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STAFF REPORT:
AMENDMENT

APPLICATION NUMBER: **3-96-008-A1**

APPLICANT: **KATHLEEN MCKENZIE**

PROJECT LOCATION: 921 Pigeon Point Road (adjacent to the Pigeon Point Lighthouse), Pescadero, San Mateo County

PROJECT DESCRIPTION: Demolition of existing warehouse type structures, and construction of a 9 unit Country Inn with 1,800 square foot storage/maintenance building, 14 off-street parking spaces, a septic system, and a domestic well. The amendment adds to the project: a reverse osmosis water treatment facility; a new leachfield for the disposal of brine effluent from the reverse osmosis treatment facility; a recirculating sand filter for the treatment of project wastewater; pump facilities for circulating wastewater; curtain drains uphill of the wastewater and brine leachfields that include two outfalls with rock energy dissipaters; and, two additional water storage tanks to be installed underground. The amendment also revises Special Condition 7.b. of the original permit in a manner which allows the above ground water storage tank to be screened with wood siding rather than with native vegetation.

LOCAL APPROVALS: San Mateo County Coastal development Permit No. 95-0022 (approved 12/13/95); San Mateo County Health Services Agency approval of the project's water system (May 14, 1998)

FILE DOCUMENTS:

1. Information submitted by Questa Engineering Corporation regarding Amendment to Coastal Development Permit A-3-SMC-96-008 (August 11, 1998)

2. Adopted Staff Report regarding the Need for a Coastal Development Permit Amendment (July 15, 1998)

3. Adopted Staff Report for Coastal Development Permit No. A-3-SMC-96-008 (Revised Findings, August 21, 1996; attached as Attachment 1)

4. San Mateo County Certified Local Coastal Program

5. Central Coast Regional Water Quality Control Board Staff Report and Supplement for the Issuance of Waste Discharge Requirements (Order No. 98-14, approved January 30, 1998)

6. Negative Declaration for the Use of a Recirculating Sand Filter Septic System and Reverse Osmosis Water Treatment System with Brine Septic System (San Mateo County Planning Division, filed August 5, 1997)

7. Sewage Disposal Plan, prepared by Questa Engineering Corporation, as revised on July 19, 1997

8. Letters from the San Mateo County Health Services Agency to: Kathleen McKenzie (May 14, 1998, February 17, 1998, December 18, 1997, December 3, 1997, and September 25, 1996); the Department of Water Resources (May 5, 1998); Harry O'Brien (March 10, 1998); Questa Engineering Corporation (February 27, 1998, October 4, 1996); and, Kleinfelders (November 14, 1996)

9. Letters from the Monterey Bay National Marine Sanctuary to: the Regional Water Quality Control Board (January 27, 1998, January 8, 1998); and, the San Mateo County Planning Division (September 29, 1997)

10. Letters from Questa Engineering Corporation to: Kathleen McKenzie (June 1, 1998 and July 9, 1996); the Regional Water Quality Control Board (January 2, 1998); the San Mateo County Health Department (February 13, 1998, June 9, 1997, May 5, 1997, and February 12, 1997); and, the San Mateo County Planning Division (August 5, 1997)

11. Engineering Geologic Review for the Proposed Wastewater and Brine Waste Disposal Systems (UPP Geotechnology, July 9, 1997)

12. Recommendations and Design Basis for Well Water Treatment System (Kleinfelder, January 27, 1997)

13. Pumping Test and Water Sampling Report (Kleinfelder, Inc., October 18, 1996)

14. Water Use Assessment (Kleinfelder, Inc., June 6, 1996)

15. Percolation Testing Report (UPP Geotechnology, June 5, 1996)

SUMMARY OF STAFF RECOMMENDATION

The subject amendment has been requested to incorporate new features of the project's water and wastewater systems into the previously approved Coastal Development Permit for a 9 unit Country Inn. The amendment request also includes a revision to Special Condition 7.b. of the originally approved permit, to allow an above ground water storage tank to be screened with wood siding rather than with native vegetation.

The water and wastewater systems proposed by the amendment have been approved by the Central Coast Regional Water Quality Control Board and the San Mateo County Health Services Agency, the agencies responsible for determining that these systems effectively protect human health and water quality. However, as reflected in the Health Services Agency

approval letter, there remains some question regarding the ability of the proposed well to adequately serve the project over the long term. Special Condition 7 requires that the permittee obtain separate Coastal Commission approval for any alternative method of supplying water to the project.

There is also a difference between the water system proposed by the amendment and the system previously reviewed and approved by the County Health Services Agency, specifically with respect to the size and purpose of the water storage tanks. These storage facilities are directly related to the well pumping schedule, which has been carefully designed to address the well's limited production capacity. Due to this discrepancy, the recommended conditions of approval require the permittee to either: provide evidence that the Health Services Agency's has approved of the water system proposed by the amendment; or, submit final plans for the water storage facilities that are consistent with the water system described in the project water consultant's (Kleinfelder Inc.) letter to the Health Service's Agency dated January 27, 1997.

Other coastal issues raised by the amendment include consistency with policies of the San Mateo County certified Local Coastal Program (LCP) regarding visual resources, coastal hazards (i.e., erosion/bluff stability), and prime agricultural soils.

To address LCP scenic resource protection requirements, staff is recommending conditions of approval that require: all new infrastructure facilities to be located underground, with the exception of the reverse osmosis treatment facility, which must be located within the storage building, and the recirculating sand filter, which is limited in size and location; final landscape plans that provide for the revegetation of all areas that will be disturbed during project construction with native vegetation; and, final plans for the storage building which illustrate the size and design of the fence that will screen the above ground water storage tank to ensure that it is architecturally compatible with surrounding development.

With respect to coastal hazards, the project engineer has determined that the development will not cause erosion or reduce bluff stability. Consistent with this expectation, staff recommends that approval of the amendment be conditioned to prohibit future development of seawalls, bluff retaining walls, or other shoreline protection devices on the project site, and that this restriction be recorded on the deed of property. The recommended conditions also require the permittee to waive any future claims of liability against the Commission for any damage that may be caused as a result of erosion or bluff instability.

