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PORTIONS OF THIS REPORT DESCRIBING THE "WESTERN SALT"

MOSS LANDING MARINE LABORATORY RELOCATION
DRAFT
ENVIRONMENTAL ASSESSMENT

February 14, 1994

Prepared for:

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Region IX
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is present to the west of Sandholdt Road. Adjacent land uses consist entirely of Light Industrial-Coast Dependent. The site is likewise designated and zoned Light Industrial-Coast Dependent. The site is characterized by relatively flat topography and two vacant structures to the northeast side of Sandholdt Road and a salvage yard to the southwest of Sandholdt Road. Access is provided via Highway One, Moss Landing Road and Sandholdt Road. Available infrastructure includes existing sewer lines located in service area #3, power lines located within the urban service line, and a six-inch water line which travel under Sandholdt Road.

2.5 WESTERN SALT SITE

The Western Salt site is located in northwest of central Moss Landing, southwest of the Highway One-Jetty Road intersection. It is approximately 8 acres in size and its one parcel is owned by Western Salt Company of San Diego (see Figure 2-7). The site is currently vacant. Adjacent land uses include: Resource Conservation--Wetlands and Coastal Strands to the north across Jetty Road, east across Highway One, and southwest, Commercial--Recreation and Visitor Serving to the south, and Public/Quasi-Public--Harbor Facilities to the far south. The site is designated Commercial--Recreation and Visitor Serving and Resource Conservation--Wetlands and Coastal Strand (western sliver) and is similarly zoned Visitor Serving Commercial-Coastal Zone and Resource Conservation-Coastal Zone. The site appears to have been graded as it is characterized by raised, relatively flat topography covered by dense wetland/sand dune type vegetation. Convenient access is possible via Highway One and/or Jetty Road. Available infrastructure includes existing sewer lines located in service area #2, power lines located within the urban service line, and a six-inch water line which terminates approximately one-third of a mile south of Jetty Road.

2.6 NO ACTION ALTERNATIVE

The former MLML site is located in the southwestern area of Moss Landing, west of Highway One. It is adjacent to Sandholdt Road east, Monterey Bay to the west, and to the MLML Shore Facility to the north. It is approximately 2.074 acres in size and its two parcels have been transferred to the State of California, Department of Parks and Recreation. In March of 1990, Federal Emergency Management Agency (FEMA) and Office of Emergency Services (OES) concluded that the former MLML site was in a floodplain (AO zone) and partially in a Coastal High Hazard Zone (V2). The MLML facility was determined not to be a functionally dependent use. Based on these determinations and the requirements of 44 CFR Part 9, FEMA/OES concluded relocation of the facility out of the floodplain was required wherever there is a practicable alternative in order to received FEMA funding.

If FEMA decides that the relocation of the MLML facility is not feasible or cost effective, or if California State University (CSU) decides that the public welfare

Most of the filled northern portion of the site is not wetland. The fill is an olive gray sand that contains small rocks, shells, and other debris. The dominant species, ripgut brome, is not a wetland indicator species, although some wetland indicator species, such as meadow barley, are present on the fill.

The central portion of the filled area is only partially filled, and this area does appear to be wetland. The dominant species are Italian ryegrass and pickleweed, both wetland indictor species. The soil is a dark olive gray clay loam with strong hydric soil indicators, including yellowish brown mottles and gleying. Topographically, the partially filled area is a basin.

The presence of fill in association with wetlands indicates a strong possibility that wetlands on the site have been filled. Any wetlands filled subsequent to September 5, 1975, would be subject to Corps jurisdiction.

3.5.4 Harbor District Site

The Harbor District site consists mainly of a Dry boat storage facility, and no natural habitat remains. The vegetation consists of ornamental plantings, including Monterey cypress and mock orange (*Pittosporum* sp.), and ruderal vegetation at the roadside and other unpaved areas. The margins of the site are bordered by a parking lot and improved roads. No wetlands are present.

3.5.5 Moss Landing Investment/Gardner Site

The western edge of the Moss Landing Investment/Gardner site is a sandy beach bordered by a narrow strip of sand dunes. The dunes receive heavy foot traffic, but dune vegetation remains well-established. The dominant species are Hottentot fig and coastal sagewort (*Artemisia pycnocephala*), but dune rocket (*Cakile maritima*), saltgrass, and New Zealand spinach (*Tetragonia tetragonioides*) are also common.

The remainder of the site has been extensively disturbed and primarily contains ruderal vegetation. Two small buildings and a salvage yard occupy a portion of the site, and the area adjacent to the buildings has been leveled. The most common plant species are annual grasses (*Bromus* and *Hordeum* spp.), but a few dozen other species are present, such as burclover (*Medicago polymorpha*), filaree (*Erodium* spp.), and horseweed (*Conyza canadensis*). The soil is sandy, and plant species more typical of dunes, foredunes, and salt marsh are also present, such as beach primrose (*Camissonia cheiranthifolia*) and Pacific gum-plant. A small patch of arroyo willow (*Salix lasiolepis*) occurs in the southeast corner.

The north and east sides of the site are bordered by the harbor channel. The harbor channel is lined with riprap on the north side of the site. Tidal mudflat occurs in the channel on the east side of the site and between the site and the riprap on the north side of the site. The harbor is foraging habitat for

the California brown pelican, a state- and federally-listed endangered species, and the southern sea otter, a state- and federally-listed threatened species.

3.5.6 *Western Salt Site*

The Western Salt site contains a mixture of vegetation types that have formed on the site prior to 1951, when the site was used for spoils disposal for the dredging of the northern harbor basin. Vegetation types that occur on the site include non-native grassland, willow scrub, coyote brush scrub, salt marsh, and brackish marsh.

Most of the site consists of an herbaceous plant community dominated by annual grasses and herbaceous ruderal species. Common species observed included Mediterranean mustard, telegraph weed (*Heterotheca grandiflora*), Indian sweetclover (*Melilotus indica*), horseweed, fennel (*Foeniculum vulgare*), and Hottentot fig. Patches of perennial ryegrass (*Leymus* sp.) occur in and along the margins of the northeast and southeast corners of the site. Monterey spineflower (*Chorizanthe robusta*), proposed for federal listing as endangered, is common in the central portion of the site (Kinnetic Laboratories 1990).

