety, as determined by the City of Santa Cruz traffic engineer, to avoid visual clutter of these vertical elements on an essentially flat site. The street lighting fixtures are to be of a controlled cut-off type which projects light downward and the source cannot be seen from a moderate distance.

The criterion for Stair Lighting is similar to the Street Lighting luminaires; keep them to a minimum to prevent daytime visual clutter of vertical elements. Stair Lighting is proposed to be a bollard light, 42 inches high. The Stair Lighting will occur only at stair accessways for safety.

Other special lighting situations occur at the Lighthouse Museum. To eliminate any additional poles at the Lighthouse it is proposed to have lights for security attached to the building.

Stair Accessways.

There are two Stair Accessway improvements in the park plan. One is a new stair at the beach linking the coastal bluff and parking areas with the shore 40 feet below between low and high waterlines. The second is a rebuilt stair at the surfing area east of the Lighthouse Parking Lot. Both stairs will be made of wood which integrates with the wood fencing, have comfortably spaced landings and have lighting for safety.

Pedestrian Crosswalks

Pedestrian Crosswalks, marked with striping or reflective tape, occur in the plan at three critical pedestrian/auto conflict points along West Cliff Drive: one - at the northeast exit of the fieldside parking lot; two - between the Beach and Lighthouse Parking Lots; three - at the west end of the Beach Parking Lot where a fieldside trail connects the major neighborhood desire line to the beach and Lighthouse Point.

Handicap Access

Disabled and elderly persons will have access to the amenities and facilities of Lighthouse Field State Beach by means of an asphalt coastal pathway and a field trail network. Where the coastal pedestrian path crosses parking lot entrances, handicap ramps for wheelchairs will occur. Bus Drop-off lanes west of the Beach Parking Lot will also serve the handicapped as shuttle drop-off areas close to the major site activity areas. Marked handicap parking stalls at each parking lot will accommodate the disabled. All facilities will be handicap accessible with a ramp added to the existing Lighthouse stair and handicap accessible toilet facilities.

F. UTILITIES

The park site lies within the boundaries of the City of Santa Cruz and domestic water supply, sewage disposal and electricity will be provided by the city and local utility company. The new Restroom facility will require water and sewer lines. New lighting at Lighthouse Field State Beach will require cable extensions. Alternate means of sewage handling and electricity generation may be feasible and should be explored during the design implementation stage. Following are suggestions for these utility modifications.

Water.

The domestic water supply for the park will be provided by the Santa Cruz City Water Department. The City maintains a regional water system for the City and surrounding metropolitan area.

Water supply for the City is drawn from coastal streams, the San Lorenzo River, Newell Creek Dam, and a small percentage from wells. Sources of supply are more than adequate to satisfy the needs of the system for the foreseeable future. Domestic water quality is excellent, due to the operation of a modern, complete water treatment facility.

According to the Santa Cruz Department of Public Works, several water mains are located beneath Pelton Avenue. New lines with hook-ups would have to be installed most efficiently in a direct line from the Restroom across the inner field area to tie in at Pelton.

Sewage.

The City of Santa Cruz provides sewage disposal to a large regional service area as far to the east as Aptos through a contract with the County Sanitation Districts. The Wastewater Treatment Facility is a modern plant that has quality standards. Capacity is available to provide for needs in the foreseeable future.

A 12 inch sewer line is located at a depth of 14 feet at the intersection of Pelton and Lighthouse. As with the water supply line, the sewage line would be installed in a direct line across the inner field area from the Restroom to the main.

The water and sewer line extensions should be placed within the same trench to avoid unnecessary impacts to vegetation and excessive soil disturbance in the inner field areas. If composting or similar toilets are feasible, the sewer line connection can be eliminated.

Power.

Power for the Lighthouse and street lighting is presently supplied by existing power sources and facilities. There is adequate power to meet planned park needs. New cable for pedestrian lighting at stairs should be underground, as with any street lighting at pedestrian crosswalks and parking areas. The power needs for the Lighthouse Museum/Interpretive Center/Restroom may be met through the use of wind generators or solar

photovoltaic cells. This should be explored both for economic viability as well as its interpretive aspects.

Storm Drainage.

Present drainage from West Cliff Drive flows through cliffside curb inlets to drain pipes which protrude from the face of the coastal bluff, spilling runoff to the rocks below. These pipes should be kept carefully located from the realigned road section at Lighthouse Point and a visually more sensitive pipe installation sought; extending the drain pipes buried in the cliff face with leaders out to the surf line or camouflaged with cliff edge planting.

The specific locations of proposed catch basins, culverts, drain pipe and curb inlets should be chosen to reduce potential cliff erosion. The proposed curb along the fieldside of West Cliff Drive would have the beneficial impact of controlling stormwater runoffs from roadways and parking areas as well as limiting vehicular access to the field. Accumulation of roadway and parking runoff at too few outlets at the cliffs could even increase the erosion potential in some areas.

Present storm drainage and runoff along Pelton spills directly into the field because of the lack of curb and gutter. The runoff, especially from Laguna Street, is the main source of water for seasonal riparian aspects in the center of the field. For this reason, the north edge of the field should allow neighborhood runoff into the field (see Management Plan) with no fieldside curbs and gutter, curb inlets, culverts and catch basins proposed along the south edge of Pelton.

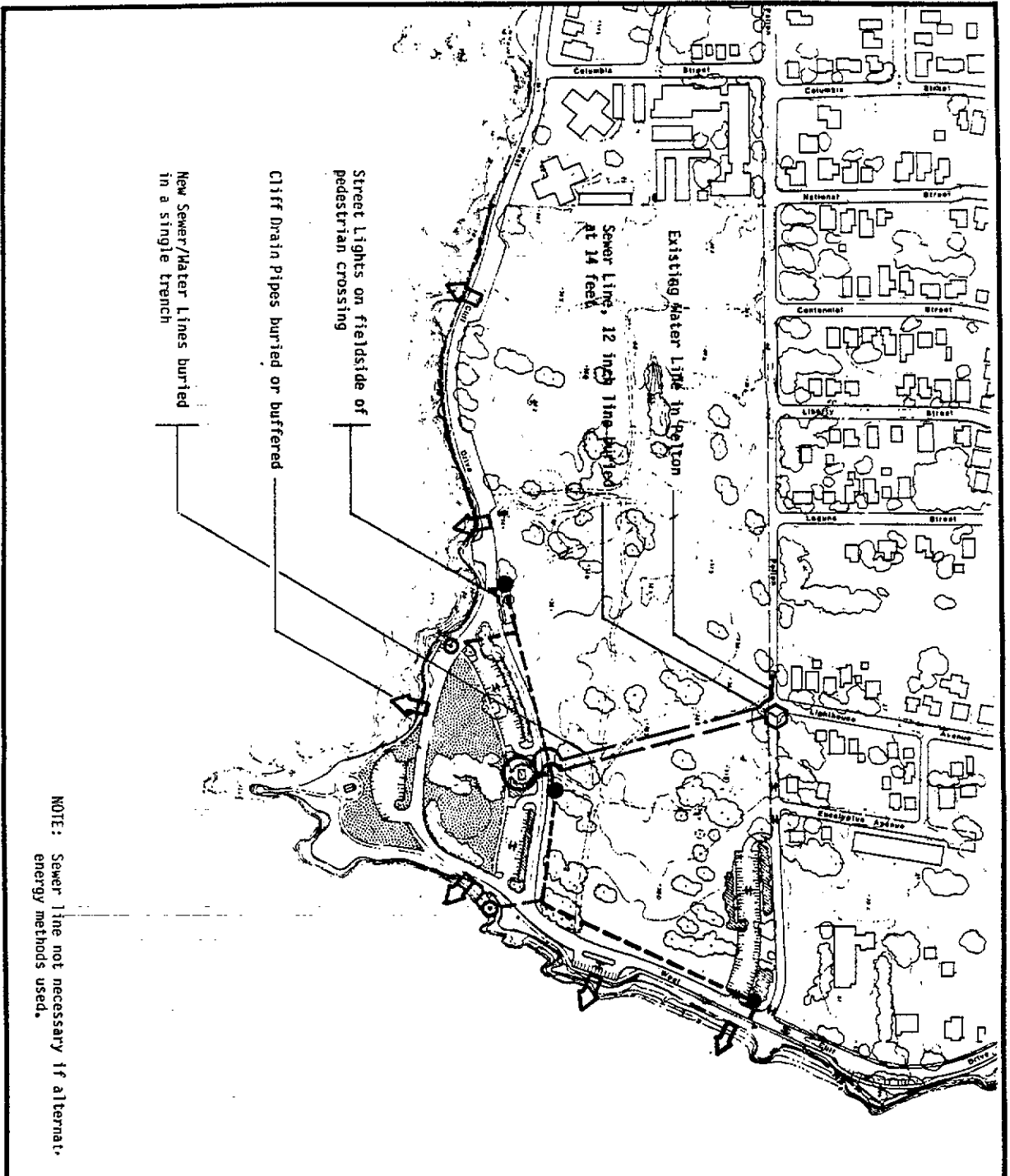
G. TRANSPORTATION AND CIRCULATION

The impact of traffic circulation in the surrounding neighborhood was a prime factor in the development of the transportation and circulation aspects in the General Plan for Lighthouse Field State Beach. A traffic survey was undertaken by the City. Based on this survey, alternatives for closing West Cliff Drive either permanently or temporarily on weekends were rejected because of the effect on neighborhood traffic circulation and parking. The following proposals are made for the park:

West Cliff Drive.

The alignment of West Cliff Drive remains as it presently exists however the addition of the two parking lots with the future access road will serve two purposes. First, the future access road can be utilized to better serve parking and through traffic. Secondly, it helps define a more useable turf zone (increased from 1/3 acre to 3.3 acres) while still maintaining 32 acres of preserved field.

Vehicle use in the park has been restricted to the drive-through and sightseeing aspects of West Cliff Drive with cliff view pull-off parking. Parking lots, which prevent the unsightly situation of continuous parking along the cliff road, are grouped along West Cliff Drive at visitor destination points. Most important, a fieldside curb prevents all vehicle intrusion into the field, a problem in the past.

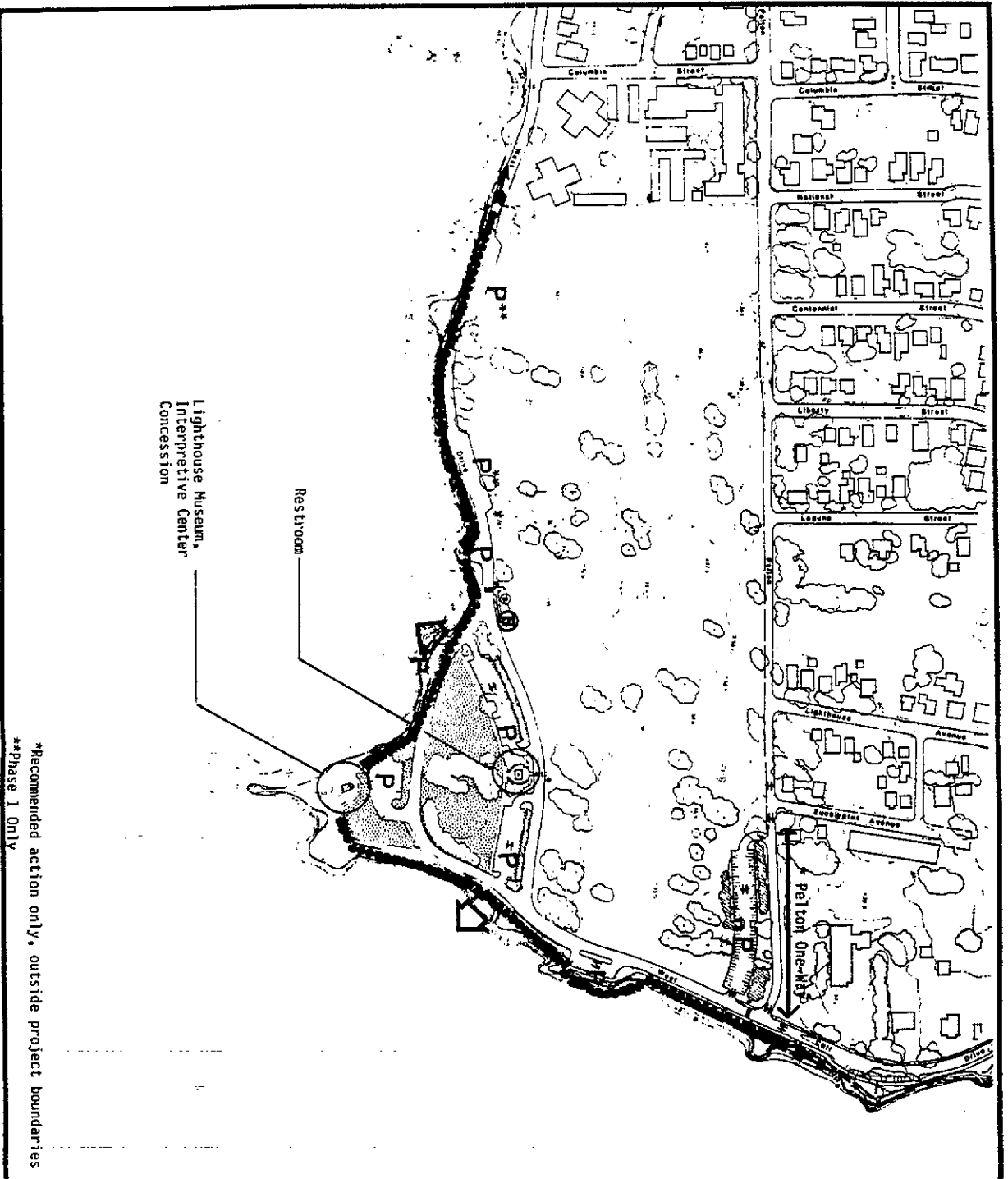


UTILITIES DIAGRAM

- Proposed Power (underground) Cable
- Water Line
- Sewer Line
- Sewer Main Hook-Up Point
- Street Light
- Cliff Drain Pipe

**LIGHTHOUSE FIELD
STATE BEACH**
City of Santa Cruz
County of Santa Cruz
State of California

CH2M Associates
Torrny & Torrny Inc.



Lighthouse Museum,
Interpretive Center,
Concession

Restroom

*Recommended action only, outside project boundaries
**Phase 1 Only

TRANSPORTATION & CIRCULATION DIAGRAM

- Area Coastal Pedestrian/Bike Path
- Parking Lots/Pull-Offs P
- Bus Stop (B)
- Stair Access

LIGHTHOUSE FIELD STATE BEACH
 City of Santa Cruz
 County of Santa Cruz
 State of California

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West Cliff Drive is a collector street which remains open 24 hours as part of the Santa Cruz street system. The parking lots, however, will be day-use facilities with gates. Overnight parking will be discouraged at the pull-off parking stalls.

From a standpoint of traffic and circulation, the controlled pedestrian crossings in the General Plan are good mitigations for reducing traffic speeds and providing safe pedestrian movement between the interior portions of the field and the cliffside pedestrian path.

Pelton Avenue .

Although Pelton Avenue is outside the study area of the General Plan, it is suggested that the City make Pelton one-way from Eucalyptus to West Cliff Drive to prevent traffic and parking impacts on the adjacent neighborhood by increased park use. The one-way segment will allow access from the neighborhood onto West Cliff Drive but deny free right turn movements from the major visitor traffic flow into this residential street. Although closing this block of Pelton was suggested as the best way to eliminate through traffic from the neighborhood, Pelton is a necessary link in local traffic circulation: 12 streets feed into Pelton making it a minor residential collector; a school is located one block away on Eucalyptus; Pelton is a fire route and a transit route. Keeping Pelton open one-way on this last block also allows a second exit from the Fieldside Parking Lot back out to West Cliff Drive.

Bus Stops .

It is proposed that the Santa Cruz Metropolitan Transit District augment its Route 7 bus with a smaller mini-bus service to provide access to the heart of Lighthouse Field State Beach with a new stop just west of the Beach Parking Lot. Bus pull-outs are provided on both sides of the road here to allow drop-off and pick-up of passengers without seriously disrupting traffic flow along West Cliff Drive or at the Beach Parking Lot entrance. These drop-off zones can also be used for shuttles for the elderly and disabled.

Bicycles .

The existing City of Santa Cruz marked bicycle path network extends through Lighthouse Field State Beach on a 10 foot asphalt sidewalk on the cliffside of West Cliff Drive. This sidewalk also is used by joggers and rollerskates, as well as walkers, making for some conflicts on crowded weekends. However, to keep the continuity to the regional bike network, the bike path through the site will remain the same width and material. It will be possible to enhance the biking experience through the site by separating the path from the roadway where there is more cliffside area at Lighthouse Point. A bike rack and a drinking fountain are amenities provided at the Lighthouse Museum, Interpretive Center and Restroom.