Finally, staff recommends that the Commission determine that the amendment is consistent with LCP policies protecting agricultural resources. Although the new leachfield for the disposal of reject water from the reverse osmosis treatment facility is located on prime agricultural soils, the information provided by the project engineer indicates that the proposed discharge would not reduce the agricultural productivity of the soils in this area. Furthermore, it is unlikely that agricultural operations will be pursued on the site due to the approved development of visitor accommodations, and because of its narrow configuration and proximity to the ocean (agricultural Best Management Practices that call for a 50 foot setback from coastal bluffs severely limit the portions of the site that could be farmed). Concerns regarding the development's relationship to adjacent agricultural operations have been effectively addressed in the County's approval of the project, which required the permittee to record a "Right to Farm" statement. No additional conditions are necessary.

I. STAFF RECOMMENDATION

Staff recommends that the Commission adopt the following resolution:

Approval With Conditions

The Commission hereby **approves**, subject to the conditions below, an amendment to Coastal Development Permit A-3-SMC-96-008 on the grounds that the proposed amendment, as conditioned, will be in conformity with the San Mateo County certified Local Coastal Program and the public access and recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impact on the environment within the meaning of the California Environmental Quality Act.

II. STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permute to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Scope of Amendment.** This amendment authorizes, subject to the Standard Conditions above and Special Conditions below, the following additional development as proposed in the submitted amendment application and supporting materials: a reverse osmosis water treatment facility; a new leachfield for the disposal of brine effluent from the reverse osmosis treatment

facility; a recirculating sand filter for the treatment of project wastewater; pump facilities for circulating wastewater; curtain drains uphill of the wastewater and brine leachfields that include two outfalls with rock energy dissipaters; and, two additional water storage tanks to be installed underground. The amendment also revises Special Condition 7.b. of the original permit in a manner which allows the above ground water storage tank to be screened with wood siding rather than with native vegetation, subject to Special Condition 5.b., below. All other conditions of approval attached to the original permit continue to apply to the project, and are attached to this staff report as Attachment 1.

2. **Assumption of Risk.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that the site may be subject to extraordinary hazards from erosion and/or bluff instability, and (b) that the applicant hereby waives any future claims of liability against the Commission or its successors in interest for damage from such hazards. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability if the restriction. This deed restriction shall not be removed or changed without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

3. **Prohibited Future Development.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall record a deed restriction, in a form and content acceptable to the Executive Director, which prohibit future development of any bluff retaining wall, seawall, or other shoreline protective device on the project site and adjacent public beach area. shall identify this prohibition. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability if the restriction. This deed restriction shall not be removed or changed without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

4. **Undergrounding of Water and Wastewater System Infrastructure.** All infrastructure associated with the project's water and wastewater systems (e.g., water storage tanks, distribution pipes, septic tanks, pump chambers, electric lines, etc.) shall be installed underground, to a depth which prevents such infrastructure from extending any higher than the existing ground surface, with the following exceptions: the 6,000 gallon water storage tank, which shall be located on the western side of the remodeled storage building and screened with wood siding to match the building, as further specified by Special Condition 5.b., below; the recirculating sand filter, which shall be in the location identified in the Sewage Disposal Plans prepared by Questa Engineering Corporation as revised on 8/10/98, and shall not extend more than 4 feet above ground surface or exceed the dimensions identified in said plans; the reverse osmosis treatment facility, which shall be located within the storage building; and, the pump controls and alarm system, which shall be mounted on the western side of the storage building.

5. **Revised Final Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit the following revised final plans for Executive Director review and approval:

a. **Revised Landscape Plans.** Final landscape plans shall provide for the revegetation of all open space areas of the project site that will be disturbed during project construction with local drought resistant native vegetation. This requires that the submitted revegetation plan and planting specifications prepared by Questa Engineering Corporation be expanded to include portions of the site that will be disturbed by the construction of the guest units, remodeling of the storage building, and installation of the wastewater leachfield, curtain drains, and curtain drain outfalls. In areas of the site where the use of drought resistant vegetation may not be appropriate due to expected levels of soil moisture (e.g., in the vicinity of the curtain drain outfalls), other local native plants species suited for such conditions should be incorporated into the landscape plans.

b. **Revised Storage Building Plans.** Final plans for the remodeled storage building shall: identify the location of the reverse osmosis treatment facility within the building; indicate the size and location of the pump controls and infrastructure alarm system on the western exterior of the storage building; and, shall illustrate the design, dimensions, and materials of the wood siding that will be used to screen the 6,000 gallon water storage tank shown in the sewage disposal plan prepared by Questa Engineering Corporation (as revised on 8/10/98). To ensure architectural compatibility, the wood siding used to screen the water storage tank shall match the siding of the remodeled storage building, and neither the tank nor the wood siding shall exceed a height of 12 feet above ground surface. The permittee is responsible for maintaining the wood siding throughout the lifetime of the project in a manner which effectively screens the water tank, in its entirety, from public view.

6. **Maintenance of Approved Landscaping.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall record a deed restriction, in a form and content acceptable to the Executive Director, that requires he applicant and any future owner of the property to maintain the approved landscaping required by Special Condition 5.a. (above) throughout the lifetime of the project. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability if the restriction. This deed restriction shall not be removed or changed without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

7. **Water Supply.** The approved method of providing water to serve the authorized development is limited to water supply system approved by the San Mateo County Health Services Agency on May 14, 1998, subject to the Special Conditions above. Any alternative method of providing water to the project will require an amendment to this permit, or a separate coastal development permit, approved by the Coastal Commission. PRIOR TO THE ISSUANCE OF THE PERMIT, the permittee shall submit, for Executive Director review and approval, either: written evidence that the San Mateo County Health Services Agency has approved the water supply system as described in the information provided by Questa Engineering dated August 11, 1998; or, a revised final description of the water supply system that is consistent with the pumping and storage methodology described by Kleinfelder, Inc. in the "Recommendations and Design Basis for Well Water Treatment System" dated 1/27/97.