Three patches of willow scrub occur on the site, one in the southeast corner and two in the northwest corner. Each is a monospecific stand of arroyo willow. Arroyo willow is a hydrophytic species, but the previous wetland delineation determined that the stands were not wetlands.

Scattered patches of coyote brush scrub, dominated by coyote brush (*Baccharis pilularis*), occur around the periphery of the site. The openings in the scrub are dominated by annual grasses and herbaceous ruderal species, as in the non-native grassland discussed above.

The western margin of the site contains a narrow strip of salt marsh dominated by pickleweed, saltgrass, alkali heath, and Pacific gum-plant. The salt marsh is identified as wetland in the 1990 wetland delineation. The salt marsh occupies an intermediate position between the upland grassland and the tidal mudflats occurring in the Moss Landing North Harbor. In addition, a ditch supporting a dense growth of pickleweed occurs along the east border of the site, adjacent to Highway One.

The southwestern corner of the project site contains a large patch of Santa Barbara sedge (*Carex barbarae*) and is a wetland identified as brackish water marsh in the 1990 wetland delineation.

An approximately 10- to 15-foot-wide swale runs east to west through the grassland at the center of the site. The swale is dominated by rabbits'-foot grass (*Polypogon monspeliensis*), Indian sweetclover, cut-leaved plantain, and toad rush (*Juncus bufonius*). These are all hydrophytic plant species, suggesting that this swale is a wetland. The soil is an olive gray sand with

prominent orange-red mottling at and below a depth of six inches, which indicates that the soil is hydric. The swale was not identified in the previous wetland delineation, but these vegetation and soil observations indicate that the swale should have been mapped as part of the brackish water marsh. The swale was not identified in the previous wetland delineation (ESA 1990).

The Western Salt site provides habitat for birds and small mammals. Small mammal tracks and scat were observed on the site during the 1994 site visit, and the 1990 wetland delineation noted the use of the willow stands by red-winged blackbirds and warblers.

Approximately 10 percent of the site is disturbed by trails created by motorcycle riders.

3.6 GEOLOGY, SEISMICITY, AND SOILS

3.6.1 Geology

Geologic formations in the Moss Landing area are the result of deposition within the Salinas River basin over geological time. The basin is a broad syncline, bounded by a series of sharply compressed folds, whose axes are parallel to the coastline. At slightly higher elevations and on steeper slopes, Quaternary continental deposits are found. The highlands adjacent to the basin are composed primarily of the meta-sedimentary and meta-volcanic rocks of the Cretaceous-Jurassic Franciscan complex, and Mesozoic granitic rocks. In the interior, the basin is composed of Recent to Pleistocene alluvium. Recent beach and aeolian deposits in the from of transverse (longitudinal axis perpendicular to prevailing wind) dunes are the dominant geologic features along the coast. These deposits rest on intercalated marine and continental fine-grained sand, silt and minor clay that have resulted from the interplay between ocean currents and the mouth of the Salinas River. These deposits are estimated to be at least 100-feet thick.

Along the Pacific Coast, the ocean floor is characterized by a narrow continental shelf and a steep continental slope deeply incised by submarine canyons. The Monterey Bay Canyon is the largest of these canyons along the west coast and is a major geological feature of the Monterey Bay. The canyon extends inland toward the Moss Landing Harbor entrance; the 60-foot depth contour is only about 300 feet seaward of the entrance.

The site contains existing structures and boat yard debris which will require removal. Underground tanks located potentially within the site will also require removal. These factors will add to the cost of site preparation.

Sewer service currently exists on site. Water service will need to be extended to the site from existing service along Sandholdt Road. The water extension costs will be similar to the Rubis, and M.L. Investments/Garner, and less than the Peterson and Western Salt sites. The presence of sewer service on site will represent a construction cost savings relative to the other alternative sites.

Like road improvements for the other alternatives, development of this site may require improvements to Sandholdt Road to provide adequate site access.

No significant archaeological resources exist on the site.

4.4.12.3 Operations

Due to the ML Investments/Garner site's close proximity to seawater, a pipeline delivery seawater system will be financially viable. The alternative sites located farther away from the seawater will likely truck seawater to the laboratory, which will be a less efficient, albeit cheaper to construct, than a seawater delivery system.

4.4.12.4 Municipal Revenues

The parcels of the ML Investments/Garner site have a combined assessed value of $760,000 for land and $27,000 for improvements (buildings). This translates to annual property tax revenue of approximately $7,870 for the State and Monterey County. Conversion of these parcels to the Marine Laboratory will result in foregone property tax revenues.

4.5 WESTERN SALT SITE

4.5.1 Land Use

The proposed development does not conflict with existing *Commercial-Recreation and Visitor Serving* and *Resource Conservation--Wetlands and Coastal Strand* land use designations of this site as the proposed project is a coastal dependent facility. The proposed use is also consistent the adjacent *Public/Quasi-Public--Harbor Facilities* to the south of the site.

4.5.2 Traffic

The Western Salt site is the only site away that would not use the Highway One/Moss Landing Road intersections. The site is accessed via Jetty Road

north of the Moss Landing Road intersections. The General Plan land use for the Western Salt site is visitor serving. Similar to the Rubis site, trips for the general plan buildout use rates for specialty retail center. Assuming an allowable 25 percent building to site coverage on a three-acre parcel, the development on the site would result in a specialty retail center approximately 32,000 square feet in size.

Table 4-4 - Western Salt Site General Plan Trip Generation

			Trip Generation Rates					
Land Use	Units	Daily	A.M. In	A.M. Out	A.M. Total	PM In	PM Out	PM Total
Specialty Retail Center	Total 1,000 SF	40.67	3.08	3.33	6.41	2.81	2.12	4.93

General Plan

Land Use	Units	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
Specialty Retail Center	32	1,300	99	107	206	90	68	158

As can be seen in Table 4-4, general plan buildout of this site would result in significantly higher number of trips than the proposed project. Similar to project development on the other alternative sites, the total number of project trips will not significantly impact the current unacceptable level of service on Highway One. Highway One improvements would not require right-of-way from this site. However, a 30-foot easement will be required for a frontage road (see Figure 4-7). Project implementation to this site would remove project traffic from the currently deficient Moss Landing Roads intersections. The Highway One/Jetty Road intersection may need improvement with project implementation to this site.