H. CAPACITY OF FACILITIES

The Allowable Use Intensity analysis provided in the Resource Element keys

the type, location and intensity for planned park development. When deciding on the types of facilities to be proposed, considerations such as the classification limitations, user needs, neighborhood desires and impacts, regional recreational deficiencies and operational requirements are considered in light of the allowable use and intensity specified.

The preferred design capacity (actual carrying capacity to be permitted) identifies a particular level or intensity of use that will satisfy the site management requirements as well as park user and surrounding community needs and desires. Typically, the design capacity is below the allowable use intensity level defined in the Resource Element in order to offer visitors a recreational experience of the highest quality.

There are special considerations about the capacity of Lighthouse Field State Beach. West Cliff Drive, the main access road which divides the site, is also a thru road used by Santa Cruz residents as well as park visitors. According to the traffic survey done in December by the city, 35% of trips are generated for reasons other than recreation (commute home, shopping, work, church).

The following chart shows the preferred design capacity for chief uses and areas in the park as set forth in the policy guidelines of the allowable use intensity section of the Resource Element.

PREFERRED DESIGN CAPACITY

<u>Intensity Category</u>	<u>Use/Facility</u>	<u>Preferred Intensity</u>	<u>Instantaneous Design Capacity</u>
Low	Field Pathways (4800lf)	4 users/90 meters	72
Moderate	Coastal Ped/Bike Path (3000lf)	8 users/90 meters	264
	Surfer/Surf View Area (1000lf)	8 users/90 meters	88
	Informal Picnic Sites (60)	3 users/site	180
	Beach (500lf)	1 user/4 meter	125
High	Lighthouse/Interpretive Center/Restroom	NA	20
TOTAL CAPACITY			749

Typically at beach parks, visitor turnover of approximately 2.0 can be expected. This means that a total of 1,598 visitors could be accommodated at the park on a peak day.

Proposed parking of 224 permanent marked spaces will accommodate 421 people at any one time (December vehicle occupancy count of 1.88 people/car). A higher people/car ratio expected in the summer will increase this number. Using a turnover ratio of 2.0 cars per day it is expected that a minimum of

842 people can find parking at the site on one day. Although this is less than the total visitors per peak day of 1,598, it does not take into account walk-in visitors and those using public transit which is proposed to be increased. The proximity of this state beach unit to downtown can expect a high proportion of walk in traffic that other more remote state beach sites.

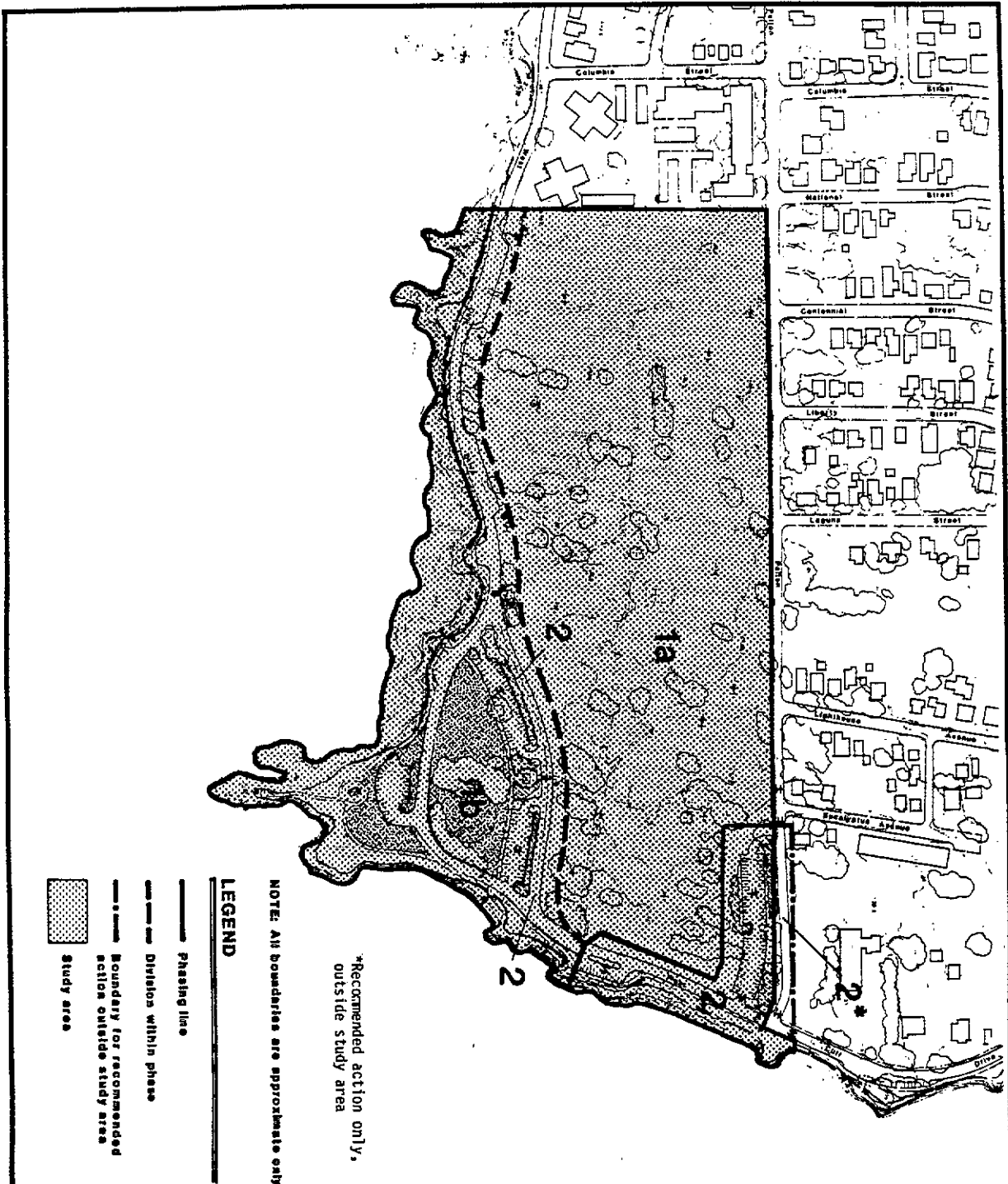
I. PROPOSED PLAN PHASING AND COSTS

Phase One. (\$ 500,000)

Initiate Resource Management Program. Provide the Beach, Lighthouse and Fieldside Pull-Off Parking Areas. Add 4 acres of irrigated turf at Lighthouse Point. Add Restroom. New asphalt Pedestrian/Bike Path (800 lineal feet) linking parking, picnic, Restroom, Lighthouse, and beach/surf access points. Fieldside curb all road at West Cliff Drive and remove packed earth parking and temporary mounds. Amenities: Benches, Picnic Tables, Trash Receptacles, Fencing, Signing, Lighting, Stairs, Striping, Drinking Fountain, Bike Racks, Telephone, Handicap Ramp and Curbs.

Phase Two. (\$ 300,000)

Fieldside Parking Lot, buffered and recessed near Pelton off West Cliff Drive. One-way Pelton with reconfigured Pelton/West Cliff Drive intersection. Allow for access road. Construct Gateway planting area. Amenities: Trash Receptacles, Fencing, Signing, Lighting.



**PHASING
DIAGRAM**

- Phase 1a**
- Field Management Program

- Phase 1b**
- Cliffside Improvement
 - Future Access Road
 - Parking
 - Turf - Picnic/Informal Play
 - Restroom

- Phase: 2**
- Parking
 - Petion One-Way *
 - Access Road

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California

CH2M Hill Associates
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V Interpretive Element



V. INTERPRETIVE ELEMENT

A new emphasis on interpretive programs and facilities is called for in the latest analysis of recreational needs in California. Interpretive programs promote awareness of the cultural and natural heritage of specific features of the State Parks System while fostering environmental and park values as an important by-product. Interpretive programs develop recreational skills needed for photography, nature observation, ecology study, and unique educational opportunities for all. Another emphasis on volunteer programs as outlined in the State of California, Department of Parks and Recreation report Recreational Needs in California (Outreach, Park Watch, and Recreational Buddy Programs) in conjunction with interpretive programs can tap the spirit in the Santa Cruz community which has been so important in creating the park in the first place.

One primary interpretive potential (Primary Theme I) at Lighthouse Field State Beach is its unique natural resource as a coastal headland. It is unique, however, in that it has remained open space within an urban setting. The first primary theme can be divided into subthemes: a) geographic location marking the north end of Monterey Bay; b) coastal habitats for seals and cormorants; c) climate and geology of the beach and coastal bluff areas; d) field plant and animal communities; e) ecology, the relation of plants and animals to their environment at the site.

A second primary interpretive theme (Primary Theme II) is the cultural features of the site with the following possible subthemes: a) history of Lighthouse Point; b) history of the field; c) Steamer Lane surfing area; d) alternate energy uses at Lighthouse Museum/Interpretive Center/Restroom.

Interpretive Periods

The primary historic interpretive period for Lighthouse Field State Beach is 1847 to the present. No prehistoric, Native American, or Spanish Euroamerican sites have been found here although Costanoan (coast people) Native American communities existed in the Santa Cruz area.

Interpretive Themes (excerpts from Inventory of Features)

Primary Theme I: Natural resource as a coastal headland

a) Geographic location marking the north end of Monterey Bay

The site is a vista point providing a panoramic view of the Pacific Ocean and Monterey Bay. To the east the viewshed encompasses the City of Santa Cruz (the Municipal Wharf, beach and boardwalk in the foreground), central Santa Cruz County coastline in the Aptos/La Selva Beach area, portions of the Santa Cruz Mountains in the distance, the Moss Landing area (Kaiser smokestacks), portions of the bay along northern Monterey County, and culminating in the view of the Monterey/Pacific Grove Point which defines the southern end of Monterey Bay.

b) Coastal habitats for seals and cormorants

On the south (Pacific view) side of the site, there are views of seals and cormorants which frequent prominent rocks adjacent to the cliffs. The barking of seals and diving of cormorants are major nature observation activities at the site. There were two seal rocks here at one time. The smaller one nearer the shore was washed away during a storm in the winter of 1960-61.

The following species which occur in the area around Lighthouse Point are Threatened or Endangered according to the U.S. Fish and Wildlife Service: Brown Pelican, California Sea Otter, Blue Whale, Fin-Back Whale, Gray Whale, Hump-Back Whale, Pacific Right Whale, Sei Whale, Sperm Whale.

c) Climate and geology of the beach and coastal bluff cliff areas

Various climatic conditions are experienced at the ocean shoreline. Winter storms and large waves provide spectacular displays, while fog and calm conditions provide another. Sunsets constitute the most dramatic viewing time provided by the site.

The continual action of ocean waves has eroded scenic landforms into the bluffs along the southern and eastern portions of the site. These land forms include sea caves, arches and stacks. Ongoing erosion of a sea cave may produce an arch which will eventually collapse forming a stack. New caves and arches are beginning to be carved into the cliff by wave action.

Dangerous areas for viewing occur along the cliffs. Long-term average erosion rates are estimated at 12 inches per year. Most erosion is episodic with collapse of ten feet or more of the bluff at one time having been known to occur.

d) Field plant and animal communities

Although the pristine (undisturbed native state) plant habitats have been much altered by European man's activities, the fact that the field is still a "biotic island" in an urban area is its significant feature.

The earliest description of the site in its pristine state was made by Padre Juan Crespi who accompanied Don Gaspar de Portola on an overland expedition from Baja California. On October 17, they crossed the San Lorenzo River and Crespi reported that they "...traveled three hours and a half, but made only two leagues, during which we descended and ascended four watercourses carrying running water which empties into the sea. Only in the watercourses are any trees to be seen; elsewhere we saw nothing but grass,..." This northern coastal prairie, termed Festuca-Danthonia grassland is defined as a discontinuous grassland below 1000 meters elevation, seldom more than 100 kilometers from the coast. They occur from Point Sur northward and include the field at Lighthouse Point.

As early as 1847, the Lighthouse Field site was referred to as a "sowing field", beginning the process of invasion of non-native plants with the introduction of agricultural use.

In 1887, the Phelan family bought the Lighthouse Field tract, then known as Pelton Grove. The site was later referred to as Phelan Park which was described as being beautifully adorned with lawns, trees and shrubbery. The site was planted and almost completely covered with eucalyptus and Monterey cypress from 1899 to 1960.

Until 1978, the field was mowed yearly to decrease fire hazard. Since this practice was discontinued, area residents have planted Monterey cypress in the area adjacent to Pelton Avenue. During the intervening years from 1960 to 1978, many non-native, exotic species have become invasive (pampas grass, thistle, and blue gum eucalyptus). Following are descriptions of species and plant communities which occur at Lighthouse Field State Beach:

Monterey Cypress

While Monterey cypress comprise only 5% of the field they dominate visually. These trees are mostly erect specimens in contrast to their usual low, windswept form. This is probably a result of competition for light with the eucalyptus which were present before 1960. Monterey cypress occur naturally at Cypress Point north of Carmel and Point Lobos State Park. The cypress at Lighthouse Field were planted as part of Phelan Park. The present condition of the cypress offers a study in plant succession. Some of the trees are over 100 years old. They provide picturesque gnarled trunk and branch systems. Cypress seedlings are present and appear to be more numerous adjacent to Pelton Avenue where less foot traffic occurs. Dead trees, overturned and exposing massive roots, illustrate the completion of the cypress life cycle. The cypress are a major photographic attraction in the field.

Grassland

Non-native grasses occur on approximately 95% of the site and are dominated by wild oats, ripgut grass and Italian ryegrass. Various forbs, including field mustard, wild radish, filaree, Bermuda Buttercup and curly dick are also abundant. Shrubs are less apparent, consisting of individuals under one meter in height. The dominant species include coyote brush, poison oak and California blackberry. Grasses, forbs and shrubs respond to seasonal climate changes, turning the field from green wet winter acres to a straw colored dry summer plain offsetting the evergreen cypress.

Willow Thickets

Willow Thickets comprise less than 1% of the site. These thickets occur where drainage is poor and high groundwater provide the damp conditions which willows require. These willow stands, aside from providing wildlife habitat, may harbor annual vegetation which has escape yearly mowing before 1978.

Coastal Bluff Vegetation

The sea fig is the dominant cover along the bluffs. These are perennial succulents useful for covering sunny banks, stabilizing

eroded cliffs, binding loose sand at beaches and covering seldom watered marginal areas. The plant has fire resistant qualities and is not effected by disease or insects. The straight 3-sided fleshy leaves are accented by lightly fragrant flowers, rosy purple in color blooming in the summer.

Rare and Endangered Plants

No rare or endangered plants exist within the site.

Animal life in the field is an interpretive subtheme in conjunction with coastal wildlife habitats for seals and seabirds. The history of disturbance presents a poignant picture of mans' impact on the fauna of the area.

Pristine Fauna

The following is a partial list of the fauna which may have existed in the Lighthouse Field area prior to disturbance and alteration of European man: Grizzly Bear, Coyote, Guadelupe Fur Seal, Golden Eagle, Peregrine Falcon, Mountain Lion, Wolf, Southern Sea Otter, Southern Bald Eagle, Condor. It is interesting to note that, with the exception of the condor, all of these species are carnivores high on the food chain.

Past Disturbance

From 1899 to 1960 the field was dominated by eucalyptus and Monterey cypress. Both of these species are low in forage value and eucalyptus litter prohibits the establishment of a plant understory. During this same period, development in Santa Cruz County was destroying habitat and displacing wildlife. Residential development adjacent to the site and the heavily traveled road, West Cliff Drive, have adversely effected fauna.

Present Communities

The grassland at Lighthouse Field is dominated by rodents: Valley Pocket Gopher, Western Harvest Mouse, Deer Mouse, California Vole are native species expected to occur; Norway Rat, Roof Rat, House Mouse are introduced species. Also expected are one species of marsupial (opossum), insectivore (California mole) and carnivore (striped skunk).

Avifauna (bird life) of the Lighthouse Field area is by far the most diverse group of terrestrial vertebrates. One-hundred and nineteen species of birds have been noted at the site. Most of these are visitors or migrants. A complete list can be found in Appendix IV of the Inventory of Features. One, or possibly two pairs of black swift nests are on the cliffs. According to the California Department of Fish and Game, only 14 nest sites of the black swift are known in California. Because of its limited abundance and restricted distribution, it is a species of concern to the Department. A pair of kestrels is known to nest at Lighthouse Field.