IV. FINDINGS AND DECLARATIONS

A. Project Description

This project entails the development of a 9-unit Country Inn on a narrow bluff top parcel of approximately 4.5 acres adjacent to the Pigeon Point Lighthouse in rural southern San Mateo County (please see Exhibit C of Attachment 1 for a location map). The 9 units (8 of which are 600 square feet, and one of which is 700 square feet) are grouped in three separate buildings which have a total footprint of 5,500 square feet. An existing 1,800 square foot warehouse type building will be converted to a storage/maintenance building.

An on-site water and sewage treatment system is needed to support this development. Since the Commission's original approval, the complexities of these systems have expanded from a typical well and septic system to more intensive treatment, storage, pumping, and disposal facilities. As a result of these changes, the amount of land area that will be developed by the project has also increased. Thus, an amendment to the original permit is required. (Note: in response to a request from the applicant, the Commission confirmed the need for an amendment on July 9, 1998.)

The additional development that is the subject of this amendment includes:

- **A reverse osmosis treatment plant**. In order to remove salts and other minerals contained in the project's well water so that compliance with drinking water standards can be achieved, the applicant has proposed a reverse osmosis treatment facility. According to the project engineer, the size of this facility is "approximately that of a standard clothes closet". It is proposed to be located within the remodeled storage building, and expected to have an efficiency of 60 to 65 percent. In other words, for every 130 gallons of water pumped from the well, 80 gallons of drinking water can be produced, and 50 gallons of reject water must be disposed. The concentration of salts and other well water constituents contained in the reject water is expected to be twice that of the well water.

- **An additional leachfield for the disposal of reject water (brine) from the treatment plant**. This additional drainfield is located in the southeastern corner of the site, on prime agricultural soils and within 25 feet of the coastal bluff. Including the area between the drainfield trenches and the edge of the bluff, the project engineer has calculated the area of this facility to be approximately 13,000 square feet. Due to the shallow depth of the topsoil in this portion of the property, the drainfield trenches will be at a depth of 30 inches. The expected level of Total Dissolved Solids contained in the brine waste stream is approximately 2,000 mg/L based upon the current quality of water being obtained from the well. If the content of Total Dissolved Solids (TDS) in the well water increase, so will the level contained in the brine discharge. The RWQCB has established a maximum discharge concentration for TDS of 2,500 mg/L. Boron is another constituent that may be found at high levels in the reject water that will be discharged to this additional leachfield. Information submitted by the project engineer indicates that boron concentrations of 5 to 6 mg/L are expected in the discharge waters.

- **An additional curtain drain uphill of the brine leachfield, and two new curtain drain outfalls with rock energy dissipaters**. Subsurface "curtain drains" are proposed to be installed uphill of both the wastewater leachfield and the brine leachfield in order to prevent perched groundwater from interfering with the functioning of the disposal system. These

drains will be installed at depths of 8 and 5 feet, and utilize a 4 inch pipe to collect and transport the water. An eastern outfall that will discharge the water collected by the brine field curtain drain, will be located at the top of an eroded gully that defines the eastern boundary of the site. A western outfall that will discharge most of the water collected by the wastewater curtain drain will be setback 25 feet from a gully located between the guest units that will be used by guests to access the adjacent public beach. 4 inch rock is proposed to be installed beneath both outfalls to dissipate the energy of the discharge and prevent erosion. The rock will cover an area about 2 feet wide by 5 feet long, and will be about 10 to 12 inches deep, partially above ground and partially below ground. The project engineer has calculated the expected flow from the eastern outfall to be between 0.8 and 2.6 gallons per minute, and the western outfall to be between 0.4 and 1.2 gallons per minute, depending upon rainfall amounts.

- **Two additional water storage tanks**. In addition to the 6,000 gallon above ground water storage tank that was approved as part of the original project, the amendment includes a 4,000 gallon tank for fire flow purposes and a 5,000 gallon tank for the collection and storage of the reject water from the reverse osmosis treatment unit. These two additional tanks are proposed to be located underground, just west of the storage building (please see Exhibit 1).

- **Recirculating Sand Filter**. Due to the limited permeability of the site, which gives rise to the concern that inadequately treated wastewater effluent could migrate through the shallow surficial soils and exit through existing seeps in the coastal bluff to the beach area and marine environment below, the project has incorporated a recirculating sand filter to provide additional levels of wastewater treatment. This facility will extend approximately 4 feet above the ground surface, and measures 16 feet by 21.25 feet. It is proposed to be located in the area between the western most guest units and the fence which defines the western property boundary with the Pigeon Point Lighthouse (please see Exhibit 1). According to the project engineer, the surface of the sand filter will be finished with rounded river rock, gravel, or sand, and it may be planted with low maintenance, drought tolerant vegetation or container plants.

- **"Pressure Dosed" leachfield and wastewater pumping facilities**. In order to prevent wastewater effluent from pooling in certain areas of the wastewater leachfield, a "pressure dosed" leachfield system is proposed. A duplex pump station with a 5000 gallon pump chamber will pressurize to the leach lines and provide emergency storage. The dimensions of this tank are approximately 17 feet by 8 feet, with a depth of 8 feet. A second smaller duplex pump station with a 3000 gallon pump chamber is proposed to recirculate wastewater effluent between the three 1500 gallon septic tanks (one for each structure of three units) and the sand filter. The two pumping stations are proposed to be installed underground, in the same vicinity of the recirculating sand filter (between the westernmost guest units and the lighthouse).

The proposed wastewater and brine disposal system was approved by the Central Coast Regional Water Quality Control Board on January 30, 1998. The water system was approved by the San Mateo County Department of Health Services on May 14, 1998. There appears, however, to be a difference between the water supply system proposed by the amendment, and that which was approved by the Health Services Agency, specifically with respect to the size and purpose of the water storage tanks. These storage facilities are directly related to the

well pumping schedule, which has been carefully designed to address the well's limited production capacity. Due to this discrepancy, Special Condition 7 requires the permittee to either: provide evidence that the Health Services Agency's has approved of the water system proposed by the amendment; or, submit final plans for the water storage facilities that are consistent with the water system described in the project water consultant's (Kleinfelder inc.) letter to the Health Service's Agency dated January 27, 1997.