Jetty Road is the existing access to the Western Salt site. The road is a privately owned State arterial which is currently used to access the coast for recreational purposes. Project access may be an project issue. However, the project and the road are both controlled by the State therefore problems with regard to access are not anticipated.

County traffic counts taken between 1974 to 1984 ranged from 500 to 800 ADT. According to the County and Caltrans, traffic problems do not exist on Jetty Road. Traffic problems do exist on the Highway One/Jetty Road intersection due to existing peak hour LOS F conditions on Highway One. The project would increase the traffic on Jetty Road by approximately 338 ADT. With this increase, Jetty Road would still operate within the capacity. The project would not impact the current unacceptable peak hour operations of the Highway One/Jetty Road intersection. Currently not funded, future improvements to Highway One will include additions of acceleration and deceleration lanes at the Highway One/Jetty Road intersection.

4.5.3 Air Quality

No sensitive air quality receptors exist or are anticipated in the immediate vicinity of the Western Salt site.

Short-term impacts will result from generation of dust during construction, and from exhaust emissions generated by construction equipment and construction crew vehicles. According to the *Watsonville General Plan Update and Sphere of Influence Amendment, December, 1992*: "Given the nonattainment status of the air basin for PM10, and the proximity of sensitive receptors, construction impacts, although temporary, would be considered a potentially significant impact" (pg. 3-62). Such potentially significant construction impacts would occur regardless of the specific location of the project. Construction emissions should be minimized by controlling the construction equipment and vehicles and by complying with local air pollution control district regulations.

The main source of long-term emissions generated by the project will be motor vehicles. Because the project is essentially a replacement project, and will not result in increased motor vehicle trips compared with the MLML prior to the 1989 Loma Prieta earthquake, regional air quality impacts in the air basin will remain the same if the project locates at this site.

4.5.4 Noise

4.5.4.1 Construction

While some cut and fill would be required at the Western Salt site, much less site preparation would be required than at the Peterson property. Noise impacts associated with the site preparation would be of shorter duration and perhaps of somewhat less intensity than those which would occur at the Peterson site. Similar to the Harbor District and Moss Landing Investment/Gardner sites, the Western Salt site is distant from noise-sensitive uses. Insertion of piles would likely be required during building construction, and this activity could generate substantial percussive noise impacts, as well as vibration impacts.

4.5.4.2 Operations

The Western Salt site, like the Rubis site, is much nearer to Highway One than the Peterson site. Most of the site will be exposed to future traffic noise levels exceeding the County's 60 DBA L_{dn} standard for a normally acceptable environment for school facilities. The majority of the site would likely be exposed to noise within the "conditionally acceptable" range. While interior noise levels could be adequately mitigated through fairly conventional construction practices, exterior noise levels could only be mitigated through man-made barriers, either intervening buildings or free-standing walls or berms. Furthermore, buildings particularly near the highway could be subject

to vibration impacts from highway traffic, vibrations which could affect sensitive laboratory investigations.

Off-site impacts will be discussed in two separate categories:

- Noise *emissions* from project on-site sources would be similar to those which would occur at the Peterson site. However, there are no sensitive receptors near enough to the Western Salt site to experience impacts from these sources.

- Project traffic would need to travel only a very short distance from Highway One to access the Western Salt site, with no intervening roadside sensitive receptors. Therefore, traffic noise impacts would be even less than those for the Peterson and Rubis sites.

4.5.4.3 Mitigation Measures

All noise mitigation measures specified for the Peterson site, except for measure 1d), apply to the Western Salt site as well, as does measure 1e) specified for the Rubis site, although the construction-related measures would be somewhat critical at the Western Salt site. Furthermore, the following mitigations are recommended:

2. *Operational Impacts*:

   b) *Impacts on Proposed Laboratory/Educational Facility.* Buildings should be constructed with sufficient acoustical insulation to assure that traffic noise penetration into habitable interior spaces remains below 45 DBA L_{dn}. A minimum building setback of 200 feet from the centerline of Highway One is recommended. At such a setback, the building structure would need to afford a minimum of only about 20 DBA of exterior-to-interior noise reduction to achieve the 45 DBA L_{dn} interior target. Building foundations and structures should have sufficient density and rigidity to assure that sensitive laboratory activities are not impacted by traffic-related vibrations.

4.5.5 Biological Resources

Construction of the proposed new facilities would remove over an acre of non-native grassland, willow scrub, coyote brush scrub, and/or brackish water marsh. Loss of the brackish water marsh would be fill of wetlands and would be a significant impact (see Figure 4-8). However, there are approximately four acres of land located in the northern portion of the site that avoid the marsh and wetlands. Loss of the other habitat types, in and of itself, would not be a significant impact because these habitats are common. Loss of

Monterey spineflower and its habitat would be a significant impact. No other endangered or threatened species were observed on the project site, and no other adverse effects on endangered or threatened species would be anticipated.

4.5.5.1 Mitigation Measures

Specific measures shall be required to mitigate impacts on Monterey spineflower. The population, including a buffer area of 100 feet around the population, shall be avoided, if feasible. This mitigation measure would avoid the significant impact. If avoidance is not feasible, then all individuals of Monterey spineflower occurring on the project site that would be affected shall be translocated to suitable habitat in the immediate vicinity of the project site in which the species does not presently occur. Suitable replacement habitat shall be constructed in the immediate vicinity at a location that does not presently contain that habitat.

Because procedures for translocating Monterey spineflower have not been established, this impact could not be reduced to non-significance unless the mitigation were carried and determined to be successful prior to disturbance of the existing population. Specific measures to implement this mitigation, including replacement ratios and success criteria, shall be presented in a Mitigation/Monitoring Plan subject to review and approval by the U.S. Fish and Wildlife Service and shall be implemented by individuals qualified to perform this work.

4.5.6 Geology, Seismicity and Soils

4.5.6.1 Geology

Basin deposits underlay this site. The site elevations range between five and 14 feet above msl. Artificial fill deposits on-site consisting of dredge tailings have raised the site from its original five foot elevation.

4.5.6.2 Seismicity

This site is entirely within an area mapped as having a very high potential for liquefaction. Historical evidence of lateral spreading and sand boils have occurred on properties with similar geology west and east of this site respectively. An area of ground lurching and liquefaction was noted on the western edge of the site bordering the harbor after the 1989 earthquake. If developed without adequate soil engineering measures, extensive structural damage could occur, as did occur at the former MLML building location.