Monarch Butterflies inhabit a tree site in the northeast quadrant of the field.

e) Ecology, the relation of plants and animals to their environment at the site.

The Public Resources Code identifies the Ecological Region of Lighthouse Field as a Coastal Strand. The flora and fauna of the unit are largely introduced and are not representative of pristine communities occurring within the Coastal Strand. This site is unique, however, in that it has remained an open coastal field.

The soils of the site (Pinto loam and Watsonville loam) are both derived from terrace deposits and are moderately well drained and poorly drained, respectively. Willow thickets exist on the Pinto loam, attesting to the high groundwater here. The native grassland which occurred on the site prior to European settlement was probably maintained through a combination of controlled burning practiced by the Costanoan Indians, salt spray, and poor drainage. Tilling, mowing, and the presence of eucalyptus trees (whole leaf litter prohibits germination) have replaced burning during the past 150 years and have acted to keep the field more or less brush free.

Riparian aspects occur at a low lying section at the middle of the field during the winter rainy months.

Primary Theme II: Cultural features of the site

a) History of Lighthouse Point

No archaeological sites occur at the site and no historic structures from the Phelan and Pelton days remain. The present lighthouse, built in 1968, is the only cultural feature on the site.

A description of the history of Lighthouse Point is given in the Introduction to the General Plan.

b) History of the field

A history of the field is given in the Introduction to the General Plan.

c) Steamer Lane surfing area

The waves breaking off the east bluff of Lighthouse Field make one of the most popular surfing areas in California - Steamer Lane. When conditions are right surfers can ride waves to the shore break at Cowell Beach a half mile to the northeast. The waves and surf offer a study which may be of interpretive value as described in the California Coastal Access Guide:

"The breakers that crash upon California's beaches originate hundreds of miles offshore as a result of winds blowing across the ocean's surface and creating ripples; as the wind continues to

blow, ripples turn into progressively larger waves. The size of waves generated by the wind is proportional to wind velocity and duration, and the extent of the open ocean across which the winds blow.

As waves move away from the generating center they become rounded, lower, and symmetrical and move in groups of similar height and period (i.e., the time it takes for two successive waves to pass a point). These groups of waves, called swell or ground swell, move in this form until they approach coastal areas.

Waves start to break once they reach a water depth less than half of their wavelength (i.e., the distance between successive wave crests). As the wave continues to move toward the beach, its height increases until the wave topples over and breaks, resulting in the surf visible along the shoreline."

The Santa Cruz surfing scene is described in the Peter Dixon book, Where The Surfers Are, A Guide to the World's Great Surfing Spots:

"The waves that surfers seek are born of the wind. Blowing over vast open stretches of the ocean, the winds create swells. Upon reaching land these swells feel the drag of the bottom, rise up, over-balance, and fall forward to become surf. This surf breaks along all the open coasts of the world's major land masses. And wherever waves form to become surf there exists the opportunity for the surfer to capture the power of the sea and be carried along by it.

As a surfing area California can be divided into two sections -- Northern and Southern California. The dividing line between north and south is Point Conception. Point Conception has a marked effect on the waves and water of California. The Point causes the cold northern waters to sweep out to sea and helps keep Southern California surfers a bit warmer in winter. The point also blocks a good portion of the direct north swells, keeping the area to the south free of really rough Arctic storms. Point Conception sometimes stops a good south swell from driving into Northern California. The lack of south swell above Point Conception robs the surfers in the northern part of the state of some excellent summer surf.

In summer the swell is mostly southerly. South swells from storms in the far Pacific bring waves of three to six feet on the average, but ten-footers and higher do occur once or twice a summer. In late summer and early fall Mexican hurricanes (chubascos) drive north from the tip of Baja California and beyond to bring up quite larwaves. Summer surf from southern swells starts in late April and lasts through early November.

In winter the swell direction is usually from the north or northwest and is generated by Arctic storms off Alaska. Winter swells are quite pronounced with good, clean lines which sometimes produce surf up to twenty feet high -- big for California. Surf is

also felt after local storms, but this surf is rather choppy and uneven.

Surfing was brought to California by George Freeth in 1907. Freeth, and the surfboard that was to make California the most surf-populated and surf-conscious spot in the world, came deliberately to California to promote surfing. And this great surfer and first-class waterman certainly succeeded.

In 1912 Duke Kahanamoku brought his famous redwood board to California on his way to the Olympics. During the big-wave season he rode the heavies at Corona del Mar and Santa Monica. This good example was all water-sports-minded Californians needed; in the years that followed, the interest in surfing as a sport grew rapidly. By the mid-thirties students in high school woodshops were turning out hundreds of hollow paddleboards and redwood-pine-balsa composite surfboards. The "in" surfing spots were San Onofre, Paddleboard Cove, Dana Point, Corona del Mar, and of course Malibu. Up in cold-water Northern California the kelp-strewn waves of Santa Cruz also carried surfers prior to World War II.

Until the 1950's, surfing in California was limited to the few who were real watermen, lifeguards, or just plain beachcombers. Then about 1955-56 two radical events occurred -- the development of the plastic-foam-and-fiberglass-covered surfboard and the movie "Gidget." It's quite popular to credit or blame Frederick Kohner and his fictitious teen-age surf bunny for the explosion that rocked the quiet world of pre-Gidget surfing. Perhaps Kohner and Gidget are the cause of the very rapid growth of surfing that followed the release of the film. Perhaps they're not. But as a date in surfing history, Gidget marks the point in time when it all began to happen.

The fiberglass and foam surfboard is certainly responsible for giving surfers a piece of equipment that is both functional and durable, and easily mass-produced. Costs didn't go down when the modern boards came on the market in the late 1950's, but a whole new era of razzle-dazzle surfing style came about. This on-the-nose, flamboyant style gave surfing even more glamour.

Today in California there are more than 300 known and heavily surfed beaches. Some are good for surfing the year around, others are strictly summer spots, and a few good ones break only in winter when storms drive big swells in from the far North and West Pacific.

Santa Cruz is a surfing area where the chances of finding truly impressive waves are better than in any other area of central and northern California. Santa Cruz, long famous for its great variety of breaks, should be a major stop on any surfer's wave hunt. The seventeen known breaks there offer a variety of surf seldom found along one area in any part of the world.

Santa Cruz surfers have one of the wildest, fastest, most dramatic big-wave surf spots on the Pacific Coast, including the whole coast

from Alaska to Peru. Steamer Lane and the whole southerly facing bay are contoured in such a way that almost any swell will produce surf along the cliffs and beaches of Santa Cruz.

Santa Cruz was surfed long before World War II, but the big interest came about in 1960. Since then the resident surfing population has grown and grown. The locals now support two surfshops, and their annual Steamer Lane Contest draws top surfers from the United States and overseas. During school vacations and summer holidays surfers stream into Santa Cruz from inland cities all up and down the state, creating a surf frenzy and social life that can't be equaled anyplace in California.

The waves here can leap up to twenty feet during winter storm swells or can lap easily on shore for a comfortable two-foot beach break. A few winters ago that surf raged so huge that even the best surfers remained on the beach -- not a single rider paddled out for two weeks to challenge the twenty-foot-plus break at Steamer Lane.

Santa Cruz has two distinct wave areas: the beaches east of the Santa Cruz River mouth and cliff surf to the west of the river. This part of the California coast faces south, and surf breaks with both a south swell and a good strong north swell.

The easterly beaches begin at Monterey Avenue and follow Cliff Drive to the river. Surfing stops just beyond the river where the old amusement park encroaches on the public beach. Beyond the roller coaster and creaking ferris wheel are beach break and learners' surf until you reach the long fishing pier. Directly west (to the right) of the pier the big wave breaks below the cliffs begin.

Finding surf along the Santa Cruz shore comes easy -- just follow twisting Cliff Drive from the east end of town to the west end where the ocean-hugging road turns inland.

During winter, when the north swell surf comes booming in, only a handful of big-wave riders venture out. There's a special quality about Steamer Lane that makes it look wild and rough, as it is. Many big-wave riders admit that the cold water and the spooky feel of the misty, grayish fog add a psychological obstacle to overcoming Stramer Lane.

There are real hazards, especially during big-surf days. The rocks lie waiting for the unwary. Rips run around the coves and off the river mouth, and there's a rumor of a whirlpool lying outside the river mouth which has yet to be verified. Killer whales are often seen on their migrations, but again they go north or south and don't bother surfers, as yet."

d) Alternative energy uses

If the use of wind generators, solar photovoltaic cells, composting toilets and/or other alternative energy and technology methods are found

to be feasible and employed at the Lighthouse Museum or Restroom, these aspects provide an opportunity for an interpretive theme.

Methods and Media

The location of Lighthouse Field State Beach in a highly urban area, and the increasing pressures for development near the site, has led to the decision for minimal development in the park. In accordance with this, any interpretive development that takes place should be the minimum needed to accomplish the goal.

Several media and methods are available for interpretive exposition. First, a nature interpretive center is proposed as part of the Lighthouse Museum Building. Such a center would house graphic displays and brochures illustrating aspects of biotic or geological interest to compliment the historic displays of the Museum. Second, self-guiding "nature" interpretive trails could be set up on a loop pattern starting from the nature interpretive center. The trails could be used independently or in conjunction with a visit to the center. A third interpretive element could be graphic interpretive displays exhibited at vista points or along the trail. Fourth, personal services, in the form of guided walks and "outdoor classrooms", are an appropriate method at the site which may involve interested local residents and/or U.C. Santa Cruz staff and students in a cooperating association and program.

VI Operations Element



VI. OPERATIONS ELEMENT

City/County Agreement.

At the present time Lighthouse Field State Beach is being managed by the Parks and Recreation Department, City of Santa Cruz. As a condition of the 1978 purchase of the 36 acre field by the State of California, an Operation Agreement was signed between the State Department of Parks and Recreation and the City Department of Parks and Recreation whereby the City along with the County assumes responsibility for planning, construction and management of the State Park. Following is the text of the agreement:

Agreement for Development, Operation, and Maintenance of Public Park at Lighthouse Field

This agreement was made and entered into this 20th day of September, 1977, by and between the CITY OF SANTA CRUZ (hereinafter "City") and the COUNTY OF SANTA CRUZ (hereinafter "County").

WHEREAS, Item 443 (g) Section 2.9, Chapter 219 of the 1977-78 State Budget Act includes \$4,600,000 for the acquisition of Lighthouse Field with the proviso that none of the funds may be encumbered until the County of Santa Cruz and the City of Santa Cruz agree to provide for the operation and maintenance of the park; and

WHEREAS, the intention of this agreement is to carry out the Budget Act requirement for a City and County agreement; and

WHEREAS, both City and County support the development of a public park on said real property, and have agreed that such project should have the active financial support of both entities.

NOW, THEREFORE, City and County agree as follows, the operation and effect of all provisions of this agreement being contingent upon the acquisition of Lighthouse Field by the State of California for the above-stated purpose:

General

City is hereby designated as the lead agency, and following adoption of the Master Plan, as hereinafter specified, City shall have the authority and the responsibility to carry out all development, operation and maintenance of the public park, pursuant to this agreement.

Development

A public park shall be developed on that real property known as Lighthouse Field, pursuant to a Master Plan, as hereinafter specified. The cost of developing the park will be paid partly with funds from the State of California, and partly with funds from City and County.

Long-Term Agreement. Prior to commencement of any development or use of the public park, City, County and the State of California shall enter

into a long-term agreement providing for development, operation and maintenance of the public park. The execution of the long-term agreement shall be upon the approval of the governing body or each party to this agreement.

Master Plan. A Master Plan for development, operation, and maintenance of said public park shall be prepared. City and County, with the assistance and cooperation of the State of California, shall provide the necessary staff for the preparation of said Master Plan. The adoption of the Master Plan, and any subsequent modification thereto, shall be subject to the approval of the governing body of each of the parties to this Agreement.

Development Cost. Referring to that portion of the development costs of the park to be paid by City and County, City and County agree that each agency shall bear 50% of said development costs of the park, up to a maximum liability of \$250,000 each; any cost in excess of \$250,000 each shall be allocated in such manner as the parties may then agree.

Operation and Maintenance

Performance. City shall perform all functions relating to operation and maintenance of said public park in accordance with the long-term agreement and the Master Plan, referred to above.

Operation and Maintenance Cost. City shall bear 75% of the park operation and maintenance cost and County shall bear 25% of said cost. Revenues generated by use of said public park, if any, shall be allocated to reduce said cost. The allocation of costs provided for in this paragraph shall be reviewed and reassessed by the parties at five (5) year intervals.

Entire Agreement

This document represents the entire agreement of the parties hereto respecting the development, operation, and maintenance of the proposed public park at Lighthouse Field; and any verbal representation extraneous to this Agreement shall have no force or effect unless reduced to written form and duly executed by each of the parties hereto.

Current Operation.

Management has concentrated on a few routine maintenance activities such as clean-up of refuse dumping and emptying of trash containers. When conditions have necessitated action, the staff has constructed informal parking areas, erected protective guardrails and provided limited coastal erosion control measures.

Visitor use of the park's coastal perimeter is very high, especially in the summer months. The most popular destination point is the surfing area on the park's eastern boundary. West Cliff Drive serves as a highly used scenic drive for automobiles, in addition to an adjacent combined bicycling, jogging, skating and pedestrian path. The field itself, however, is not highly used (though often abused) and serves the community for nature observation and

hiking.

Future Operation.

Lighthouse Field State Beach will be a day-use facility with limited picnic facilities and will emphasize such outdoor activities as surfing, hiking, nature observation, biking, jogging and picnicking.

Lighthouse Field State Beach has a PMMS Classification of Category II. This category provides a seven day a week maintenance operation for an area of eight (8) developed acres. This figure was determined by combining both the parking areas and the turf areas. It should be noted that this cost estimate does not include a time cost or material cost for repairs to pathways, stairways, storm drainage, litter pick-up, or other such routine maintenance items that may be necessary for maintenance of the main body of Lighthouse Field.

First Phase Development

I. Personnel

A. Personnel - Direct

1	Landscape Gardener	730 hr/yr @ \$8.30/hr	\$ 6,059
1	Maint. Worker I	2080 hr/yr @ \$7.63/hr	15,870
1	Maint. Worker I Temp	840 hr/yr @ \$7.63/hr	<u>6,409</u>
		SUBTOTAL	\$ 28,388

B. Personnel - Support Services

1	Maint. Worker II	225 hr/yr @ \$7.97/hr	\$ 1,794
1	Maint. Worker III	40 hr/yr @ \$8.30/hr	332
1	Maint. Worker IV	40 hr/yr @ \$8.67/hr	<u>347</u>
		SUBTOTAL	\$ 30,811

C. Employee Benefits

Assume benefits @ 35% of total wages \$ 10,784

TOTAL PERSONNEL EXPENSE \$ 41,595

II. Supplies, Utilities Equipment

Hort. & Maint. Supplies	\$ 800
Water, Elect. & Sewer	5,200
Vehicle & Equip. O. & M.	2,651
Repair Materials	600
Capital Items - Vehicle, Small Equip, Radio	<u>11,300</u>

TOTAL SUPPLIES, UTILITIES, EQUIPMENT \$ 20,551

GRAND TOTAL \$ 62,146/yr

In summary, this maintenance cost estimate assumes that the majority of the site maintenance will be performed by Maintenance Worker I on a five day per week Monday through Friday basis. Additional personnel includes temporary Maintenance Worker I for use on weekends and a Landscape Gardener visiting the site approximately two hours per day Monday through Friday. The Landscape Gardener's responsibilities will include site supervision for maintenance support functions that may be beyond the scope of work of the Maintenance Worker I.

Security

Lighthouse Field State Beach will be patrolled by the police department of the City of Santa Cruz.

VII Concession Element



VII. CONCESSION ELEMENT

Under legislation effective September 1982, all General Plans must include a Concessions Element to satisfy State of California Department of Parks and Recreation requirements. This section consists of an evaluation of existing concession activities; potential for additional visitor services and revenues and specific long-range policies and objectives for concession developments, programs and services consistent with the units classification as a State Beach.

A. EVALUATION OF EXISTING CONCESSION ACTIVITIES

Currently, concession activity at the site consists of a small post card, map and information area in the corner of the Lighthouse Museum, a 447 square foot brick building which also houses an historic exhibit and an active light beacon on a two-story tower at the north end of the structure. This building has been built as a memorial in 1968 with monies from the family of a young swimmer who died in a body-surfing accident nearby. The facility is open intermittently during peak use and on special occasions and when a staff person is available from the city parks department.

Concession activities exist in abundance just a half mile east of the site at the Municipal Wharf, Santa Cruz Beach, Boardwalk and Amusement Park.