An additional component of the amendment is a revision to Special Condition 7.b. of the previously approved permit. Rather than screening the 6,000 gallon above ground water tank with native vegetation (e.g., Monterey cypress trees), the applicant desires to use wood siding to match the remodeled storage building (the storage tank will be located adjacent to this building).

B. Project Setting

The property on which the project will be located (921 Pigeon Point Road) is immediately east of the Pigeon Point Lighthouse on the west side of Highway One, along the southerly facing bluffs of Pigeon Point. The north side of the property is bounded by Pigeon Point Road, and the east side of the property is defined by an eroded gully which runs from the corner of Pigeon Point Road and Highway One to the public beach area south of the property. Across Pigeon Point Road to the north is a privately owned parcel in agricultural production, and the property to the southeast of the project site (across the eastern gully) is owned by San Mateo County and has been leased to agricultural operators in the past. Currently, this undeveloped County-owned land provides unimproved parking, and an unofficial, generally hazardous accessway to the shoreline adjacent to the County property.

The project parcel is approximately 875 feet long, and varies in width from approximately 120 feet to 300 feet. The bluffs which define its southern limit range in height from 35 to 40 feet. At the base of these bluffs is a beach area known as Whaler's Cove. This beach area is only accessible to the general public by boat, or during low tides from the unofficial accessway on the County owned property approximately 0.5 mile southeast. Seals and sea lions occasionally haul out on this beach, and the adjacent intertidal areas support rich marine life. These habitat values are required to be protected by Policy 7.22 of the San Mateo County certified Local Coastal Program (LCP).

The parcel is also part of the unique geologic Pigeon Point formation, characterized by moderately fractured impervious bedrock. Topsoil covering this formation on the site ranges from approximately 2 feet to 8 feet in depth. On the eastern half of the site, these soils have been identified as prime agricultural soil, although the site has not been used for agricultural purposes in the recent past. Existing vegetation on the site includes native species of coastal strand habitat, as well as exotic species such as ice plant. Other than Monterey Pine planted amongst the existing buildings, there are no trees on the site.

The site is also within the Highway One State Scenic Corridor. The adjacent lighthouse is a State of California Historic Landmark, and is listed in the National register of Historic Places. This area offers dramatic coastal views that provide excellent opportunities to view migrating Gray whales and other marine life, and is also rich in maritime and whaling history. The project site and adjacent Pigeon Point Road afford expansive views of the ocean and coastline, including views of Point Año Nuevo and Año Nuevo Island.

A more detailed description of the site and the project location can be found on pages 6-8 of Attachment 1.

B. LCP Consistency

1. Visual Resources

a. LCP Requirements:

The following policies contained in the San Mateo County certified LCP regulate the impact of new development on visual and scenic resources of the San Mateo County coastal zone and apply to the subject amendment:

1) Policy 8.5:

"Minimize the number of structures located in open fields and grassland areas; require that structures be designed in scale with the rural character of the region, and that they be clustered near existing and natural or man-made vertical features."

2) Policy 8.10:

"Replace vegetation removed during construction with plant material (trees, shrubs, ground cover) which are compatible with surrounding vegetation and is suitable to the climate, soil, and ecological characteristics of the area.

3) Policy 8.12c.:

"Locate and design new development and landscaping so that ocean views are not blocked from public viewing points such as public roads and publicly owned lands."

4) Policy 8.13d.:

"Encourage new buildings to incorporate architectural design features found in the historic buildings of the community (see inventory listing), i.e., clean and simple lines, precise detailing, steep roof slopes, symmetrical relationship of windows and doors, wood construction, white paint, etc. Require remodeling of existing buildings to retain and respect their traditional architectural features, if any."

b. Analysis of Amendment Consistency With LCP Visual Resource Policies:

(Note: For background information on the visual resource qualities of the project site, please refer to pages 19-20 of Attachment 1.)

There are three visual resource issues raised by the subject amendment: the size and location of the new development and its resultant impact on scenic resources; the architectural compatibility of the new development with surrounding historic structures and the previously approved development; and, the revegetation of areas that will be disturbed by the new water and wastewater systems.

With respect to the size and location of the new development, the applicant has proposed to install all of the new water and wastewater infrastructure underground, except for the recirculating sand filter, the reverse osmosis water treatment unit, the outlets of the outfalls/energy dissipation rocks, and the controls/alarm system for the pump facilities. In response to concerns that the geologic properties of the site (i.e. shallow topsoil underlain by siltstone and bedrock) may create problems for locating the septic tanks, pump chambers, and new water storage tanks from being installed underground, the project engineer reviewed boring logs for the site. The Engineer's analysis of this data indicates that hard clay and siltstone will be encountered during excavation, but bedrock refusal will not occur until depths of 10 to 15 feet. Locating the septic, pumping, and storage tanks underground will require excavations of 7 - 9 feet deep. Therefore, the project engineer concludes that there will be no significant difficulty in installing these features underground.

The locations of the test borings were not, however, in the exact areas where the tanks will be located. As a result, it remains possible that problems could be encountered in attempting to install these facilities underground. Special Condition 4 therefore identifies that approval of this amendment is conditioned upon the ability to install all infrastructure associated with the project's wastewater and water systems underground. If this proves to be impossible, an amendment to this permit must be obtained. The visual impacts of the components of the water and wastewater treatment facilities that are not required to be located underground is analyzed below.

The reverse osmosis treatment unit is proposed to be located in the storage building, and the pump controls and alarm system will be mounted on the exterior wall of the storage building and covered with a wooden enclosure designed to match the siding of the building. Thus, as proposed, these features will not have an impact on the site's scenic resources.

Plans for the storage unit submitted with the amendment do not, however, show the reverse osmosis unit within the building, or the placement of the pump control and alarm system on the exterior of the building. To confirm that the reverse osmosis unit will be located within this building, and that the pump controls and alarm system will located on the exterior of this building in a visually unobtrusive and architecturally compatible manner, Special Condition 5.b. requires the applicant to submit final plans for the storage building that identifies these features, for Executive Director review and approval.