4.5.6.3 Soils

Alviso silty clay loam underlies the artificial fill. The water table below this soil is typically at six to 12 inches below ground surface. Runoff is slow, permeability is slow to with a tendency towards ponding. Soil wetness and high shrink swell hazard limits development.

4.5.6.4 Mitigation Measures

The general measures provided under the Peterson site discussion would apply to this site as well.

4.5.7 Hydrology and Water Resources

4.5.7.1 Drainage

Precipitation within this site typically filters down through the fill to the original soil surface and ponds in the low lying interdunal swales. Any excess flows towards the lowest point in the southwest corner of the site which is subject to daily tidal action. Runoff from Highway One enters the site via the drainage ditch along the eastern edge of the site.

4.5.7.2 Flooding

Approximately one acre along the westernmost edge of the site is subject to the 100-year flood (see Figure 4-8). The remaining approximate seven acres are within Zone B.

4.5.7.3 Groundwater/Water Supply

Soil borings made at this site to depths of 15 feet below ground surface (approximately nine feet below sea level) encountered no free groundwater. However, there were local vertical columns of water and underlying soft zones present at the time of boring. If this site is selected, additional borings should be performed in the areas of proposed development to reduce potential impacts.

4.5.7.4 Water Quality

During construction at this site, there would a potential for siltation of the low lying wetland areas and Moss Landing Harbor.

4.5.7.5 Mitigation Measures

The following measure is added to the general measures listed under the Peterson site discussion to reduce potential hydrologic impacts.

10. As part of the necessary project specific geotechnical study,the underlying wet/soft zones should be studied in more detail. Engineer recommendations for site drainage, soil preparation, and building foundation design offered as a result of this geotechnical/hydrologic study should be incorporated into project plans.

4.5.8 Public Services and Utilities

The proposed development would not cause any increase in demand on services and therefore will not have any significant impact. However, construction of entry ways via Jetty Road and/or Highway One would be required to provide adequate access for solid waste disposal, fire, police, and other emergency vehicles.

Located within the urban service line, the relocation would not create any increase in demand on water, sewer, or energy and therefore would have no significant impact on utilities. There is no existing infrastructure on-site. Water service would require extension of 6-inch water line which terminates in the vicinity of Little Baha and The Elkhorn Yacht Club--approximately one-third of a mile short, south of the Jetty Road-Highway One intersection. Sewer service would require connection to 6-inch sewer line traveling under Highway One. Electric and gas power service would require extension of existing lines terminating in the vicinity detailed previously.

4.5.9 Risk of Upset

There exists no record or otherwise suspicion which suggests the presence of any other hazardous materials to a level of significance on the Western Salt site.

4.5.10 Cultural Resources

Because the records and literature search failed to identify any cultural resources within Alternative Site 5, construction of the Moss Landing Marine Laboratory at this location will not involve known cultural resources. Given the high sensitivity for cultural resources in the vicinity, if this site is selected for construction of the Moss Landing Marine Lab, construction should be monitored by a qualified archaeologist.

4.5.11 Aesthetics, Light and Glare

Development of this site would obstruct views of sand dunes associated with the Moss Landing State Beach and of the wetland habitat west of the site. However, a marine laboratory would not create disharmony with the surrounding structures which consist of bait shops, restaurants, and a yacht club. Development of this site might require a Coastal Development Permit and a variance for set backs.

Construction of the lab facility is also subject to design approval and a height restriction of 28 feet. Any development on the Western Salt site would be visual from or impede the visual access to the Moss Landing community, harbor and dunes from Highway One. As previously mentioned, any viewshield impacts would be evaluated during the architectural design phase of the project where several alternative building configurations would be examined by Monterey County Planning Department. Landscaping and siting of the project would help to minimize the loss of the visual access.

4.5.12 Cost Effectiveness

4.5.12.1 Site Acquisition

The Western Salt alternative site is currently for sale. Although the Western Salt Company has indicated a desire to sell all five of its holdings, comprising over 22 acres, near the Route 1/Jetty Road intersection at one time, they will consider sale of just the alternative site (A. Jones, Western Salt Company). An appraisal titled *Appraisal Report For Western Salt Company Property, Paul's Island Area-North Harbor, Moss Landing, California* prepared by Stephen Brown in 1989 valued the alternative site at $500,000. Due to the decline in real estate prices throughout California since 1988, it is not likely that the value of the parcel has appreciated since the appraisal. As such, $500,000 can be assumed to be the acquisition expense for the Western Salt alternative site. The alternative site is a 9.3 acre parcel. However, only three acres are suitable for development because the remainder of the site is either within the 100-year floodplain or within the planned Jetty Road realignment.

4.5.12.2 Construction

The cost of constructing both the finished 45,000 square foot building and 8,000 square foot building shell will be approximately $6,815,000, based on the assumptions described for the Rubis alternative. Sitework will cost $5 per square foot of land area and total approximately $653,000 for a project utilizing three acres of the 9.3-acre site. Thirteen percent of total building construction plus sitework costs will equal soft costs and will total approximately $1,149,000.

Piping for seawater transmission from the pumping station to the project site will cost $23 per linear foot, or a total of $184,000 for 8,00 linear feet. Due to the site's distance from the seawater pumping station, seawater trucking may be used instead of transmission piping. Acquisition of a truck and subsequent ongoing cost associated with weekly trucking will likely cost approximately $50,000.

The site will not require fill for building pad elevation because it is located in Zone B of the flood plain. However, some limited grading may be required which will not add significantly to the cost of construction.

The site is currently vacant. As such, no demolition or debris removal expenses will be incurred during site preparation.

Water and sewer service will have to be extended to the site. Water service currently extends along State Highway One to approximately one-third of a mile from the site. Extension of water service to existing service for the Western Salt site will be more expensive than for the other alternative sites due to the length of the required extension. Sewer service extends along State Highway One to the site border.

Noise and vibration emanating from State Highway One may create the need for additional insulation for the building. This will increase the cost of building construction.