B. DETERMINATION OF CONCESSION POTENTIAL

In evaluative the concession potential, the setting of Lighthouse Field as a historic field and an undeveloped stretch of coastline near the heart of the City of Santa Cruz needs to be considered. Preservation of the scenic, natural features of field and coast are the primary objectives for acquisition of the site and its inclusion in the State Beach system. Any concession potential must be compatible with these objectives.

It is the policy of the State of California Department of Parks and Recreation that, while concessions relating to the resources of the unit in state recreation areas, state vehicular recreation areas and state beaches can be enhancements or attractions unto themselves, such concession attractions are generally incompatible with units in which natural or historic preservation is of primary importance. Also, appropriateness for any concession facility, service, product or program as it relates to an interpretive theme should be considered when analyzing concession opportunities.

Another important factor is the compatibility of concession facilities with the surrounding residential neighborhood. During the planning process of this report at numerous public meetings, the topic of concessions was often discussed and debated. Provision for concession services as part of overall visitor facilities should take into account the desires of the majority of residents living in the area and representatives of the larger Santa Cruz community who attended the workshop planning sessions and concluded that a concession would be inappropriate. Augmenting this factor is the State of California Department of Parks and Recreation policy guideline against

concessions competing with similar businesses outside park units. It is the department's policy to generally avoid entering into convenience-type concession agreements for facilities, products or programs that are adequately provided for at a short distance outside state park unit boundaries, when such travel will not unduly endanger or inconvenience visitors or lead to unreasonable consumption of transportation fuels.

C. ESTABLISHMENT OF APPROPRIATE POLICIES AND GUIDELINES

Based on the above factors, this report concludes that only the small existing concession should be included in the plan at this time. With the full-time maintenance worker assigned here as outlined in the Operations Element of the plan, it is envisioned that the Lighthouse Museum with its concession counter will be open regularly during weekends and at peak use times during the year. This limited concession policy does not preclude the possibility for future development of a concession to meet increased visitor needs and supplement ongoing park maintenance and operations budgets but any future concession expansion should not take place at the Lighthouse Museum.

VIII Environmental Impact Element
(Initial Study)



VIII. ENVIRONMENTAL IMPACT ELEMENT (INITIAL STUDY)

The Environmental Impact Element (Initial Study) of the Lighthouse Field State Beach General Plan provides an environmental assessment of the proposed development and uses of the site as described in the other elements of the general plan. This environmental assessment is in the form of an Initial Study used to determine whether an Environmental Impact Report (EIR) or Negative Declaration must be prepared. The Initial Study is required pursuant to Section 15080 of the California Environmental Quality Act (CEQA) Guidelines. The City of Santa Cruz is the designated lead agency for the project; and, as such, it will use the Initial Study as a basis for a finding of potentially significant or insignificant effects on the environment. The primary components of the Initial Study are:

- A. A description of the project;
- B. An identification of the environmental setting;
- C. An identification of environmental effects by use of an environmental checklist;
- D. A discussion of ways to mitigate the significant effects identified, if any.

Many of these components are included in other sections of the Lighthouse Field State Beach General Plan or in the Inventory of Features. Therefore, much of the information required in the Initial Study is incorporated by reference to other elements of the Lighthouse Field State Beach General Plan or to the Inventory of Features.

A. DESCRIPTION OF THE PROJECT

A detailed description of the project is contained in the Land Use and Facilities, Interpretive, Operations and Concession Elements of the Lighthouse Field State Beach General Plan. A summary of the major components is given here with a brief description of the proposed park developments.

Lighthouse Field State Beach is located on the north coast of Santa Cruz County entirely within the boundaries of the City of Santa Cruz. It includes 36 acres of undeveloped coastal terrace and over 4,200 feet of scenic cliffs. Santa Cruz Point, an outcropping of rock which marks the northern end of Monterey Bay, is the site of a lighthouse. There are dramatic ocean vistas from this "Lighthouse Point". To the east the bowl of the Coastal Mountain Range frames Monterey Bay and Santa Cruz Harbor. The State Beach proposed here contains some of the last remaining undeveloped coastal property within the city, as well as a Lighthouse Museum facility, beach areas, significant marine wildlife features and access to Steamer Lane, a well-known surfing area.

The proposed State Beach occupies a historically important site in Santa Cruz. The first Lighthouse was established in 1869 at the point. The coastal terrace was once the property of James Phelan, mayor of San Francisco in 1897, who erected gardens, an observatory, and cottages in this field. These structures, along with most of the groves of eucalyptus and Monterey cypress have been removed. The new park intends to preserve and enhance the existing historic field which has become a community symbol in an effort to halt intensive coastal development. The field now offers unique recreational uses to visitors and neighborhood residents; hiking, informal picnicking, nature interpretation and open space values. This Field Zone will comprise 32 of the 36 acres of coastal terrace.

Regional planning considerations, recreational opportunities, visitor use facilities, operational and concession requirements have been identified in the General Plan. As a State Beach facility, the ocean-oriented recreational opportunities enjoyed statewide as well as by Santa Cruz residents are of prime importance. These recreational needs are addressed by providing a more intense use area largely on the ocean side of the cliff drive, a 3.3 acre turf field for sightseeing, picnicking, and informal play within a Coastal Zone.

Throughout the planning process, the public has been involved in a series of workshops and public forums. The many comments and suggestions have been incorporated into the General Plan.

The diverse preservation and recreation goals inherent at Lighthouse Field State Beach will be addressed in two zones;

Field Zone.

Low-intensity use 32 acre area dealt with in a Resource Management Program which sets policy guidelines for the preservation and perpetuation of the native plant and wildlife population. No concentrated use activities shall be permitted in the field, only informal paths and interpretive trails. This low-use zone will be adequately buffered from higher-intensity use areas across the cliff drive.

Coastal Zone

Moderate to high intensity use zone comprising the area cliffside of the road and concentrated at Lighthouse Point in turf by a Lighthouse Interpretive Center/Concession and Restroom facility. Also included within this use zone are the parking lots and pull-offs as part of an overall circulation plan providing 224 permanent marked parking stalls.

Land use elements and visitor support facilities proposed in the General Plan are summarized below:

West Cliff Drive. Addition of an access road from West Cliff Drive near the bend serves the two parking lots and helps define the irrigated turf area. Continuous curb fieldside of the road to keep out vehicles. Controlled and lighted pedestrian crossings. Pelton to be one-way from Eucalyptus to West Cliff Drive.

Parking. Provide 224 spaces in three new buffered parking lots and two fieldside pull-offs; and 50 spaces in two temporary cliffside parking areas. This will eliminate continuous parking along West Cliff Drive. Parking areas include: Fieldside Lot at the northeast entry (80 spaces), Lighthouse Lot (38 spaces), Beach Lot (48 spaces), Existing Surfer/View pull-off parking (15 spaces), Existing Beach/View pull-off parking (43 spaces). Uncontrolled fieldside pull-off parking is eliminated with the addition of a fieldside curb along the road. Two Temporary Fieldside pull-off parking areas (50 spaces) will remain only in the first phase of park development toward the west end of the site. These parking areas mitigate the loss of parking during Phase I park construction. At the end of Phase I and again at the end of park construction the parking availability will be reviewed in terms of total demand and visitor load at those points.

Trails. Low key trail configuration within the field (4,800 lineal feet) to remain under management guidelines. Pedestrian/bike path (10 foot wide asphalt section, 3,000 lineal feet) on the cliffside of the road to remain except for some realignment to provide access to the parking/picnic areas, restroom and Lighthouse. Interpretive pathway spurs (300 lineal feet) lead from the coastal pedestrian/bike path to seal and seabird observation areas. Total coastal trails - 8,700 lineal feet.

Planting. Some new planting of native trees, shrubs, and grasses enhancing existing planting within the field. Irrigated grass area added by the Lighthouse. New planting at the cliff edge for accent and erosion control. Preserve existing Monterey cypress.

Picnic Area. Picnic facilities at sixty (60) informal sites in turf area between parking and Lighthouse. Existing grove of trees provide shade and defines view while buffering the picnic area from the field preservation zone.

Lighthouse Interpretive Center/Concession and Restroom. One small existing Concession and Interpretive Center at the existing Lighthouse Museum (447 square feet) with allowance for appropriate future concession and interpretive consideration. One restroom facility (750 square feet) added at the active turf area between the Beach and Lighthouse Parking Lots. Portable toilets will be available at peak use periods and special events.

Gateways. Entry signs of appropriate character consistent with other park furniture will be placed at the east and west entrances of the park along West Cliff Drive.

Amenities. All amenities shall be thought of as a family of park furniture and equipment, consistent in design, material and color. Amenities include: Benches (wood with backs) at viewpoints along the cliff and at the turf area; Fencing (wood with wire mesh) at dangerous cliffside locations; Lighting (street lights with low hoods to reduce glare, stair lights and building security lights) at crosswalks, stairs and buildings; Stair Improvements at Steamer Lane surfing area and beach area west of the Lighthouse; Trash Receptacles throughout the State Beach; Bike Racks, Drinking Fountains and Telephones will be provided at appropriate places along the pedestrian/bike path; Signing, Graphics, and Pavement Striping.

Day-Use. Lighthouse Field State Beach is a day-use facility only, no overnight parking or camping due to its location adjacent to a residential area and inside city limits. Also, no formalized recreational playfields are provided since such improvements are attractions in themselves and therefore inappropriate to the State Park System. These facilities do not directly enhance the public enjoyment of the natural, scenic, cultural, or ecological values of this coastal resource.

Operations. A seven day a week maintenance worker will staff the park during day time operations. Security will be provided by the local police department. As a condition of the 1978 purchase of the 36 acre field by the State of California, an Operations Agreement was signed between the State of California and City and County of Santa Cruz whereby the City and County assume responsibility for planning, construction and management of the State Beach.

Phasing and Costs. The development plan for the park is presented in two phases as money becomes available. Total estimated cost for both phases is \$800,000. Phase I improvements (\$500,000) include a management program, new parking and a turf picnic/informal play area created at Lighthouse Point with a Restroom facility. Phase II (\$300,000) improvements are the parking and entry area at the northeast corner of the park. This phase would recommend that Pelton be made one-way from Eucalyptus to West Cliff Drive to discourage traffic and parking in the adjacent neighborhood and the access road.

B. DESCRIPTION OF THE ENVIRONMENTAL SETTING

A detailed description of the environmental setting is included in the Inventory of Features, and a summary of the primary physical features is included here and in the Resources Element. The Land Use and Facilities Element describes the regional setting of the park and existing land uses, including utilities, roads, and trail systems.

Topography. The site is located on a coastal terrace within the geological province known as the Coastal Range. There are two major terrain features within the project area. These are the coastal bluffs and the coastal terrace. The sandy beach area is scattered at the base of the coastal bluffs, with high tides completely covering the beach. Access to available beach areas is limited due to the steep slope of the bluffs. A 30 to 40 feet drop off exists between the top of the bluffs and the beach area. The coastal terrace is quite flat with no major hills, and terrace slopes are generally less than 5 percent.

Meteorology. Lighthouse Field State Beach is highly affected by ocean breezes characteristic of the season. A daily sea breeze - land breeze system results from local temperature differences between the Pacific Ocean and inland areas. During the summer, high temperatures inland draw cool, moist air in from the ocean, thereby moderating temperatures at the coast. When temperatures inland are cool, a reversal of air flow occurs, with offshore easterly breezes dominating. The seasonal breezes are generally from the west and northwest during the spring and summer with a larger southern and eastern component in the fall and winter.

The average annual daily temperature at Lighthouse Field State Beach is essentially the same as Santa Cruz, about 56.8 degrees F with an average daily temperature of 63.3 degrees F in September, the warmest month, and 49.0 degrees F in January, the coolest month. Average annual precipitation is 28.34 inches with nearly all rainfall between October and April.

Hydrology. The site is within a 50 acre watershed which drains directly to Monterey Bay and the Pacific Ocean. Minor local flooding occurs during times of high intensity rainfall. However, the site is not subject to inundation. Several swales on the site collect surface runoff. Excess water in these areas is discharged beneath West Cliff Drive to the ocean via storm drains.

The geologic conditions beneath the site and the close proximity to the ocean indicate low potential for ground water. Water wells drilled in this area have low yields and poor quality.

Geology. The bedrock underlying the site is the Upper Pliocene Purisima Formation. The Purisima consists of several interbedded subunits: a hellowish gray siltstone, a bluish gray thickly bedded, cross-bedded, semi-friable sandstone and a thin bedded, gray mudstone. Occasional layers or lenses composed almost entirely of mollusk shells are interspersed between these subunits. Jointing and random fracture patterns are common in the mudstone, allowing groundwater to seep out along the cliff face in some locations. Each subunit of the Purisima has a different resistance to erosion and differential erosion of less consolidated rocks and along joints and fractures has created arches, stacks, and sea caves in the cliffs.

The Purisima is overlain by a thin veneer, about 1 to 3 feet thick, of Pleistocene terrace deposits. These deposits are poorly consolidated and consist of interbedded silts, clays, gravels and conglomerates. The contact between the terrace deposits and Purisima Formation is locally marked by a zone of boulder-size, hard sandstone and siltstone concretions up to several feet in diameter and by a zone of seeps and springs.

Two distinct areas of possible faulting occur adjacent to a sea cave below the Lighthouse. One zone of apparent shearing is visible at the mouth of the cave and the other possible fault occurs immediately to the west of the cave opening. These faults are aligned in the same trend as a potentially active fault mapped by the U.S. Geological Survey about 1/4 mile south of Lighthouse Point. Geophysical evidence suggests that this fault may extend within 20 feet of the sea floor. The fault and shear zone found in the point area could be extensions of this potentially active marine fault.

The Purisima Formation is known to contain fossil plants, microfossils, trace fossils, invertebrates and vertebrates. All of these fossil groups are from marine environments with the exception of the plant fossils. The Purisima has yielded larger numbers of fossils than any other formation in the County. At least one species new to science, a walrus-like animal (*Duseganthus Santa-Cruzensis*) was found near Lighthouse Point in 1926. A list of fossil species found in this formation is included in the Inventory of Features.

Microfossils and invertebrates (mainly mollusks) are also found in the terrace deposits. These species are for the most part very similar to species living today.

Long-term average erosion rates for the Purisima are estimated to be about 12 inches per year. Most of the erosion is episodic, and the collapse of ten feet or more of the bluff at one time commonly occurs. The City of Santa Cruz (in cooperation with the Army Corps of Engineers in some cases) has installed rip-rap at the base of highly eroded cliff areas and closed off at least one sea cave in order to retard further erosion. These protective measures will slow down the bluff erosion rates, but continued erosion (at a slower rate) on the site is inevitable. The erosion problem along the bluffs is severe and walkways along West Cliff Drive have already been undermined in several locations.

Soils. The Lighthouse Field area is classified in the Marine Terrace and old Alluvial Fans and Hills region of Santa Cruz County. These soils are characterized as well-drained to somewhat poorly drained loams and sandy loams formed on moderately steep slopes. The soils on the site differ from the regional description with respect to slope; except for the steep coastal cliffs rimming the eastern and southern portions of the site, Lighthouse Field is nearly level. In addition, the soils on the site appear to have a higher clay content and less favorable drainage characteristics than reflected in the general description.

The Soil Conservation Service has mapped three basic soil types: beaches, pinto loam and Watsonville loam in two slope categories. Beach soils are found in narrow strips between the ocean and the coastal cliffs. These soils are formed by the deposition of sand, pebbles and some cobbles and stones in protected caves and inlets. The sediments originate from the erosion of coastal cliffs as well as upland areas. The eroded materials are transported to the coast by surface runoff and stream flow. Once in the shoreline environment, beach materials generally move downcoast as a result of longshore currents which move parallel to the coast from north to south. The amount of beach deposits present varies continually, depending on the velocity of the longshore current, the rate of erosion in upland and coastal areas, the amount of seasonal runoff and stream flow and human management practices including the construction of drainage and coastal protection structures. The beach deposits on the site are generally covered by water, except at low tide, and thus they are easily eroded by wave action.

The Pinto loam, a soil formed in alluvium located on marine terraces, extends over most of the site. Physical characteristics include low permeability, low shrink-swell potential and slight erosion hazard. In the northern portion of the site and in the vicinity of the existing drainage swale the soil type is the Watsonville loam, a thick-surfaced soil with similar parent material and characteristics as the Pinto loam, although a clayey layer several feet below the surface causes a very low permeability and a high shrink-swell potential. A portion of the site is designated as Watsonville loam, 2 to 15 percent slope; however, only the area immediately adjacent to the drainage swale has a slope greater than 10 percent.

Plant Life. There is a long history of plant introductions to the site which has resulted in vegetation that is predominantly non-native. The site presently supports groups of Monterey Cypress separated by grassland, willow thickets and some shrubs.