Special Condition 5.b. also requires that final plans for the storage building illustrate the design, dimensions, and materials of the siding that will be used to screen the 6,000 gallon above ground water tank. To ensure that the proposed screening is architecturally compatible with the surrounding structures, as called for by LCP Policy 8.13d, Special Condition 5.b. specifies that the siding shall match the siding of the remodeled storage building, and that neither the tank nor the siding shall exceed a height of twelve feet. The use of siding rather than native vegetation is consistent with LCP Visual Resource Policies because it will provide equal or superior screening of the water tank. A fence will not require time to mature so that the tank is completely screened, and it will have a narrower and shorter profile over the long term than trees which, once mature, could potentially obstruct views of the lighthouse or ocean.

The sand filter, which is 21 feet long by 16 feet wide, will extend approximately 4 feet above ground. Consistent with LCP Policies 8.5 and 8,12c., it will be located in the same vicinity of the above ground water tank (in a narrow area between the storage building and the existing

western fence) and will not block ocean views. According to the project engineer, the top surface of the sand filter will be finished with gravel or sand and may be planted with drought tolerant container plants, further minimizing its visual impact.

The only other components of the amendment that will be located above ground is the 4 inch diameter curtain drain outfalls, and the associated 4 inch rock that will be used for energy dissipation. The rock will completely cover the outfall, and will have a footprint that is 2 feet wide by 5 feet long, and approximately one foot deep. While these outfalls and energy dissipaters will not block ocean views, their installation will result in the disturbance of vegetation that must be replaced pursuant to LCP Policy 8.10. The same holds true for the wastewater and brine leachfields, as the installation of these facilities will also result in the removal of existing vegetation.

The landscape plan that has been submitted with the amendment application (pages 18 - 26 of Exhibit 2) does not adequately address the requirements of Policy 8.10, as it only provides for the revegetation of the brine leachfield area. Rather than planting such areas, the applicant has proposed to let the existing vegetation on-site (much of which consists on non-native ice plant) to fill in these areas over time. This proposal also conflicts with Special Condition 7.a. of the Commission's original approval, which requires that all areas disturbed during project construction be landscaped with local native drought resistant vegetation.

To address these inconsistencies, Special Condition 5.a. requires Executive Director review and approval of a revised landscape plan that provides for the revegetation of all areas of the project site that will be disturbed during project construction with local drought resistant native vegetation. This requires that the submitted revegetation plan be expanded to include portions of the site that will be disturbed by the construction of the guest units, remodeling of the storage building, and installation of the wastewater leachfield, curtain drains, and curtain drain outfalls. In areas of the site where the use of drought resistant vegetation may not be appropriate due to expected levels of soil moisture (e.g., in the vicinity of the curtain drain outfalls), other local native plants species suited for such conditions should be incorporated into the final landscape plan.

c. Conclusion:

As proposed, the amendment will not have a significant adverse impact on visual resources because most of the new infrastructure will be underground. All new above ground development will either be within a previously approved structure (i.e., the reverse osmosis unit will be located in the storage building), or within an area that does not provide important coastal views (the sand filter will be between a building and fence, and only four feet high; the curtain drain outlets/energy dissipaters will not be more than one foot above ground surface and have a small footprint, and as a result, will not be readily visible). To ensure that the new development is carried out as proposed (i.e., in a manner that will not adversely affect visual resources) Special Condition 4 states that any changes to the proposed location or height of the new development will require an amendment to the permit.

In order to maintain consistency with LCP Visual Resource Policies and the Commission's original approval that call for the revegetation of all areas disturbed by new development, a revised landscape plan is required by Special Condition 5.a. Special Condition 5.b. is needed to ensure that the reverse osmosis treatment unit will be located within the storage building, and

that the siding used to screen the above ground water tank, pump controls and alarm system are architecturally compatible with the surrounding development.

2. Hazards

a. LCP Hazard Policies:

LCP Policy 9.8.a. states:

> "Permit bluff and cliff top development only if design and setback provisions are adequate to assure stability and structural integrity for the expected life span of the development (at least 50 years) and if the development (including storm runoff, foot traffic, grading, irrigation, and septic tanks) will neither create nor contribute significantly top erosion problems or geologic instability of the site or surrounding areas."

LCP Policy 9.8.d. requires:

> "Prohibit land divisions or new structures that would require the need for bluff protection work."

b. Analysis of Amendment Consistency with LCP Hazard Policies:

The potential impacts on erosion and bluff stability associated with the amendment are related to the discharge from the curtain drain outfalls, and the use of approximately 13,000 square feet of bluff top area for the purposes of disposing reject water from the reverse osmosis treatment unit.

As detailed in pages 3 - 8 of Exhibit 2, the project engineer has estimated the quantity of water that will be discharged from the curtain drain outfalls, and has concluded that, when compared to the volumes of water that naturally drain through the existing gullies, the volumes of discharge from these outfalls are insignificant. For the eastern outfall, which will discharge the water collected from the brinefield curtain drain, as well as a portion of the wastewater curtain drain, the engineer estimates that the flow will range between approximately 1 gallon per minute to 2.8 gallon per minute in the rainy season. Compared to the quantity of runoff this drainage gully naturally receives, which is estimated by the project engineer to be about 5,800 gallons per minute, the discharge from the eastern outfall is insignificant. Similarly, the project engineer estimates that the discharge from the western outfall will be approximately 1 gallon per minute in the rainy season, as compared to the 80 gallons per minute estimated to occur naturally; an insignificant increase. Nevertheless, to address concerns that the drainage in the western gully could exacerbate any erosion that may be caused by the use of this gully by project guests to access the beach, the submitted Sewage Disposal Plans have relocated the western outfall approximately 25 feet from the gully, to an area of the site that is not as sloped and is more heavily vegetated. This will help dissipate the flow of the discharge, and reduce its velocity and quantity before it enters the western gully.

The project engineer has also applied the expected quantity of discharge from these outfalls to evaluate the adequacy of the proposed four-inch rock energy dissipaters. referencing guidelines developed by the U.S. Soil Conservation Service, the engineer concludes that the proposed four inch rock is adequate for the curtain drain outfalls.