Caltrans is currently planning improvements to Highway One, which may involve roadway widening. This may impact the amount area suitable for development on the Western Salt site. However, Caltrans has recently purchased the parcel directly across Highway One from the Western Salt alternative site, which will likely be the site of any roadway realignments (D. Green, Blickman Turkus). Improvements on Jetty Way, a second site access, may be necessary to provide for adequate services access.

No archaeological resources exist on the Western Salt site.

4.5.12.3 Operations

The Western Salt site's distance from seawater will prohibit use of a pipeline seawater delivery system. This will result in a cost savings during construction, since a water truck will cost less than a pipeline. However, long term expenses associated with trucking seawater may exceed the initial savings. This site will not offer the visual and scenic amenity of the Peterson site.

4.5.12.4 Municipal Revenues

The assessed value of the Western Salt site is approximately $196,000. Conversion of the site to Marine Laboratory use will result in approximately $2,000 in foregone annual property tax revenue for the State and County.

Under other alternatives, the dunes present on the former Marine laboratory grounds would be restored to dune scrub habitat. This beneficial impact would not occur under the No Project alternative.

No mitigation measures for impacts on biological resources would be required.

4.6 NO ACTION ALTERNATIVE

As previously mentioned, the Federal Emergency Management Agency (FEMA) and Office of Emergency Services (OES) concluded that the former MLML site was in a floodplain (AO zone) and partially in a Coastal High Hazard Zone (V2). The MLML facility was determined not to be a functionally dependent use. Based on these determinations and the requirements of 44 CFR Part 9, FEMA and OES concluded relocation of the facility out of the floodplain was required wherever there is a practicable alternative in order to received FEMA funding.

If relocation of the MLML facility is not feasible or cost effective, or if California State University (CSU) decides that the public welfare would not be best served by relocating the MLML facility, CSU may apply for an alternate project. The No Action Alternative would be this alternate project. Federal funding for such alternate project shall equal 90 percent of the Federal share of the approved estimate of eligible costs. Since there is no information regarding the alternate project at this time, the environmental consequences are unknown.

If an alternate project is chosen, FEMA will provide funds to the CSU equal to 90 percent of the cost of constructing a replacement facility at the original site. The cost of this construction will be approximately $8,365,000. This estimate is based on constructing a 53,000 square foot building at a cost of $145 per square foot, sitework expenses equal to $5 per square foot for the 117,600 square foot parcel, and soft costs equal to 13 percent of building construction plus sitework expenses. The cost of the seawater system connection is assumed to be zero because the building will be adjacent to the seawater pumping station. Based on the estimated cost of $8,365,000, FEMA will provide funds equal to approximately $7,529,000 to the California State University under the No Action alternative.

5.1.3 Harbor District Site

There are no environmental effects that cannot be mitigated on the site. Development of the proposed facility would not adversely impact the immediate environment of the Harbor District site. However, the site is not for sale at this time. The location of the National Refactories outfall line could also represent another constraint, possibly limiting development on this site. There are design options available, such as siting the MLML facility in the southwest portion of the site, away from the outfall easement. It is unlikely that an Environmental Impact Statement would be needed.

5.1.4 Moss Landing Investment/Gardner Site

There are no known biological or cultural resources that would be affected by the proposed development. While there may be some minor traffic conflicts in the afternoon peak period due to local fishermen's operations, it is likely that this can be easily mitigated through a scheduling agreement between CSU and the local fishermen. Construction on this site would not affect the existing acceptable vehicular level of service of Sandholdt Road and bridge. It is not likely that an Environmental Impact Statement would be required.

5.1.5 Western Salt Site

Construction of the proposed facility would result in a significant biological impact of removal of over an acre of non-native grassland, willow scrub, coyote brush scrub, and/or brackish water marsh. There is a high probability that both impacts could be avoided through additional site surveys and design. It is unlikely that an Environmental Impact Statement would be required.

5.1.6 No Action Alternative

The No Action Alternative would be an alternate project. There is no information regarding an alternate project at this time, therefore the environmental consequences are unknown. Should the No Action Alternative be selected, an environmental review may have to be performed for the scope of the project.

5.1.7 Summary Table

Information in Table 5-1, Summary of Environmental Effects, has been organized to correspond with the environmental issues discussed in Chapter 4. The table is arranged by the environmental effects for each of the alternatives.

Table 5-1 - Summary of Environmental Effects

	No Action	Peterson Site	Rubis Site	Harbor District Site	Moss Landing Investment/ Gardner Site	Western Salt Site
Land Use and Planning Policies	Unknown	No	No	No	No	No
Traffic and Circulation	Unknown	No	No	No	Maybe	No
Air Quality	Unknown	No	No	No	No	No
Noise	Unknown	Yes*	Yes*	No	No	No
Biological Resources	Unknown	Yes*	Yes*	No	Maybe	Yes*
Geology, Soils, and Seismicity	Unknown	Maybe	Maybe	Maybe	Maybe	Maybe
Hydrology and Water Resources	Unknown	Maybe	Maybe	Maybe	Yes*	Maybe
Public Services and Utilities	Unknown	No	No	No	No	No
Risk of Upset	Unknown	No	No	No	No	No
Cultural Resources	Unknown	Yes	No	No	No	No
Aesthetics, Light and Glare	Unknown	Maybe	No	No	No	Maybe
Cost	Low	High	Low	Low	Medium	Low