While Monterey cypress (*Cypressus macrocarpa*) comprise only 5 percent of the field, they dominate in the visual sense. These trees are mostly erect

specimens in contrast to their usual low, windswept form. This is probably a result of competition for light with the eucalyptus which were present until about 1960. Monterey cypress occur naturally at Cypress Point north of Carmel and Point Lobos State Park. The trees at Lighthouse Field were probably planted as part of Phelan Park. Cypress seedlings are present and appear to be more numerous adjacent to Pelton Avenue than elsewhere.

A non-native grassland occurs on approximately 95 percent of the site and is dominated by wild oats (Avena fatua), ripgut grass (Bromus diandrus), and Italian ryegrass (Lolium perene ssp. multiflorum). Various forbs including field mustard (Brassica campestris), wild radish (Raphanus sativus), filaree (Erodium cicutarium), Bermuda buttercup (Oxalis pes-caprae), and curly dock (Rumex crispus) are also abundant.

A shrub component is poorly represented and consists of individuals under one meter in height. Dominant species include coyote brush (Baccharis pilularis ssp. consanguinea), poison oak (Toxicodendron diversilobum) and California blackberry (Rubus ursinus). While mowing has undoubtedly limited the spread of these species, salt spray and poor drainage may also be limiting factors.

Willow Thickets (Salix lasiolepis) comprise less than one percent of the site. These thickets occur where drainage is poor and high groundwater provides the damp conditions which willows require. These willow stands, aside from providing wildlife habitat, may harbor native annual vegetation which has escaped previous mowing.

The coastal bluff vegetation is in a constant state of disturbance due to its proximity to West Cliff Drive. Pedestrian access to the beach can only be attained by passing through this community and foot traffic is heavy in certain areas. Sea fig (Mesembryanthemum sp.) is the dominant cover along the bluffs.

No rare or endangered plants have been reported from the site.

Several non-native species on the site may present a management problem. Blue gum (Eucalyptus globulus), pampas grass (Cortaderia actacomensis), and milk thistle (Silybum marianum) are three species which tend to be invasive and can present severe management problems unless eradicated when young.

Animal Life. The primary wildlife species which utilize the habitats at Lighthouse Field are birds (119 species noted). Rodent species, opossum, mole and striped skunk are expected to occur in the grassland habitat. Two species of reptiles and three species of amphibians are also expected to inhabit the field. Several endangered species occur just off the coast (7 whale species, California sea otter and Brown Pelican). Lighthouse Point is a good observation area for some of these species. However, the site itself is not considered prime habitat. One, or possibly two pairs of black swifts nest on the cliffs, and this is one of the only 14 nesting sites for this species in the state. Because of its limited abundance and restricted distribution, it is a species of special concern.

Cultural Resources. There are no known Native American features on the site, and nearly all evidence of historical use by European man has been removed. The Lighthouse is the only building remaining; visitation is restricted at

present, but increased public use may be feasible in the future.

Aesthetics. The principal natural attribute of the site is that it is the headland of the Monterey Bay. By virtue of its size (36 acres), it is also a significant open space within the City of Santa Cruz. The views provided by this open space are nearly unparalleled along the central California coast. The site looks out directly on the Pacific Ocean. Slightly to the south the view encompasses all of Monterey Bay, including Santa Cruz and the Municipal Wharf in the foreground, the central Santa Cruz County coastline in the Aptos/La Selva Beach area, the Moss Landing area (as evidenced by the Kaiser smokestacks), the portions of the bay along northern Monterey County, and finally culminating in the view of the Monterey/Pacific Grove Point which defines the southern end of Monterey Bay.

The views in the foreground are especially rich. The site looks out on the Santa Cruz Municipal Wharf and portions of the Santa Cruz main beach and boardwalk. Across this vista, one also sees portions of the Santa Cruz Mountains in the distance. On the Pacific Ocean side of the site (as opposed to the side which faces Monterey Bay proper), there are views of seals and cormorants which frequent prominent rocks adjacent to the site.

The Lighthouse itself provides an aesthetically pleasing view from many portions of the site, and it serves as a landmark for the area.

Auditory Resources. The full range of ocean sounds are associated with the Lighthouse Field site. The ocean itself provides the crashing of waves, the lapping of waves at the water edge, and the interaction of wind and water in this location. Other man-made sounds are associated with this ocean setting, foghorns being a primary example. The area is also blessed with a range of wildlife sounds. Seals can be heard frequently, as well as the sounds of seagulls, pelicans, and other aquatic birds. During more pronounced breezes, the wind also makes noise in the existing trees on the site.

Traffic and Parking

The City of Santa Cruz Public Works Department conducted a survey in December 1981 to obtain data on vehicular traffic in the area around Lighthouse Field. That survey indicated that West Cliff Drive was approaching capacity with about 4500 vehicles per day average (both directions), and about 35 percent of these vehicles were on trips between home and local destinations (e.g. shopping, church, work). Traffic counts during the summer (July 1981) were higher than winter counts with an average of 5700 vehicles per day using West Cliff Drive.

There are presently 72 marked parking spaces at Lighthouse Field. Additional informal parking occurs on the packed earth adjacent to West Cliff Drive. These areas become extremely congested and overloaded during peak usage day when over 233 parked vehicles in designated and undesignated spaces have been reported on the site.

C. DESCRIPTION OF ENVIRONMENTAL EFFECTS

The environmental effects of implementing the proposed development plan are

identified on the Environmental Checklist Form which has been reproduced from the CEQA Guidelines. As defined in Section 15040 of the CEQA Guidelines, a significant effect is "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the (proposed) activity including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." Any effect which has been identified as a possible significant adverse impact on the Checklist is explained further following the Checklist with a mitigation incorporated into the General Plan.

The following discussion pertains to the potential impacts identified on the Environmental Checklist Form.

Earth

Impacts. The coastal bluffs at Lighthouse Point are undergoing continuous erosion that has been estimated as high as 12 inches per year. The Public Works Department of the City of Santa Cruz has implemented measures to control the excessive erosion by placing large rocks and rip-rap at the base of the cliffs to reduce the erosive force of waves on the bluffs. At this time, the department does not foresee placement of additional rip-rap materials, but it does provide maintenance of the previously placed rip-rap. The unstable earth conditions along the coastal bluffs will continue with or without development of Lighthouse Field, and the unstable conditions cannot be attributed to the proposed plan. However, the roadway, pedestrian walkway and bike path along the edge of the cliff does expose people to the hazard of a sudden ground failure.

Mitigations. The proposed development plan provides some mitigation for this existing problem. The plan provides for fencing at particularly dangerous locations near the cliff edge. The wood frame and wire fencing will be an important safety element of the proposed plan. In addition, setback of the circulation routes may be necessary if erosion continues at the coastal bluffs near the roadway and pedestrian/bicycle paths. The plan provides for fencing at particularly dangerous locations near the cliff edge. The wood frame and wire fencing will be an important safety element of the proposed plan.

Plant Life

Impacts. The existing vegetation, specifically the mature Monterey cypress trees, could be adversely affected by aggressive exotic species and the proposed development plan which includes addition of parking lots and the introduction of new plant species.

Mitigations. The Resource Management Plan provides for protection and maintenance of the Monterey cypress trees. Aggressively invading (non-native) vegetation including pampas grass (*Cortaderia atacamensis*), blue gum seedlings (*Eucalyptus globulus*) and mild thistle (*Silybum marianum*) will be systematically removed to encourage more desirable species. Introduced planting will consist of drought tolerant native species which require minimum maintenance. In addition, these species will provide a visual screen against reflected glare in the parking areas and will buffer the natural character of the interior portions of the site.

ENVIRONMENTAL CHECKLIST FORM

I. BACKGROUND. City of Santa Cruz; Parks and Recreation Department
 1. Name of Proponent
 2. Address and Phone Number of Proponent:

 3. Date of Checklist Submitted 17 September 1982
 4. Agency Requiring Checklist City of Santa Cruz
 5. Name of Proposal, if applicable Lighthouse Field State Beach General Plan

II. ENVIRONMENTAL IMPACTS
 (Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic structures?		X	
b. Disruptions, displacements, compaction or overcovering of the soil?			X
c. Change in topography or ground surface relief features?			X
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?			X
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?			X
b. The creation of objectionable odors?			X
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?			X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?			X
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff?			X
c. Alterations to the course or flow of flood waters?			X
d. Change in the amount of surface water in any water body?			X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?			X
f. Alteration of the direction or rate of flow of ground waters?			X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?			X
h. Substantial reduction in the amount of water otherwise available for public water supplies?			X
i. Exposure of people or property to water related hazards such as flooding or tidal waves?			X
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?			X
b. Reduction of the numbers of any unique, rare or endangered species of plants?			X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?		X	
d. Reduction in acreage of any agricultural crop?			X
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?			X
b. Reduction of the numbers of any unique, rare or endangered species of animals?			X
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?			X
d. Deterioration to existing fish or wildlife habitat?			X
6. Noise. Will the proposal result in:			
a. Increases in existing noise levels?			X
b. Exposure of people to severe noise levels?			X
7. Light and Glare. Will the proposal produce new light or glare?			
a. Increase in the rate of use of any natural resources?			X
b. Substantial depletion of any nonrenewable natural resource?			X
8. Land Use. Will the proposal result in a substantial alteration if the present or planned land use of an area?			
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?			X
b. Substantial depletion of any nonrenewable natural resource?			X
10. Risk of Upset. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X
b. Possible interference with an emergency response plan or an emergency evacuation plan?			X

YES MAYBE NO

- 11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?
- 12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?
- 13. Transportation/Circulation. Will the proposal result in:
 - a. Generation of substantial additional vehicular movement?
 - b. Effects on existing parking facilities, or demand for new parking?
 - c. Substantial impact upon existing transportation systems?
 - d. Alterations to present patterns of circulation or movement of people and/or goods?
 - e. Alterations to waterborne, rail or air traffic?
 - f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

YES MAYBE NO

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- 14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:
 - a. Fire protection?
 - b. Police protection?
 - c. Schools?
 - d. Parks or other recreational facilities?
 - e. Maintenance of public facilities, including roads?
 - f. Other governmental services?

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- 15. Energy. Will the proposal result in:
 - a. Use of substantial amounts of fuel or energy?
 - b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?
- 16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:
 - a. Power or natural gas?
 - b. Communications systems?
 - c. Water?
 - d. Sewer or septic tanks?
 - e. Storm water drainage?
 - f. Solid waste and disposal?

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- 17. Human Health. Will the proposal result in:
 - a. Creation of any health hazard or potential health hazard (excluding mental health)?
 - b. Exposure of people to potential health hazards?
- 18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?

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19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?

YES MAYBE NO

20. Cultural Resources

- a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archeological site?
- b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?
- c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?
- d. Will the proposal restrict existing religious or sacred uses within the potential impact area?

21. Mandatory Findings of Significance.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)

c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)

d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

III. DISCUSSION OF ENVIRONMENTAL EVALUATION

IV. DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.
- I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Animal Life

Impacts. Increased visitor access to the cliff area may disturb nesting activities of the black swift which is considered a species of concern by the California Department of Fish and Game due to the limited number of nesting sites. The black swift nests in only three known locations in Santa Clara County, and the cliff at Lighthouse Point has been used as a nesting site for over 12 years.

Mitigations. The proposed plan restricts pedestrian access to walkways and prominent overlooks. Warning signs and restraining fences will prohibit access to the sensitive cliff areas. Prior to construction activity, the California Department of Fish and Game should verify that the proposed activities will not significantly alter the black swifts' nesting site. In addition, no construction work should be done in the cliff area during the nesting season from May to August.

Transportation/Circulation

Impacts. The proposed plan could result in increased use of the area and consequently a greater need for parking facilities and an efficient vehicle circulation pattern.

Mitigations. The proposed plan will provide a total of 224 parking spaces. This is 152 spaces more than the existing number of marked stalls. Two informal parking areas along West Cliff Drive will be utilized as temporary fieldside parking with 50 spaces during Phase I construction. Depending upon parking needs, these temporary areas may be evaluated for possible permanent parking after completion of construction phases. The planned parking areas will reduce congestion and traffic hazards and provide formal parking for additional cars over the present total of marked spaces.

Making Pelton Avenue a one-way road between Eucalyptus and West Cliff Drive will prevent about 200 vehicles per day from using this roadway (based on vehicle counts in December 1981). Most of these vehicles would probably use West Cliff Drive. However, the increase in total vehicles along West Cliff Drive (about 4 percent) would not be significant. The projected total traffic volume along West Cliff Drive will probably not change significantly because major new uses have not been proposed for the park, and West Cliff Drive is already near capacity during peak usage time.

The proposed plan also recommends the addition of a new public transit stop just west of the Beach Parking Lot. The new stop would provide access to the heart of Lighthouse Field State Beach and would reduce the number of automobiles driven to the site.

Public Services

Impacts. The proposed plan will require additional maintenance services in the form of restroom cleaning, litter disposal, maintenance of the interpretive center and landscape management.

Mitigations. The City of Santa Cruz will be the agency responsible for the new maintenance costs. The maintenance services will be performed under the direction of the Parks and Recreation Department.

The proposed plan will increase the amount of park land available for public use and provide specific areas for variable use intensities.

The existing roadway is currently a public thoroughfare and, as such, received maintenance by the City of Santa Cruz Public Works Department.

Utilities

Impacts. New water and sewer lines must be extended to the Restroom. The existing storm drainage pipes beneath West Cliff Drive are adequate to discharge runoff, but have a high erosion potential and are aesthetically unattractive.

Mitigations. New water and sewer lines should be placed in the same trench to minimize soil and vegetation disturbances (subject to Public Works Department standards). There is adequate capacity in both of these systems to provide for the planned uses.

The proposed plan recommends upgrading the stormdrain system by concealing the pipes and discharging water at the base of the cliffs to reduce erosion potential and eliminate the unattractive existing situation.

The proposed plan recommends a regular maintenance schedule for solid waste removal to ensure sanitary conditions throughout the site. This includes the placement of trash receptacles at high intensity use areas.

Mandatory Findings of Significance

Short-Term Uses Versus Long-Term Productivity. The present and proposed uses of Lighthouse Field State Beach include the enjoyment of activities such as walking, bicycling, roller skating, surfing, swimming, picnicking, and viewing the ocean. None of these activities would preclude alternative long-term uses. The management proposed for the existing uses would effectively protect the valuable natural resources of the site to provide the maximum possible long-term benefit to the public.

Irreversible Changes. No significant irreversible changes would result from implementing the proposed plan primarily because the plan advocates management of the site in its present condition as open space.

Growth-Inducing Impacts. Implementing the proposed plan would provide the needed maintenance and management of a valuable natural resource. Therefore, none of the improvements proposed for Lighthouse Field would be considered growth-inducing.

Project Compatibility with City Plans and Policies. The proposed activities in the Lighthouse Field State Beach General Plan are compatible with the existing zoning and the General Plan for the City of Santa Cruz. The City's General Plan designates Lighthouse Field as an open space use and the Transportation and Public Facilities section, Policy E, Program 4, states: "Develop a cooperative plan with the county and the state for Lighthouse Field that retains unique coastal and natural resources, and provides coastal recreation opportunities." The current efforts to develop Lighthouse Field

effectively implement this policy. An amendment to the City's Local Coastal Plan has been prepared which will incorporate the Lighthouse Field State Beach General Plan.

Documents Consulted.

1. Lighthouse Field Project, Inventory of Features
by the City and County of Santa Cruz
2. General Plan 1990
by the City of Santa Cruz, January 1980
3. Open Space and Conservation Element
by the City of Santa Cruz, December, 1975
4. Lighthouse Point Convention Center Environmental Impact Report
by the City of Santa Cruz, July 1973

Persons and Agencies Consulted

1. California Coastal Commission, Santa Cruz
Rick Hyman, Coastal Planner
2. California Resources Agency
Department of Fish and Game, Region III, Yountville
Walt Smith, Wildlife Biologist
Gil Thompson, Wildlife Biologist
3. U.S. Army Corps of Engineers, San Francisco District
Frank Kelleher, Regulatory Functions Officer

APPLICATION FOR ENVIRONMENTAL REVIEW

Case No. _____

(To be completed by Applicant.)

Applicant (print) City of Santa Cruz; Dept. of
Parks and Recreation

Phone: _____

Applicant's Address Santa Cruz, CA

Location of Project: Lighthouse Point

Description of Project: Lighthouse Field State Beach

(described in the Lighthouse Field State Beach General Plan and Initial Study)

I hereby apply for environmental review of the project subject of this application. All information provided in connection with this application is, to the best of my knowledge, true and correct.

Applicant's Signature

(To be completed by Staff.)