In response to the concern that the brine leachfield could reduce bluff stability, the submitted engineering calculations show that the project will result in a net reduction of water flow through the project site during winter months, when the threat of erosion is the highest. (The quantity of subsurface water that will be diverted by the curtain drain, which would otherwise flow through the site as "perched" groundwater, exceeds the amount of brine that will be discharged to the brine field). There is also a net decrease in water flow across the site when averaged over an entire year. During the dry season, there will be a slight increase in the amount of perched water flow when compared to existing conditions. The project engineer asserts that this is an insignificant amount that will have little or no affect on bluff stability.

The reduction in the amount of perched water in the area of the brine field during the rainy season does not, however, ensure that the brine disposal field will not reduce bluff stability over the long term. As estimated by the project engineer, between 5,700 and 5,890 gallons of brine per month will be discharged during the dry season. Under current conditions, little or no perched water would be expected in this area during the dry season.

To address this uncertainty, and consistent with the expectation that the curtain drain outfalls and brine leachfield will not result in erosion or bluff instability, Special Conditions 2 and 3 have been attached to the amendment approval. Special Condition 2 requires the applicant to waive all claims of liability against the Commission for any damages that may be caused by erosion and/or bluff stability. As previously noted, Special Condition 3 prohibits the future development of any bluff retaining wall, seawall, or other shoreline protective structure. These conditions are necessary to achieve amendment consistency with LCP Policies 9.8.a and d., cited above.

c. Conclusion:

The additional discharges from the curtain drains are insignificant when compared to the quantities of water that naturally drain in these locations. As a result, and in light of the energy dissipation that will be provided at the point of discharge, these outfalls likely will not cause an increase in erosion. The impact of the brine discharge on bluff stability, although asserted to be insignificant by the project engineer, has not been fully resolved. While the project (i.e., the curtain drains) will result in a diminished flow of perched water on the site throughout the rainy season, there remains the possibility that the year-round discharge of brine in close proximity to the bluff edge could reduce bluff stability over the long term. Therefore, Special Conditions have been attached to the amendment approval that prohibit future development of seawalls, bluff retaining walls, or other shoreline protection devices on the project site, and require the applicant to waive any future claims of liability against the Commission for any damage that may be caused as a result of erosion or bluff instability. Only with these conditions is the amendment consistent with the applicable policies of the San Mateo County LCP regarding coastal hazards.

3. Agricultural Resources

a. LCP Requirements:

LCP Policy 5..8.a states:

"Prohibit conversion of prime agricultural land within a parcel to a conditionally permitted use unless it can be demonstrated:

(1) That no alternative site exists for the use,

(2) Clearly defined buffer areas are provided between agricultural and non-agricultural uses,

(3) The productivity of any adjacent agricultural land will not be diminished, and

(4) Public service and facility expansions and permitted uses will not impair agricultural viability, including by increased assessment costs or degraded air and water quality."

b. Analysis of Amendment Consistency with LCP Agriculture Policies:

(Note: For a background discussion of the agricultural resources on the site, please refer to pages 11-12 of Attachment 1.)

The new brine leachfield for the disposal of reject water from the reverse osmosis treatment plant is located on a portion of the site that contains prime agricultural soils. As required by part (1) of the above LCP Policy, such development must, if feasible, be located outside of prime agricultural areas. Due to the narrow configuration of the project site, the area in which brine disposal can take place is very limited. As a result, it would not be feasible to locate this new development outside of areas containing prime agricultural soils.

The other applicable requirement of LCP Policy 5.8.a is that the development must not impair the agricultural viability of the site or surrounding agricultural operations. While the new development authorized by the amendment will not impact surrounding agricultural operations, there is a concern that the disposal of brine on prime agricultural soils could result in the accumulation of salts and minerals that would diminish the agricultural productivity of the soil over time.

Evaluating this issue, the project's landscape architect states that winter rains are expected to dilute mineral concentrations that may accumulate in the soils to levels comparable with background groundwater. Furthermore, the brine field is located in a portion of the site that would not be preferable for farming , as this would contradict Best Management Practices calling for a 50 foot setback between bluff tops and agricultural operations. Finally, the narrow configuration and relatively small size of the site, as well as the planned use of the site for visitor-serving accommodations, makes it unlikely that agricultural use of the site will be pursued in the future.

Based upon these factors, the amendment is consistent with LCP policies protecting agricultural resources. Concerns regarding the overall development's relationship to adjacent agricultural operations have been effectively addressed in the County's approval of the project, which required the permittee to record a "Right to Farm" statement. No additional conditions are necessary.

C. Consistency with Coastal Act Access and Recreation Policies

Because this project is located between the first public road and the sea, it must comply with the public access and recreation policies of Chapter 3 of the Coastal Act. However, the new