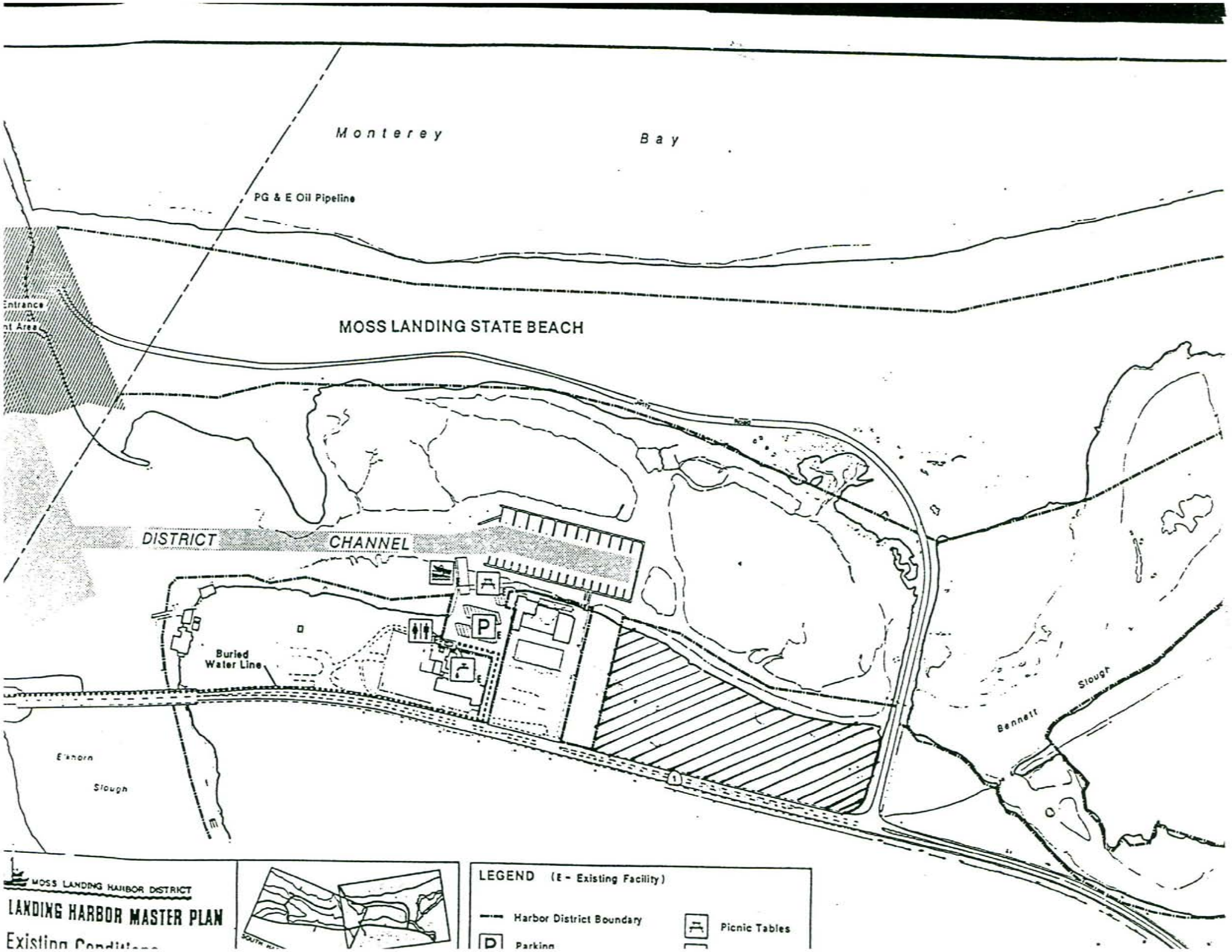
*Mitigation measures are available which may help to reduce the impact to a level below significance.

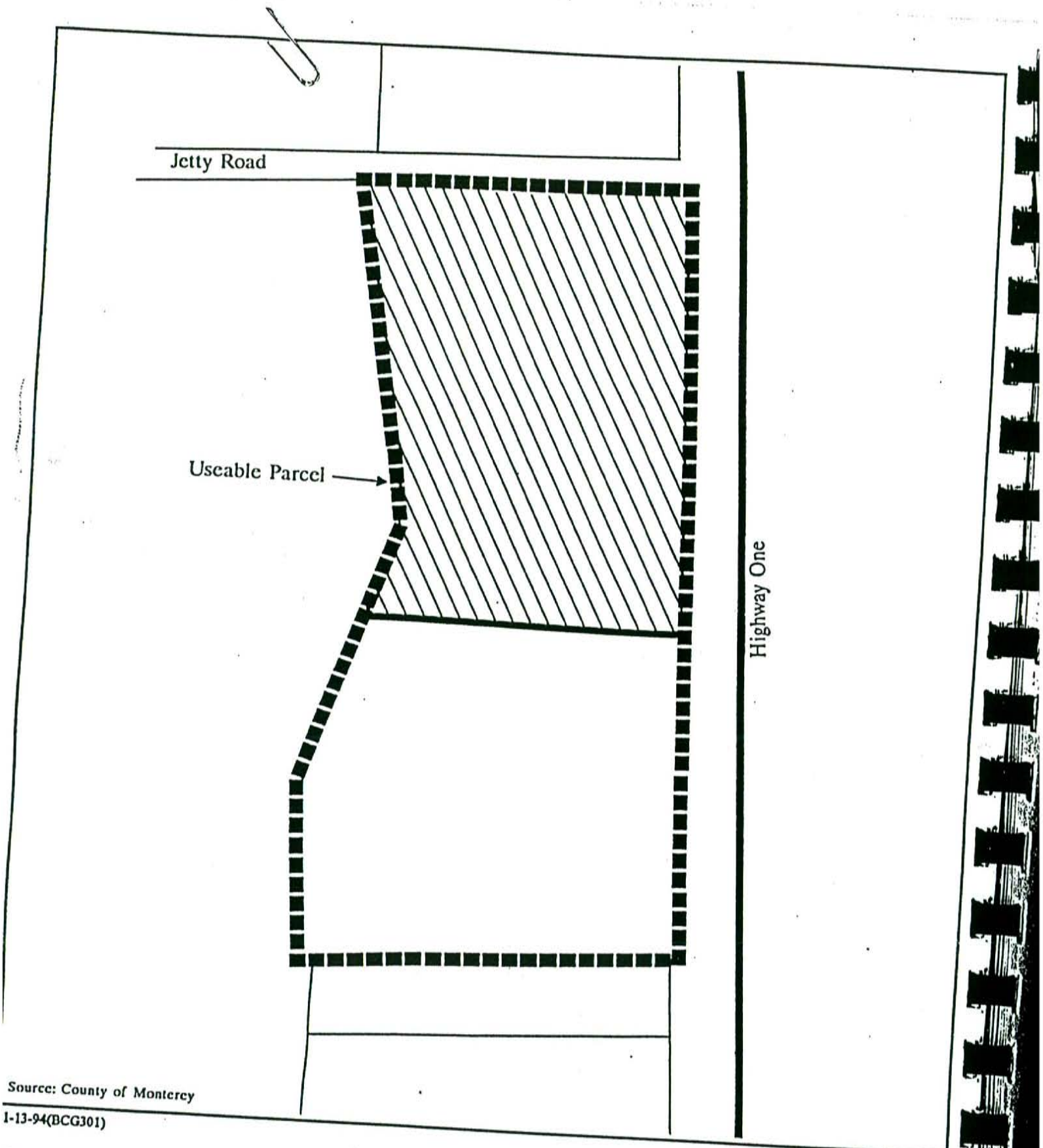
Table 5-2
Moss Landing Marine Laboratory Relocation
Alternatives' Estimated Expenses Comparison