The following documents have been completed and are attached:

<input type="checkbox"/> Exemption Determination	Dated _____
<input type="checkbox"/> Notice of Exemption	_____
<input type="checkbox"/> Initial Study	_____
<input type="checkbox"/> Notice of Intent to Issue Negative Declaration	_____
<input type="checkbox"/> Negative Declaration	_____
<input type="checkbox"/> Notice of Preparation of EIR	_____
<input type="checkbox"/> Notice of Completion	_____
<input type="checkbox"/> Notice of Determination	_____

Contact Person _____

Date: _____

8. Earth
- a. Could the project result in unstable earth conditions or in changes in geologic substructures? no _____
 - b. Could the project result in disruptions, displacements, compaction, or the overcovering of the soil? no _____
 - c. Could the project result in change in topography or ground surface relief features? no _____
 - d. Could the project result in wind or water erosion of soils, on or off the site? no _____
 - e. Could the project result in the destruction, covering, or modification of any unique geologic or physical features? no _____
 - f. Could the project possibly affect, or be affected by, the slopes upon which it would exist; or could the project be jeopardized, or in some way jeopardize, the stability of a cliff near to where the project is to be located? no _____
 - g. Could the project involve grading in excess of 50 cubic yards? If so, could such grading result in a hazard to adjacent properties, unstable slopes, or uncompacted fill? no _____
9. Animal Life/Vegetation
- a. Could the project cause a change in the diversity of species, or numbers of any species of animals? no _____
 - b. Could the project result in a significant reduction in the vegetation that is currently relied upon by the wildlife using the site? no _____
10. Hydrology
- a. Could the project significantly alter a stream, creek, or drainage course? The considerations should include channel size, channel location, water quantity, water quality, and vegetation bordering the stream. no _____
 - b. Could the project be affected by, or in some way affect, the unprotected floodways within the City? no _____
11. Fire Hazard
- a. Could the project be affected by, or in some way affect, fire hazard areas within the City? no _____
12. Pollutants
- a. Could the project produce noticeable or harmful air or odor pollutants? no _____
 - b. Could the project be affected by, or in some way produce, sustained high noise levels? no _____
13. Cultural Resources
- a. Will the proposal result in the alteration or the destruction of a prehistoric or historic archaeological site? no _____
 - b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object? no _____
 - c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? no _____
14. Health
- a. Could the project result in the creation of any health hazard, potential health hazard (excluding mental health), or the exposure of people to potential health hazards? no _____
 - b. Could the project result in relocation or displacement of people? If so, how many? no _____
15. Recreation
- a. Could the project result in an impact upon the quality or quantity of existing or planned recreational opportunities? no _____
16. Energy
- a. Could the project result in the use of substantial amounts of fuel or energy, a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? no _____

Applicant's Signature: _____

Date: _____

(By Planning Staff)

17. Review

- a. Is the project proposed to be within an environmental constraint area, as designated in the City's Open Space and Conservation Element of the General Plan? _____
- b. Does the staff agree with the applicant's answers? _____

C. Discussion of Possible Mitigation Measures

(Discuss measures that may be included within the project for any identified impact.)

(Mitigation measures for potential impacts are discussed in the Environmental Impact Element/Initial Study of the Lighthouse Field State Beach General Plan)

D. Project Compatibility

Is the project compatible with existing zoning, the General Plan, or other specific or area plan? yes

Administrator of Environmental Quality

Date

By Whom

F. Name of person(s) who prepared, or participated in the preparation of, the Initial Study,

(Please print:) Gerald Edelbrock, Associate

Torrey & Torrey Inc.
San Francisco, California

DETERMINATION

G. Mandatory Findings of Significance

The project has:

- a. Impacts which have the potential to degrade the quality of the environment or curtail the range of the environment.
- b. Impacts which achieve short-term, to the disadvantage of long-term, environmental goals.
- c. Impacts for a project which are individually limited but cumulatively considerable.
- d. Environmental effects which will cause substantial adverse effects on human beings, directly or indirectly.

Yes	Maybe	No
		X
		X
		X
		X

Based on the description of the proposed project and other information relevant to the project, it is determined that the project, may, will, or will not have a significant effect on the environment, because the project may contain, contains, or does not contain the foregoing impacts or effects.

H. Conclusion

The proposed project:

- May have a significant environmental effect, and the applicant is directed to provide the Director of Planning with supplemental information to make a final determination.
- Will not have a significant environmental effect, and a Negative Declaration will be issued. The project is cleared for normal processing. (If this item is checked, see Page 6.)
- May have a significant environmental effect, and the applicant is directed to prepare an environmental impact report (EIR) incorporating relevant supporting data. (If this item is checked, see Page 7.)

Administrator of Environmental Quality Date By Whom

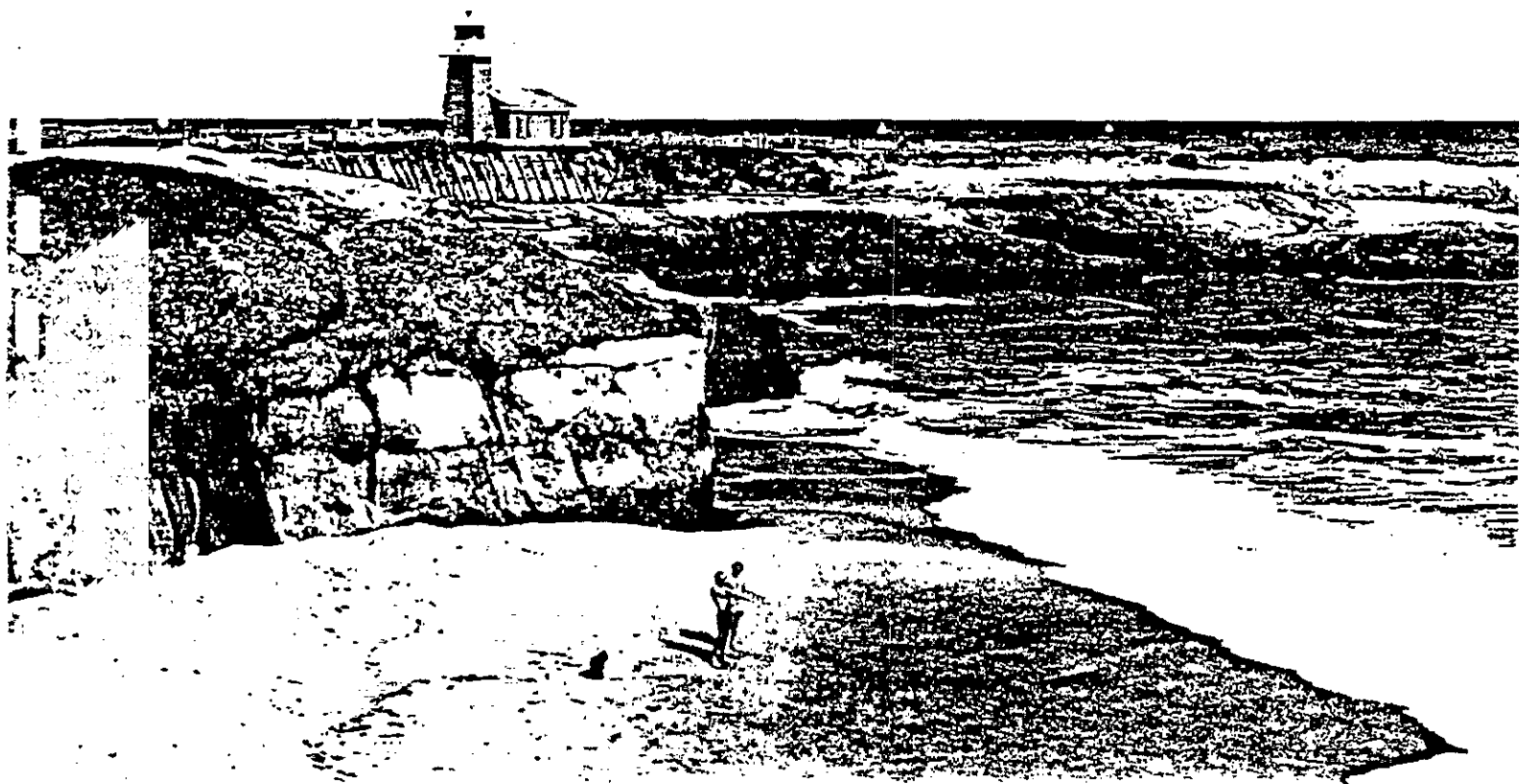
NATIVE PLANT SPECIES WITH HIGH POTENTIAL

FCR

USE AT LIGHTHOUSE FIELD STATE BEACH

<u>Common Name</u>	<u>Scientific Name</u>	<u>Habit</u>
Coyote Brush	<u>Baccharis pilularis</u>	Shrub/groundcover
California Lilac	<u>Ceanothus species</u> (including <u>C. gloriosus</u> ; <u>C. exaltatus</u> ; <u>C. porrectus</u> <u>C. griseus</u> ; <u>C. horizontalis</u> <u>C. rigidus</u> ; <u>C. thyrsiflorus</u>)	Shrub/Groundcover
Monterey Cypress	<u>Cupressus macrocarpa</u>	Tree
Silktassel	<u>Garrya elliptica</u>	Shrub
Salal	<u>Gautheria shallon</u>	Groundcover
Bladder pod	<u>Isomeris arborea</u>	Shrub
Oregon grape	<u>Mahonia aquifolium</u>	Shrub
California Wax Myrtle	<u>Myrica californica</u>	Shrub
Knobcone Pine	<u>Pinus attenuata</u>	Tree
Shore Pine	<u>Pinus contorta</u>	Tree
Monterey Pine	<u>Pinus radiata</u>	Tree
Bishop Pine	<u>Pinus muricata</u>	Tree
Coffeeberry	<u>Rhamnus californica</u>	Shrub
Coast Redwood	<u>Sequoia sempervirens</u>	Tree
California Huckleberry	<u>Vaccinium ovatum</u>	Shrub

IX Appendices



BACKGROUND DATA SUMMARY

LIGHTHOUSE FIELD STATE BEACH

The following background data has been collected for the Lighthouse Field State Beach:

1. Inventory of Features
by the City and County of Santa Cruz
2. City of Santa Cruz General Plan 1990
January, 1980
3. Public Involvement Guidelines
by the State of California Department of Parks and Recreation
August, 1978
4. City of Santa Cruz Open Space and Conservation Element
December, 1975
5. Livable Streets for the Downtown Neighborhood
for County of Santa Cruz Transportation Commission by
Jeff Oberdorfer and Associates
March, 1980
6. Lighthouse Point Feasibility Study/Concept Plan
for Teachers Management and Investment Corporation
by Sasaki, Dawson, Demay Associates, Inc.
August, 1971
7. Lighthouse Point Convention Center Environmental Impact Report
for the City of Santa Cruz
by Lampan & Associates
July, 1973
8. Agreement for Development, Operation and Maintenance of Public
Park at Lighthouse Field
September, 1977
9. Operating Agreement for Lighthouse Field Project
November, 1977
10. Lighthouse Field Aerial Photos at 1" = 100' with Contour Interval 2'
October 15, 1974
11. Recreation Needs in California
by the State of California Department of Parks and Recreation
February, 1982
12. California Coastal Access Guide
by the California Coastal Commission
1981

AGREEMENT FOR DEVELOPMENT, OPERATION, AND MAINTENANCE
OF PUBLIC PARK AT LIGHTHOUSE FIELD

THIS AGREEMENT was made and entered into this 20th day of September, 1977, by and between the CITY OF SANTA CRUZ (hereinafter "City") and the COUNTY OF SANTA CRUZ (hereinafter "County").

WHEREAS, Item 443 (g) Section 2.9, Chapter 219 of the 1977-78 State Budget Act includes \$4,600,000 for the acquisition of Lighthouse Field with the proviso that none of the funds may be encumbered until the County of Santa Cruz and the City of Santa Cruz agree to provide for the operation and maintenance of the park; and

WHEREAS, the intention of this agreement is to carry out the Budget Act requirement for a City and County agreement; and

WHEREAS, both City and County support the development of a public park on said real property, and have agreed that such project should have the active financial support of both entities.

NOW, THEREFORE, City and County agree as follows, the operation and effect of all provisions of this agreement being contingent upon the acquisition of Lighthouse Field by the State of California for the above-stated purpose:

GENERAL

City is hereby designated as the lead agency, and following adoption of the Master Plan, as hereinafter specified, City shall have the authority and the responsibility to carry out all development, operation and maintenance of the public park, pursuant to this agreement.

DEVELOPMENT

A public park shall be developed on that real property known

as Lighthouse Field, pursuant to a Master Plan, as hereinafter specified. The cost of developing the park will be paid partly with funds from the State of California, and partly with funds from City and County.

Long-Term Agreement. Prior to commencement of any development or use of the public park, City, County and the State of California shall enter into a long-term agreement providing for development, operation, and maintenance of the public park. The execution of the long-term agreement shall be upon the approval of the governing body of each party to this agreement.

Master Plan. A Master Plan for development, operation, and maintenance of said public park shall be prepared. City and County, with the assistance and cooperation of the State of California, shall provide the necessary staff for the preparation of said Master Plan. The adoption of the Master Plan, and any subsequent modification thereto, shall be subject to the approval of the governing body of each of the parties to this Agreement.

Development Cost. Referring to that portion of the development costs of the park to be paid by City and County, City and County agree that each agency shall bear 50% of said development costs of the park, up to a maximum liability of \$250,000 each; any cost in excess of \$250,000 each shall be allocated in such manner as the parties may then agree.

OPERATION AND MAINTENANCE

Performance. City shall perform all functions relating to operation and maintenance of said public park in accordance with the long-term agreement and the Master Plan, referred to above.

Operation and Maintenance Cost. City shall bear 75% of the park operation and maintenance cost and County shall bear 25% of said cost. Revenues generated by use of said public park, if any, shall be allocated to reduce said cost. The allocation of costs provided for in this paragraph shall be reviewed and reassessed by the parties at five (5) year intervals.

ENTIRE AGREEMENT

This document represents the entire agreement of the parties hereto respecting the development, operation, and maintenance of the proposed public park at Lighthouse Field; and any verbal representation extraneous to this Agreement shall have no force or effect unless reduced to written form and duly executed by each of the parties hereto.

IN WITNESS WHEREOF, the undersigned parties have executed this Agreement the year and day first above written.

CITY OF SANTA CRUZ

By 

COUNTY OF SANTA CRUZ

By 

Approved as to form:



COUNTY COUNSEL

Approved as to form:


CITY ATTORNEY

EXHIBIT "A"

Situate in the City of Santa Cruz, County of Santa Cruz, State of California and described as follows:

Being a part of lands conveyed to P. J. Pasetta and Alice P. Pasetta, his wife, by Deed dated December 30, 1958 and recorded January 2, 1959 in Volume 1222 of Official Records at Page 570, Santa Cruz County Records, and more particularly bounded and described as follows, to wit:

Beginning at a 1/2 inch iron pipe in the Southern boundary of Pelton Avenue from which a 1/2 inch iron pipe at the Northeastern corner of lands conveyed to Kingham Developments, Inc., by Deed recorded in Volume 1184 of Official Records at Page 594, Santa Cruz County Records and shown on the Record of Survey Map, filed April 3, 1959 in Book 34 of Maps at Page 37, Santa Cruz County Records bears South 83° 00' West 895.99 feet distant; thence from said point of beginning along the Southern boundary of Pelton Avenue North 83° 00' East 387.20 feet to a 1/2 inch iron pipe; thence continuing along said boundary line North 83° 00' East at 486.72 feet a 1/2 inch iron pipe, 964.85 feet to a redwood hub set at the Northeastern corner of said lands of Pasetta, thence along the Eastern boundary line of said lands South 25° 45' West 14 feet, a little more or less, to a point that is 14.00 feet Southerly measured at right angles from the Southern boundary line of said Pelton Avenue; thence along a line measured at 14.00 feet Southerly at right angles to the Southern boundary line of Pelton Avenue South 83° 00' West 964.85 feet a little more or less to a point that is North 83° 00' East 1283.19 feet from the Eastern boundary line of said lands of Kingham Developments, Inc., thence parallel with said Eastern boundary line of the last above mentioned lands South 7° 46' East 436 feet, a little more or less, to a 1/2 inch iron pipe that is South 7° 46' East 450.00 feet Southerly from the Southern boundary line of said Pelton Avenue; thence parallel with the Southern boundary line of Pelton Avenue South 83° 00' West 387.20 feet to a point that is parallel with and distant Easterly 895.99 feet, measured at right angles to said boundary line of lands so described in the Deed to Kingham Developments, Inc., thence along said parallel line North 7° 46' West 436 feet, a little more or less, to a point that is distant 14.00 feet Southerly measured at right angles to the Southern boundary line of said Pelton Avenue, thence along a line that is parallel with and distant 14.00 feet Southerly measured at right angles to said Southern boundary line South 83° 00' West 895 feet, a little more or less, to the Eastern boundary line of said lands of Kingham Developments, Inc., thence along said Eastern boundary line North 7° 46' West 14 feet, a little more or less, to the Northeastern corner thereof on the Southern boundary line of Pelton Avenue; thence along said last mentioned boundary line North 83° 00' East 895.99 feet to the place of beginning.