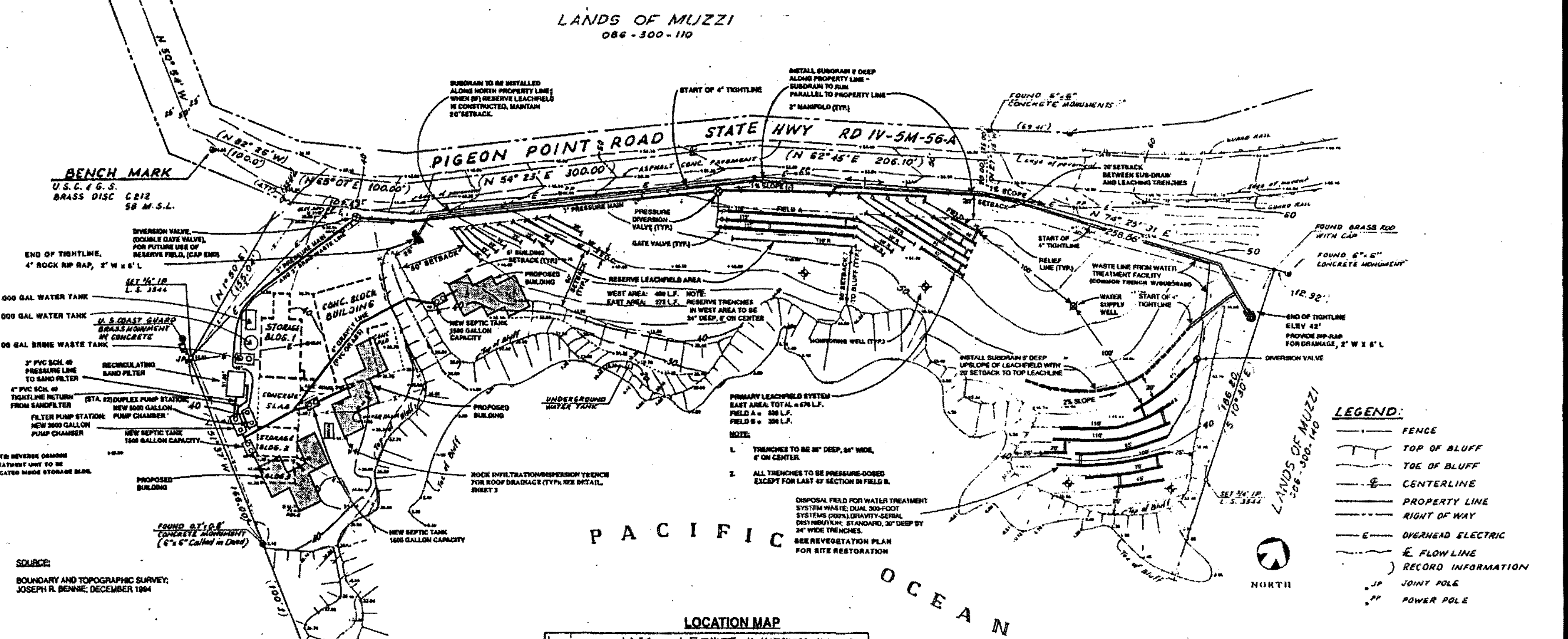
development authorized by this amendment will have no impact on public access and recreation opportunities. Therefore, the same findings regarding project compliance with these Coastal Act policies, as contained on pages 23 -28 of the original project approval (Attachment 1), continue to apply.

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures which would substantially lessen any significant adverse effect which the project may have on the environment.

The County of San Mateo, in cooperation with the Central Coast Regional Water Quality Control Board, circulated a Supplemental Negative Declaration for the additional development associated with the amendment on August 5, 1997. The Regional Water Quality Control Board, acting as the lead agency for the environmental review of the new wastewater and water systems, certified the Supplemental Negative Declaration on January 30, 1998.

As detailed in this staff report, The Commission has identified additional environmental impacts associated with the amendment, beyond those addressed in the certified Supplemental negative Declaration, which could be potentially adverse and significant. The Commission has therefore attached conditions to the approval of this amendment, which ensure that these impacts will be avoided or reduced to an insignificant level. With these conditions, the project will not have an adverse impact on the environment within the meaning of the California Environmental Quality Act.



SOURCE:

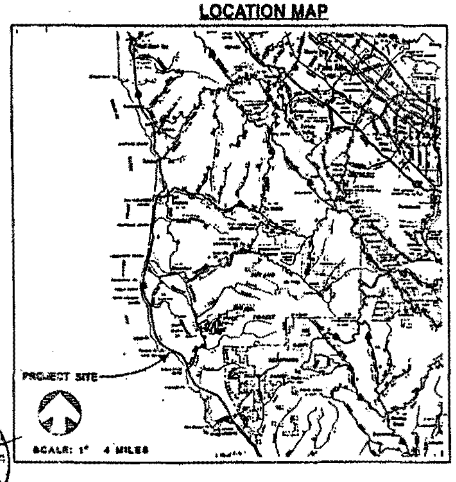
BOUNDARY AND TOPOGRAPHIC SURVEY;
JOSEPH R. BENNIE; DECEMBER 1994

CONSTRUCTION NOTES:

1. Plan Changes. Changes in plans or specifications shall be made only after consultation with and approval of the engineer of record.
2. Property Lines. Property lines shown on drawings are approximate. Contractor shall be responsible for verifying location of property lines and required setbacks from property lines.
3. Installation. All installation work shall be in accordance with San Mateo County Sewage Disposal Regulations.
4. Construction Inspection. Construction inspection by the Design Engineer shall be required at checkpoints as outlined in the attached Construction Inspection schedule. It shall be the responsibility of the Contractor to call for required inspections, and to provide at least 48-hours advance notification to the Design Engineer and San Mateo County Environmental Health for same.
5. Leachfield Compaction. Vehicle traffic shall not be permitted within an area of 25 feet downslope and 10 feet to the sides and upslope of the leachfield.
6. Location of Septic Tanks, Pump Chambers and Leaching Trenches. Locations shown for septic tanks and leaching trenches are ... Contractor ... quirements. ... to ensure ... their entire ... required ... approximate, ... to building ... shall ... protected ... [illegible]
11. Trench Sidewalls. Hand scarify sidewalls and remove spoils from trench bottom before placement of drain rock and drain pipe.
12. Pressure Pipe Network.
    - All pressure pipe shall be schedule 40 PVC or approved equal.
    - All joints shall be glued with solvent cement.
    - Distribution pipe shall be laid level with a maximum permissible slope of three (3) inches in 100 feet.
    - Hydraulic testing shall be conducted in the presence of the design engineer to determine any leaks in the system and to check the discharge head and pump operation.
    - A concrete thrust block shall be installed at all pipe bends of 45° or greater in the pressure line from the pump to the leaching trenches.
13. Filter Fabric. Filter fabric shall be Mirafi 140N or approved equal. Filter fabric shall be handled and installed in accordance with manufacturer's recommendations. Borders of fabric shall be overlapped 12- to 18-inches. Any torn or damaged sections of fabric shall be covered with additional pieces of filter fabric sufficient to meet the above overlapping requirement.
14. Distribution Piping. Perforations for the pressure distribution network shall be drilled in a straight line along the top of the pipe, except for first, middle and last which shall be drilled along the invert of the pipe. The hole diameter and spacings shall be as shown on the plans or as modified by the engineer. Clean all drilling burrs from the inside and outside of the pipe prior to installation.
15. Erosion Protection. Re-seed drainfield area for erosion protection following trench backfilling.
16. Orenco Screen Specifications. Use Orenco biotube effluent screen in each septic tank. Model # FT044436, screen is 1/8" mesh polyethylene. Orenco Systems, Inc., 814 Airway Avenue, Sutherlin, Oregon 97479-9012, (541) 459-4449.
17. General Cleanup And Restoration. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment. Stockpile excavated material in a manner that will cause the least damage to adjacent lawn, gardens, shrubbery, or fences. Leave the project site free of rubbish or excess materials of any kind.