Expense Category	Peterson	Rubis	Harbor District	M.L. Investment/ Cal Garner	Western Salt
Site Acquisition	$1,439,000 a	$588,000	$762,000	$1,219,680 q	$500,000 t
Price Per Square Foot	$4.72	$4.50 i	$7.00 o	$7.00 i	$3.83
Total Usable Square Feet	304,920 b	130,680 j	108,900 p	174,240 r	130,680 u
Building Construction	$8,826,000 c	$6,815,000 k	$6,815,000 k	$6,815,000 k	$6,815,000 k
Cost Per Square Foot	$176 d	$145 l	$145 l	$145 l	$145 l
Total Square Feet	60,000 e	53,000 m	53,000 m	53,000 m	53,000 m
Sitework	$1,692,000 f	$653,000 n	$545,000 n	$915,000 s	$653,000 n
Soft Costs	$1,367,000 g	$971,000 g	$957,000 g	$1,005,000 g	$971,000 g
Seawater System Connection	$92,000 h	$92,000 h	$23,000 h	$58,000 h	$184,000 h
TOTAL EXPENSES	**$13,416,000**	**$9,119,000**	**$9,102,000**	**$10,013,000**	**$9,123,000**

Notes:

- a Acquisition cost includes $5 per square foot for 5 acres, and $350,000 for 2 acres (approximately $4 per square foot).
- b Assumes 7 acres are purchased.
- c Includes $176 per square foot for 45,000 square feet, $290,000 for 8,000 building shell and $88 per square foot for a 7,000 square foot basement.
- d Based on $161 per square foot The University of California Capital Outlay Estimate, November 5, 1992 plus $5 per square foot for seawater transmission pipes and $10 per square foot for laboratory equiptment.
- e Includes a 45,000 square foot finished building, a 8,000 square foot shell building and a 7,000 square foot basement.
- f Based on The University of California Capital Outlay Estimate, November 5, 1992, for demolition, site preparation, grading, earthwork, roads, walks, curbs, paving, and utilities including $200,000 for water tank relocation.
- g Assumes soft costs equal 13 percent of building construction plus sitework.
- h Based on $23 per linear foot for piping and the site's distance from the seawater pumping station.
- i Based on conversation with David Green, Blickman Turkus, repesenting Rubis site owners.
- j Assumes only three acres will be acquired for the project.
- k Assumes $145 per square foot for 45,000 square foot finished building and $290,000 for 8,000 square foot building shell.
- l Based on $130 per square foot for building construction, $5 per square foot for seawater transmission pipes and $10 per square foot for laboratory equiptment (FEMA Region IX).
- m Includes 45,000 square foot finished laboratory building and 8,000 square foot building shell.
- n Assumes $5 per square foot of a site's usable total square feet (FEMA Region IX).
- o Based on conversation with Larry Steffen, Harbor District. This price is hypothetical because the site is not currently for sale.
- p Assumes 2.5 acres are purchased.
- q Although $7.00 per square foot represents a market value price, Calvin Garner, partial owner of the alternative site, is asking $1,000,000 for approximately 2 of the 4 usable acres.
- r Although the site totals almost 8 acres, only 4 acres will be suitable for development and will require sitework.
- s Assumes $5 per square foot of the site's usable total square feet (FEMA Region IX) plus $0.25 per square foot for debris removal and site cleanup.
- t Based on Appraisal Report For The Western Salt Company Property, March 1989. Acquisition price is assumed to be equal to 1989 appraisal value.
- u Although the entire 9.3 acre site will be purchased, only three acres are suitable for development and will require sitework.


Monterey
Bay
PG & E Oil Pipeline
MOSS LANDING STATE BEACH
DISTRICT
CHANNEL
Buried
Water Line
Elkhorn
Slough
Bennett
Slough
MOSS LANDING HARBOR DISTRICT
LANDING HARBOR MASTER PLAN
Existing Conditions
LEGEND (E - Existing Facility)
Harbor District Boundary
Parking
Picnic Tables