Reserving unto the City of Santa Cruz an easement over the North 14 feet of said parcel for road purposes.

DESCRIPTION APPROVED

W. L. J. [Signature]
CITY ENGINEER

DATE 6-27-74

TRAFFIC SUMMARY

The following traffic summary was compiled from data gathered by the City of Santa Cruz Traffic Engineer in the month of December, 1981. Traffic data was generated through five separate studies:

- A. Origin and Destination Survey
- B. Traffic Counts
- C. Directional Traffic Counts
- D. Parking Counts
- E. Pedestrian/Bicycle/Jogger/Skater Count

Most data was gathered over a four day period from Thursday, December 10th through Sunday, December 13th. Additional data was gathered on the weekend of December 5th and 6th.

A. ORIGIN AND DESTINATION

Location: West Cliff Drive

Duration: 500 car weekend sample; 250 in each direction.

Conclusions:

1. An average of 82% of all vehicles using West Cliff Drive were cars. The vehicles included in survey were pick-ups, trucks, motorcycles and mopeds.
2. An average of 1.88 people were carried per vehicle, both east and west bound.
3. An average of 65% of both east and west bound passengers use West Cliff Drive for recreational purposes. This is the single most cited reason for traveling on West Cliff Drive.
4. The second most cited destination of west bound passengers was home (24%); east bound passengers was shopping (21%). Other minor destinations mentioned were work and church.
5. The majority of West Cliff Drive users were from the neighborhood and the city with only 25% living in the county and beyond.
6. 42% of east bound passengers resided in the neighborhood; 22% in the city. 34% of west bound passengers resided in the neighborhood, 31% in the city.

7. Of those passengers who lived out of the city, a majority of east and west bound motorists used either Highway 1 or Highway 17 to reach Lighthouse Field. 33% of the motorists used Highway 1, 33% used Highway 17 and 18% used East Cliff. Other minor routes used include Highway 9, Mission, Ocean Street and Soquel.

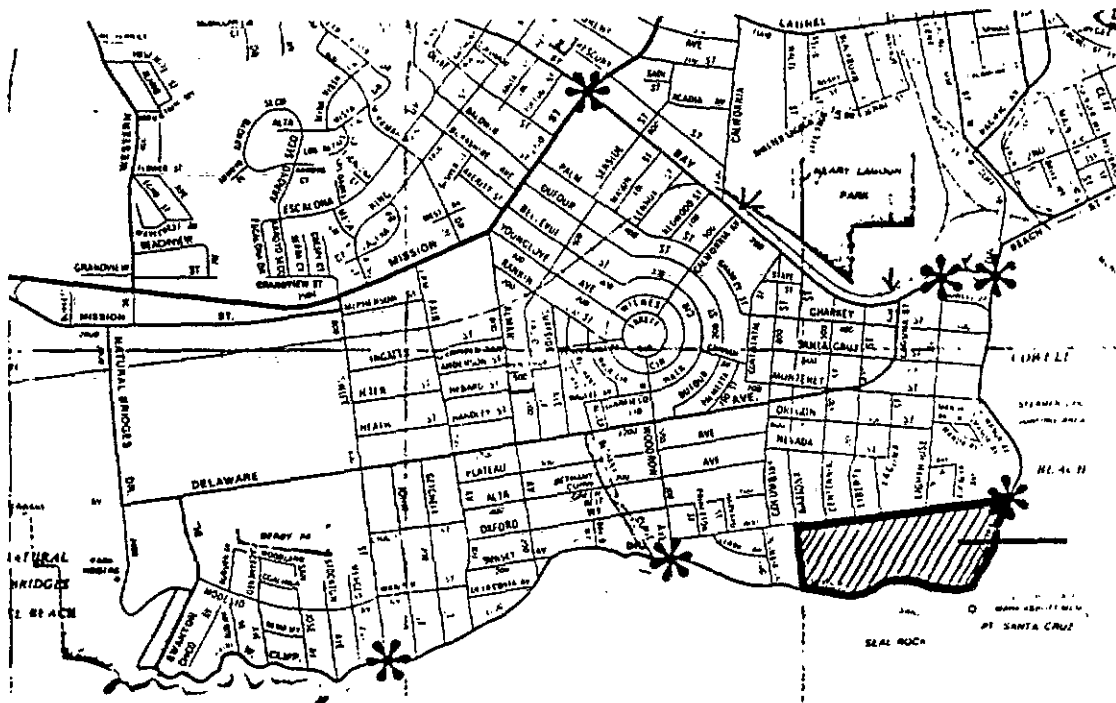
B. TRAFFIC COUNTS

1. Location: Bay Street between Lighthouse and West Cliff.
Duration: 4 days (Friday-Monday); non-directional.
Total: 21,064
Use: Low morning use with peak periods between 2:00 PM and 5:00 PM. Use of road drops dramatically after 7:00 PM.
Average: The average number of cars per hour during the peak period was 450.
2. Location: West Cliff Drive between Bay and Cowell.
Duration: 4 days (Friday-Monday); non-directional.
Total: 26,275
Use: Gradually increasing use throughout morning, peaking in the afternoons between 2:00 PM and 5:00 PM on both weekends and weekdays. Road use decreases gradually after 7:00 PM.
Average: The Average number of cars per hour during peak period was 660.
3. Location: West Cliff Drive between Columbia and Lighthouse Point.
Duration: 4 days (Friday-Monday); non-directional.
Total: 18,135
Use: High morning activity peaking at 9:00 AM with 365 cars per hour. Use decreases until 1:00 PM, then use dramatically increases and remains heavy until 6:00 PM on both weekends and weekdays.
Average: The average number of cars per hour during peak weekday period was 500+. The average number of cars per hour during weekend period was 350.

Conclusion: In general, the volume of traffic is higher in the eastern portion of Lighthouse Field than on the southern portion.

C. DIRECTIONAL TRAFFIC COUNTS

Referring to the map on the next page, 6 intersections were studied, each for one hour on 2 successive weekends.



1. Westbound traffic from Swift Avenue to Lighthouse Field:
 - a. East and westbound traffic on West Cliff is much heavier on weekends than on weekdays.
 - b. Turning movements onto Swift and Woodrow from West Cliff remain the same regardless of day or time of the week.
 - c. 70% of the traffic turning onto West Cliff from either Swift and Woodrow is east bound towards Lighthouse Field.
 - d. Roughly an equal amount of automobiles move both east and west bound on West Cliff Drive.
 - e. 70% of all turning movements onto Swift and Woodrow are from west bound motorists on West Cliff.

2. Southbound traffic from Bay and Mission to Lighthouse Field:
 - a. Traffic is heavier at all intersections on weekends than on weekdays (roughly 60% more volume). However, the direction of travel remains the same regardless of day or time of week.
 - b. Roughly and equal number of cars move in both directions at all intersections.
 - c. Bay and Mission is the busiest intersection studied with 83% of the traffic staying on Mission Street. Only 9% of the traffic on Mission turned west bound towards West Cliff Drive.

- d. At the Bay and Lighthouse Avenue intersection, only 5% of the motorists turn onto Lighthouse Avenue on both weekends and weekdays.
- e. 75% of the cars traveling on Bay Street turn north towards downtown when they reach West Cliff Drive.
- f. 30% of all southbound cars on West Cliff Drive turn onto Bay Street. 70% continue southbound towards Lighthouse Field regardless of day or time of week.
- g. 10% of all southbound cars on West Cliff Drive turn onto Pelton, regardless of day or time of week.
- h. 70% of all west bound traffic on Pelton turns northbound (toward downtown) on West CLiff Drive regardless of day or time of week.

Conclusions: In general, there is a trend for traffic to move from the neighborhoods to downtown. This momentum generates traffic as one travels eastbound along West Cliff Drive and depletes westbound traffic.

D. PARKING COUNTS

	Weekend Sun AM	Weekend Sun PM	Weekday Wed.
1. Lighthouse Field Parking			
West Cliff east of LH to Pelton	55	136	27
West Cliff west of LH to Columbia	6	65	10
Lighthouse Lot	6	32	20
Total Lighthouse Field parking on West Cliff Drive	67	233	57
2. Neighborhood Parking			
Pelton-West Cliff to Colubmia	0	29	0
Columbia-West Cliff to Pelton	10	15	11
All other neighborhood streets	65	68	37

Conclusions:

- a. Pelton adversely affected by heavy weekend Field use.
- b. Columbia not affected by weekend Field use - cars always parked there.
- c. Impact on surrounding neighborhood streets doubles during heavy weekend use.

d. Heaviest demand for parking is on east side of Field, including Lighthouse parking lot.

e. Heaviest demand for parking occurs on weekend afternoons.

E. PEDESTRIAN/BICYCLE/JOGGER/SKATER COUNT

Columbia Street - West Cliff Drive:

	Date	Time	Pedestrian	Bicycle	Jogger	Skater
Sat.	12-5-81	9:45 AM	28	41 (6)	13	6
Sun.	12-6-81	11:15 AM	34	62 (3)	14	18
Thurs.	12-10-81	3:30 PM	23	37 (2)	12	4
Fri.	12-11-81	10:15 AM	17	25 (3)	9	14
			<u>102</u>	<u>165 (14)</u>	<u>48</u>	<u>42</u>

Pelton Avenue - West Cliff Drive:

	Date	Time	Pedestrian	Bicycle	Jogger	Skater
Sat.	12-5-81	11:00 AM	151	51 (7)	7	31
Sun.	12-6-81	3:00 PM	96	152 (10)	8	63
Thurs.	12-10-81	2:00 PM	22	41	5	12
Fri.	12-11-81	10:00 AM	9	20 (2)	9	4
			<u>278</u>	<u>264 (19)</u>	<u>29</u>	<u>110</u>

() denotes Lighthouse Field side of West Cliff Drive

Conclusions:

1. Bicycle riding is the single largest recreational use of West Cliff Drive and its adjacent sidewalk.
2. Pedestrian use ranks a close second to bicycle riding in total, but bicycle riding exceeds pedestrian use by 2:1 in all cases except Sunday afternoon, where the reverse is true.
3. The most significant amount of recreational activity occurs between the Lighthouse and Pelton Avenue on West Cliff Drive. This eastern section of West Cliff Drive carries almost twice as much activity as the south section between the Lighthouse and Columbia. The one exception to this statement are the joggers, who are present in larger numbers on the south section of West Cliff Drive.

4. Heaviest recreational use occurs on Sunday afternoons, lightest on weekday mornings.
5. Roller skating activity occurs primarily on the eastern section of West Cliff Drive between Pelton Avenue and the Lighthouse.

LIGHTHOUSE FIELD STATE BEACH

November 20, 1981

QUESTIONNAIRE SUMMARY SHEET

1a. Priority list of most desirable recreational activities:

- 1) Walking, 2) Surfing, 3) Seal Observation, 4) Picnicking
- 5) Nature interpretation, 6) Bicycling, 7) Sightseeing, 8) Jogging,
- 9) Bird watching, 10) Rock and surf fishing, 11) Frisbee, 12) Rollerskate,
- 13) Skin diving, 14) Kite-flying, 15) Softball, 16) Soccer, 17) Camping,
- 18) Touch football, 19) Gardening, Sailing, Landscape Painting, Golf

1b. Priority list of least desirable recreational activities:

- 1) Camping, 2) Touch football, 3) Softball, 4) Soccer, 5) Rollerskating,
- 6) Rock and surf fishing, 7) Frisbee, 8) Surfing, 9) Bicycling,
- 10) Picnicking, 11) Bird watching, 12) Sunbathing, 13) Nature interpretation
- 14) Sightseeing, 15) Skin diving, 16) Seal observation, 17) Kite-flying,
- 18) Jogging, 19) Walking

2a. Priority list of most desirable recreational facilities:

- 1) Natural areas, 2) Wildlife areas, 3) Restrooms, 4) Undeveloped areas,
- 5) Hiking trails, 6) Jogging/bike/skating paths, 7) Natural observation
- areas, 8) Unstructured play fields, 9) Picnic shelters, 10) Childrens'
- playground, 11) Band shell, 12) Par course, 13) Structured play fields,
- 14) Viewing platforms, 15) Parking areas, 16) Interpretive facilities,
- 17) Showers, 18) Restaurants, 19) Campgrounds, 20) Concessions, 21) Golf,
- Tennis, Maze

2b. Priority list of least desirable recreational facilities:

- 1) Restaurants, 2) Campgrounds, 3) Structured play fields, 4) Band shell,
- 5) Showers, 6) Parking areas, Par course, 7) Jogging/bike/skating paths,
- 8) Viewing platforms, 9) Restrooms, 10) Picnic shelters, 11) Childrens'
- playground, 12) Undeveloped areas, 13) Unstructured play fields,
- 14) Hiking trails, 15) Interpretive facilities, 16) Wildlife areas,
- 17) Natural observation areas, 18) Natural areas

3a. How many times visited site in past year?

- 1) 5 to 20 times, 2) More than 100 times, 3) 20 to 100 times, 4) less than 5

QUESTIONNAIRE SUMMARY SHEET (p.2)

3b. What did you do there?

1) Natural observation, 2) Walking/hiking, 3) Sightseeing, 4) Running/jogging, 5) Surfing, 6) Biking, 7) Rollerskating, 8) Picnicking, 9) Swimming, 10) Bird watching, 11) Driving 4-wheeled vehicle, 12) Fishing, 13) Sunbathing, 14) Kite-flying, 15) Climbing tree, relaxing, reading, dancing, painting, taking pictures

4a. How far do you live from the site?

1) 1 to 5 miles, 2) ½ to 1 mile, 3) Less than ½ mile, 4) 5 to 10 miles

4b. How do you get there?

1) Car, 2) Bike, 3) Walk, 4) Bus, 5) Rollerskate, motorcycle, jog

5. One thing about the site that you think is valuable?

Natural shoreline, trees, undeveloped area, wildlife habitat, quiet, beauty, open space, potential natural beauty in urban area, lack of people, best surf area, flat land for playing, views, relaxing and picnicking area, jogging and biking area, accessibility, lack of structured recreation, large size, lighthouse

6. One problem you would like to see resolved?

Trash, traffic jams, weekend beer drinking crowd, lack of funds for project, motor vehicles in field, human waste, safety, dying trees, dogs, skaters and cyclers conflict with pedestrians, parking, scruffy-looking field, undesirables, local needs vs. commercial/tourism needs, vandalism, accessibility to walkers, lighting at night, neighborhood vs. city hall conflicts, campers, parking around lighthouse, speeding traffic, traffic circulation at Pelton, restrooms, balance of open space and public use, balance of natural park vs. overly-developed super park

7. Name other recreation areas that you use frequently.

Natural Bridges State Park, Harvey West Park, San Lorenzo Park, Delaveaga, Frederick Park, Ocean View Park, Loudon Nelson Community Center, Plaza Park, Garfield Park, West Lake Park, University Terrace Park, New Brighton Beach, Star of the Sea Park, Santa Cruz Beach, Wharf, East Field UCSC, Nearys Lagoon, Nisene Mawles Park, Henry Cowell State Park, Jetty Rd. State Beach, Twin Lakes, Yosemite, Monterey and Carmel, Derby Park, Seabright Beach, Lake Berryessa, Loch Lomond Beach, Pleasant Point

QUESTIONNAIRE SUMMARY SHEET (p.3)

8. User profile:

Age - 1) 20 to 30, 2) 30 to 40, 3) 15 to 20, 4) 50 plus, 5) 40 to 50,
6) 1 to 15

City - Santa Cruz, Aptos, Soquel, Felton, Capitola, Watsonville, Boulder
Creek, Ben Lomond, Scotts Valley, San Jose, Live Oak, Bonny Doon,
Rio Del Mar, Sunnyvale, Salinas, San Rafael, Los Alton, Mt. Hermon,
Corona Del Mar

How long? - 1) 5 or more years, 2) 1 to 5 years, 3) Less than 1 year

Household - 1) 0 to 2 members, 2) 2 to 4 members, 3) 4 or more

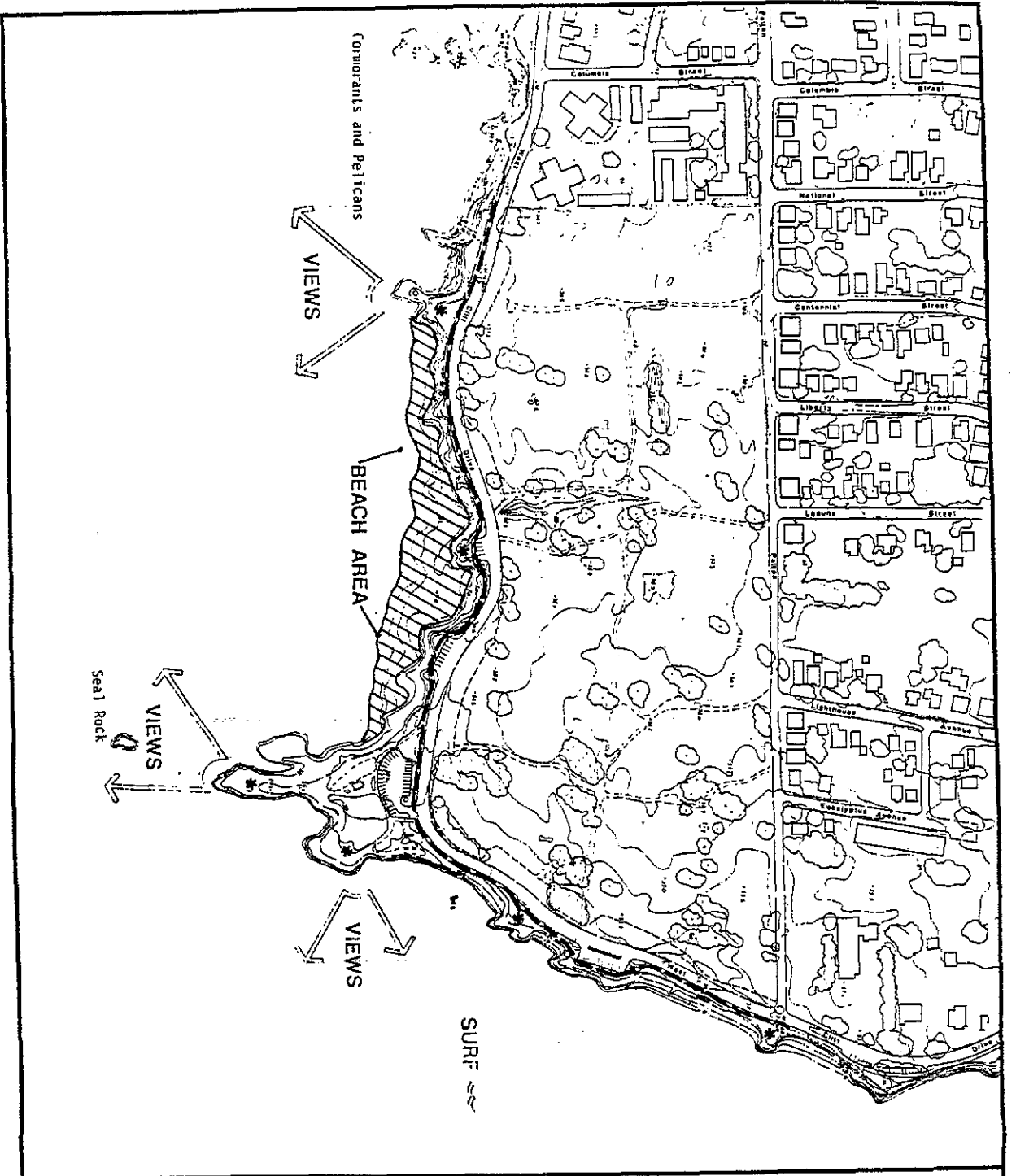
9. Would you favor parking and/or concession activities to assist in paying
for the maintenance costs of the site?

Yes 29%

No 71%

10. Questions or Comments? (See QUESTIONNAIRE SUMMARY REPORT)

- . Less developed the better, don't "improve" it
- . Relate to nature
- . Don't disrupt neighborhood
- . Law enforcement
- . Fees?
- . No pay parking
- . Needs traffic and parking study
- . Tourists vs. local needs
- . No big parking areas
- . Leash dogs
- . Family type park
- . Golden Gate Park-type State Beach
- . Campers and bums out!
- . Close at night



EXISTING OPPORTUNITIES

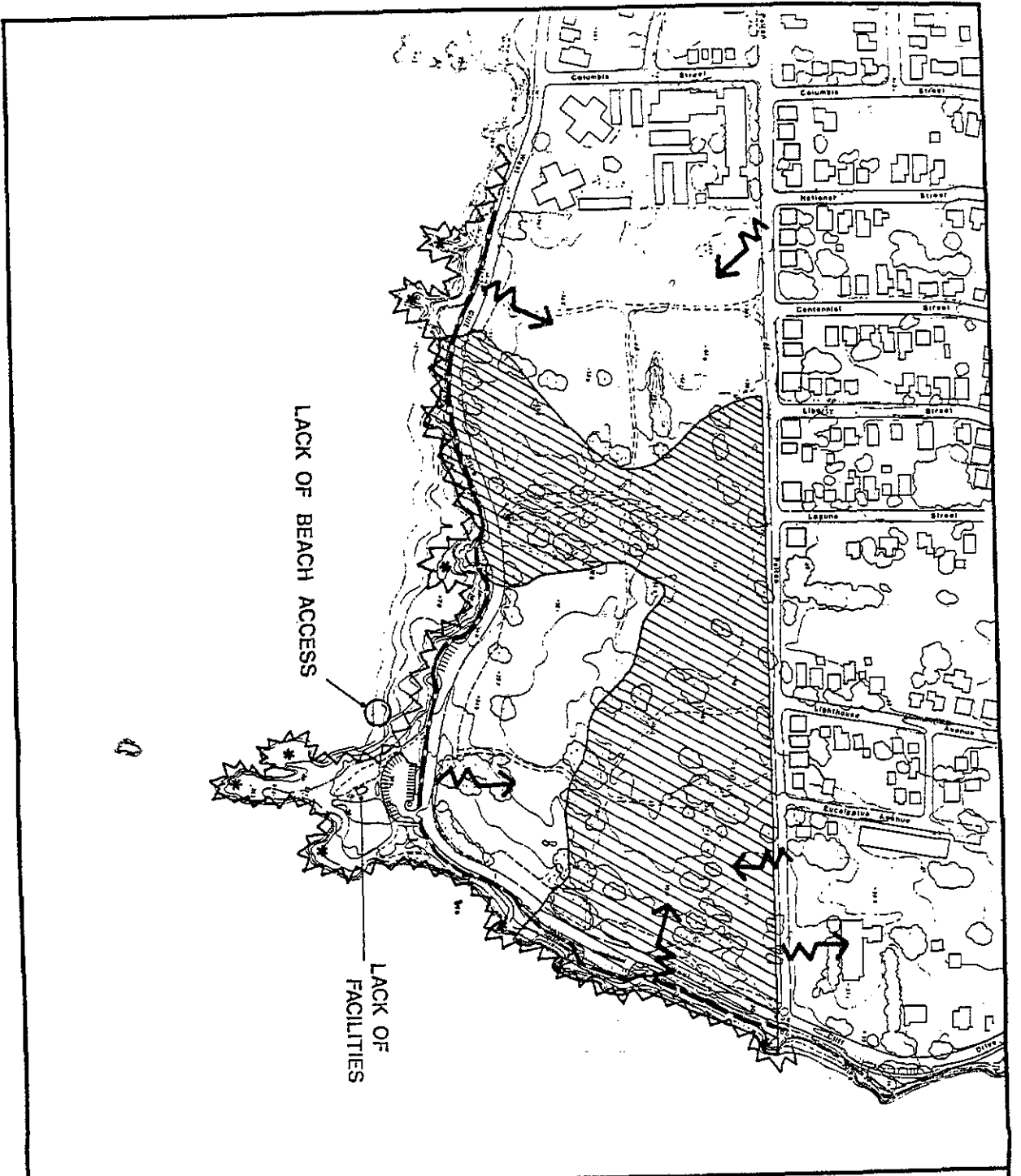
- ★ Vista Points
- ☁ Monterey Cypress
- ⋯ Pedestrian Paths
- Sidewalk

LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
 County of Santa Cruz
 State of California








CRUMB Associates
 Torrey & Torrey Inc.



LACK OF BEACH ACCESS

LACK OF FACILITIES

EXISTING CONSTRAINTS

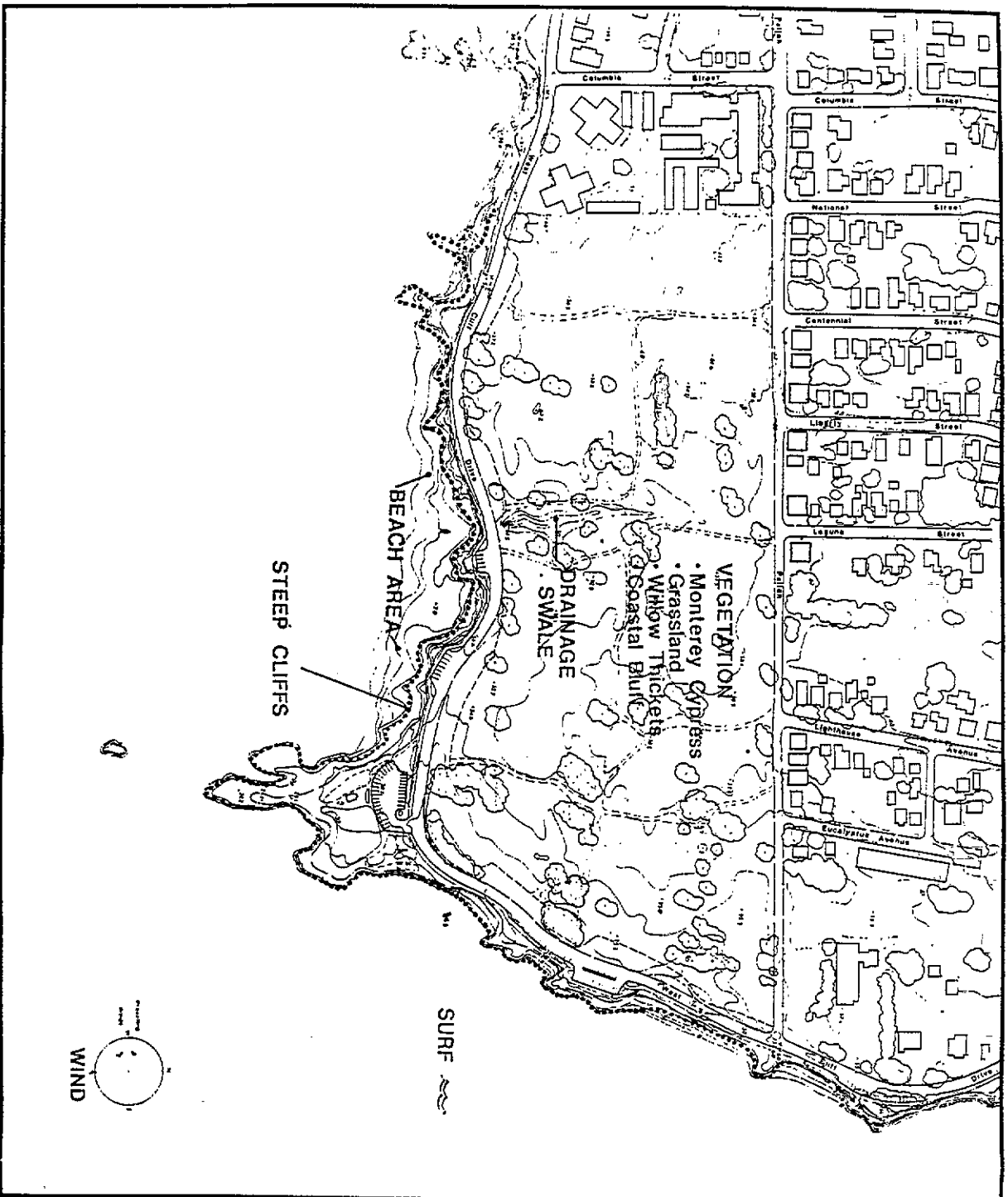
- Soils 
- Noise 
- Eroding Cliffs 
- Sidewalk Congestion 
- Exposed Vista Points 

LIGHTHOUSE FIELD STATE BEACH

City of Santa Cruz
 County of Santa Cruz
 State of California



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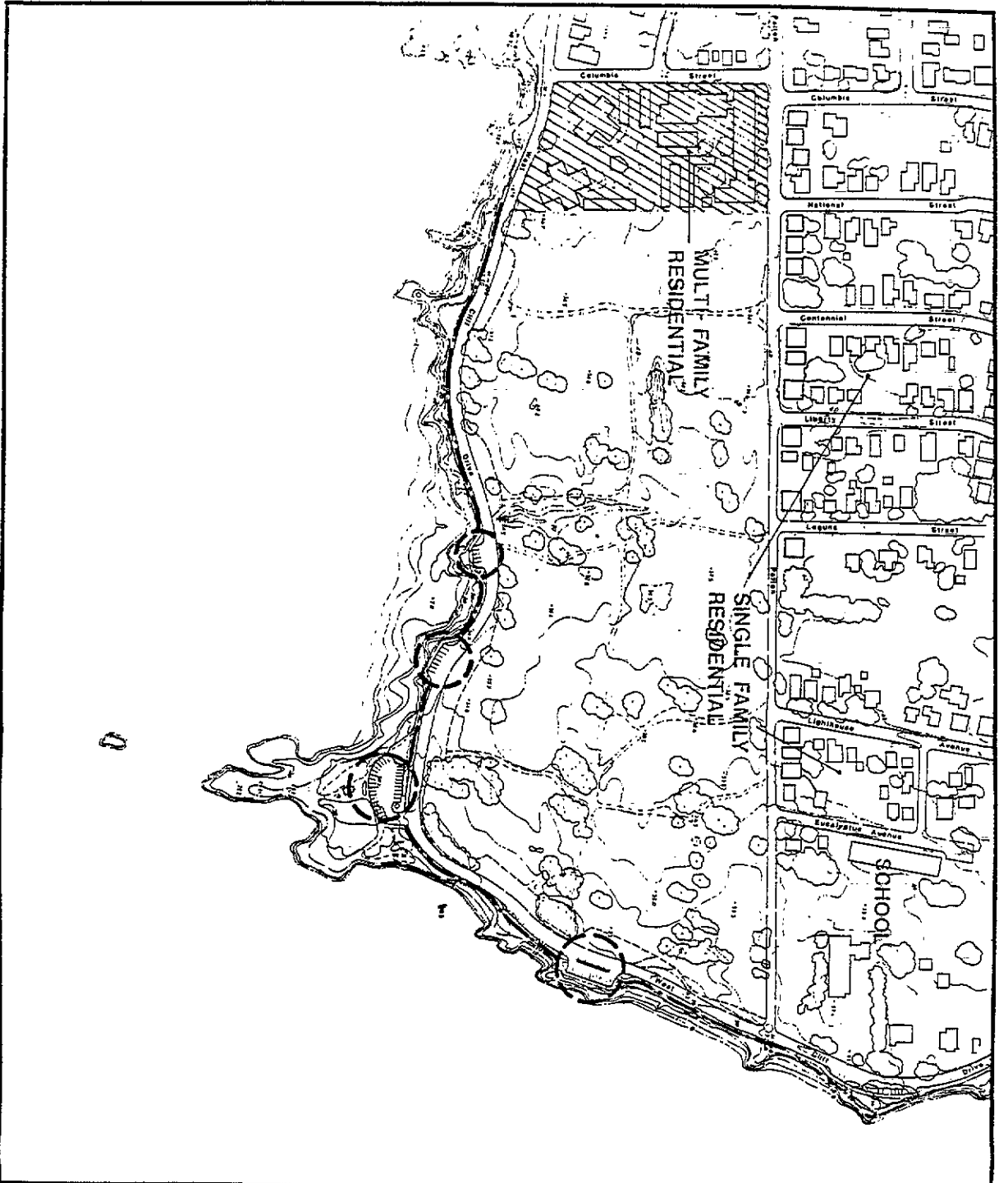


**EXISTING
NATURAL
FACTORS**

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California

CRMB Associates
Torrey & Torrey Inc.




**EXISTING
CIRCULATION
& LAND USE**

- Designated Parking ○
- Pedestrian Paths - - - -
- Sidewalk/Bike Path — — —

**LIGHTHOUSE FIELD
STATE BEACH**

City of Santa Cruz
County of Santa Cruz
State of California



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 Torrey & Torrey Inc.