Source: County of Monterey

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Figure 2-7

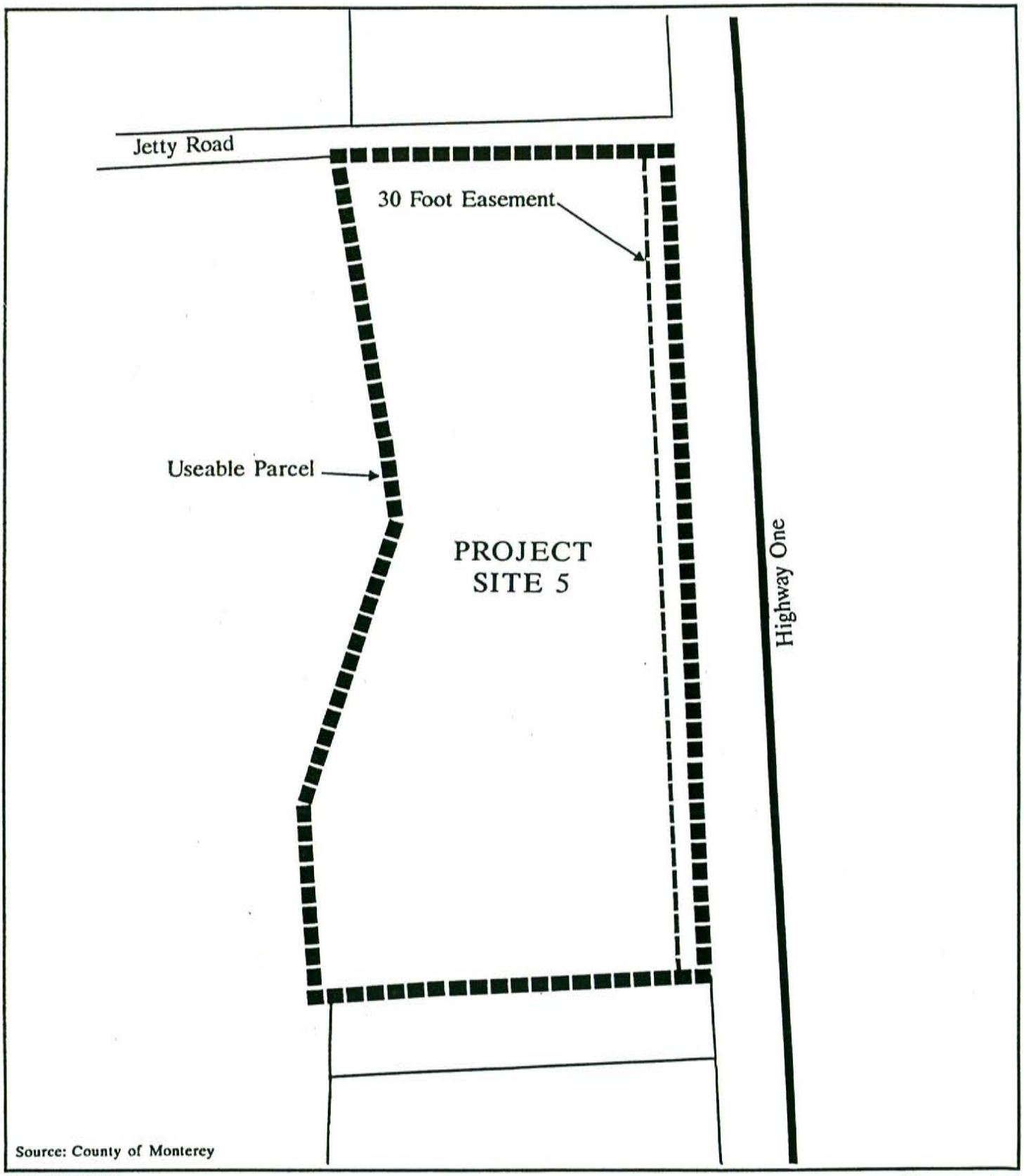

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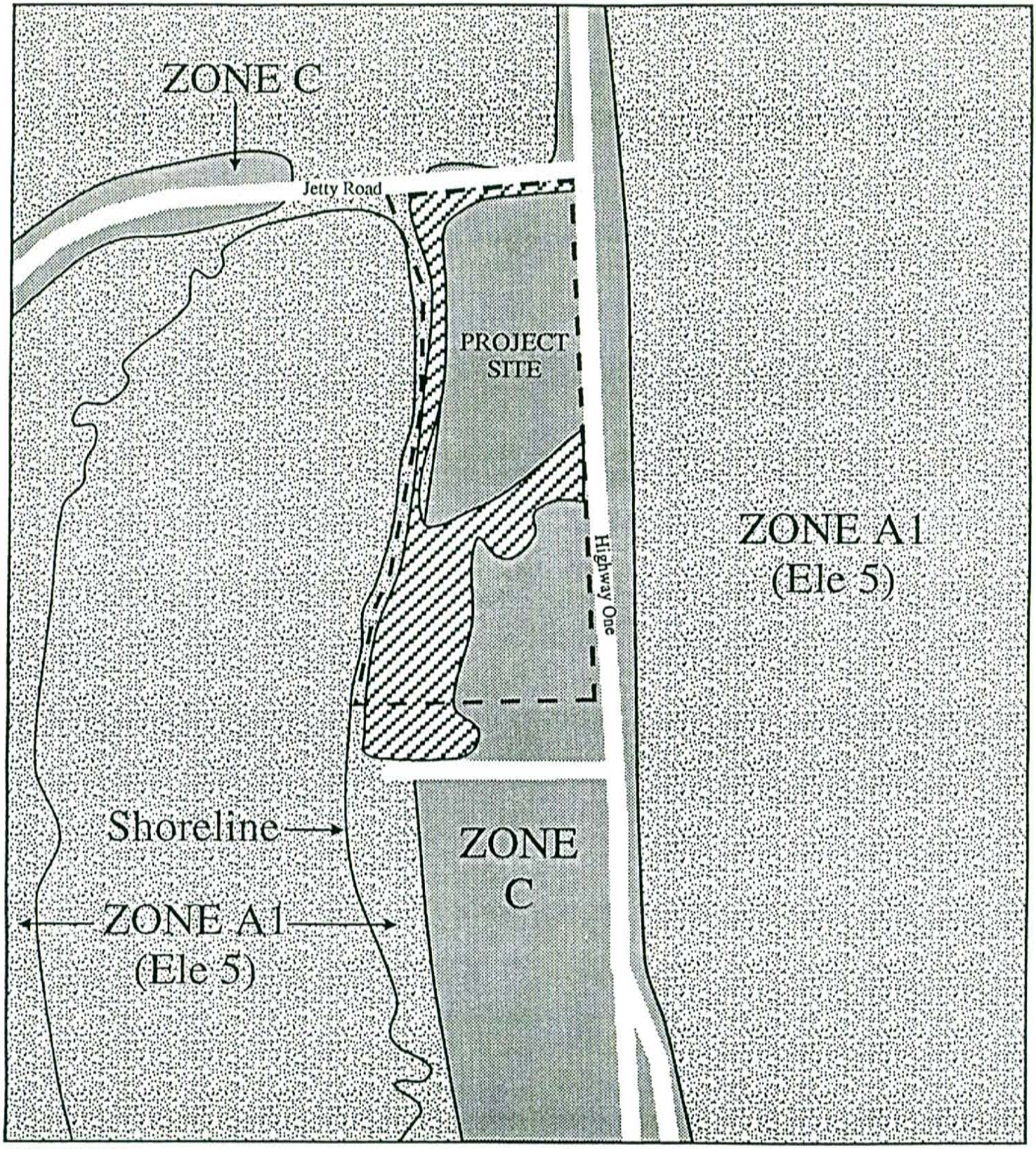
Figure 4-7

N

LSA

Scale in feet
0 100

Highway One Expansion Easement
Western Salt Site



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Wetlands

Figure 4-8

N

LSA

Scale in feet

0 245

Wetlands and Floodplain Zones
Western Salt Site