EXHIBIT NO. 1, p. 1
APPLICATION NO. A-3-SMC-96-008-A1
Sewage & Brine Disposal Plans

LOCATION MAP



RECIRCULATING SAND FILTER CONSTRUCTION SPECIFICATIONS

GENERAL

Prior to initiating construction, the contractor shall lay out the sand filter in accordance with the DRAWINGS. Minor deviation from the alignment and grades on the DRAWINGS may be necessary and shall be brought to the attention of the Engineer for review. Contractor shall perform all earthwork to the lines and grades as shown and/or established by the Engineer. Shape, trim and finish sideslopes to conform with the lines, grades and cross sections shown.

MATERIALS

1. Materials. All construction materials shall be approved by the design engineer prior to their placement.
2. Sand Fill. Sand fill for the sand filter media shall have an effective size of 2.0 mm (4 x 16 sieve), and a uniformity coefficient of less than 2.5. Sand fill shall be cleaned and washed and free of fines. Sand filter media shall be manufactured by Silica Resources, 7511 Dean A. Hammonton Road, Marysville, CA 95901, (916) 741-0200.
3. Pea Gravel. Pea gravel used for distribution bed shall be nominal 3/8-inch rounded. Pea gravel shall be washed, cleaned and free of fines.
4. Drain Rock. Drain rock used for covering distribution bed and piping shall be 3/4 to 1 ½ inches rounded. Drain rock shall be washed, cleaned and free of fines.
5. Filter Fabric. Filter fabric shall be Mirafi 140N or approved equal. Filter fabric shall be handled and installed in accordance with manufacturer's recommendations. Edges of fabric shall be overlapped 12 to 18 inches. Dry, torn or damaged sections of fabric shall be covered with additional pieces of filter fabric sufficient to meet the above overlapping requirement.
6. Sand Filter Liner. A watertight, 30 mil PVC liner, as manufactured by ORENCO Systems, Inc., 2826 Colonial Road, Roseburg, Oregon shall be used for the sand filter liner. The liner is to be of continuous construction. All seams shall be inspected to ensure adequate, watertight sealing.
7. Infiltrator Chambers. Interlocking Polyethylene Standard Infiltrator chambers, measuring 3-feet wide x 6 1/4-feet long x 1-foot high, shall be used to cover the pressure distribution piping as shown in the DRAWINGS. INFILTRATOR chambers shall be those as made by Infiltrator Systems, Incorporated, Old Saybrook, CT, (203) 388-6639. Each row of INFILTRATORS shall include ten sections, and shall be supplied with an end plate at each end.

CONSTRUCTION

Sand filter construction shall be in accordance with the following guidelines and sequence of activities, or as modified by the Engineer.

1. Stake perimeter sand filter location per plan dimensions shown on DRAWINGS.
2. Excavate sand filter to depth as indicated on DRAWINGS. Maintain 1 to 2-percent fall (as indicated on the DRAWINGS) along the length and width toward the outlet of the filter.
3. Place 4 inches of medium sand bedding uniformly on bottom of excavation.
4. Carefully place PVC liner on sand bedding, unfold and spread over the full extent of the excavation. The size of the liner shall be sufficient to cover the bottom and sides of the excavation and extend and retained wall approximately 24 inches above top of retaining wall.
5. Place 2 inches of pea gravel on top of PVC liner to form bedding for the 4-inch diameter underdrain.
6. Install underdrain coupling through PVC liner as indicated on DRAWINGS. Care shall be taken to ensure that the sealed surface between the PVC liner, pipe adapters, and plexiglass backboards form a waterproof connection. PVC liner shall be glued to plexiglass backboards using an appropriate contact cement.
7. Install 4-inch underdrain per DRAWINGS. Upslope end of drain shall be extended to finish grade and capped; outlet end of drain shall be connected to pipe coupling at outlet end of filter. All fittings shall be glued in accordance with manufacturer's recommendations.
8. Place pea gravel over underdrain to minimum depth of cover as specified on DRAWINGS. Concurrently place medium sand fill (minimum 2 inches thick) between the excavation sidewalls and PVC liner for bedding and support. Miradrain may be used in lieu of the sand backfill between the sides of the excavation and the 30 mil PVC liner.
9. Install filter media (coarse sand) to depth shown on DRAWINGS, taking care also to place sand bedding between liner and excavation sidewall as interior is filled (unless Miradrain is used).
10. Install 4-inch depth of pea gravel to form distribution bed according to dimensions indicated on the DRAWINGS. Provide level bed for distribution piping network.
11. Assemble the distribution piping network on the pea gravel bed, laying the laterals level. Prior to gluing of joints, perform a hydraulic test of distribution system (holes up) in the presence of the engineer. A minimum head of 3 feet shall be demonstrated at the discharge holes. Following the test, glue all joints.
12. Install a row of standard INFILTRATOR chambers over each distribution lateral, using ten (10) INFILTRATOR sections per row. Attach the end plates to the last INFILTRATOR sections in each row. As shown in the DRAWINGS, the manifold, the gate valve and inspection riser for each lateral are not covered by the INFILTRATOR chambers.
13. Cover the INFILTRATOR chambers and the ends of the sand filter bed with rounded river-run drain rock. Bring finished grade to 5" below top of retaining wall.

SITE PLAN

SCALE: 1 INCH = 40 FEET

	REV.	DATE	BY	DESCRIPTION	APP'D
		4/8/97	NH	BRINE DRAINFIELD PLAN	
		7/28/97	NH	WESTERN SUB-DRAIN OUTLET LOCATION	
		8/10/98	NH	WATER (BRINE WASTE STORAGE TANKS)	
				WEST SUB-DRAIN OUTFALL SETBACK	
				ROOF DRAINAGE DETAIL	

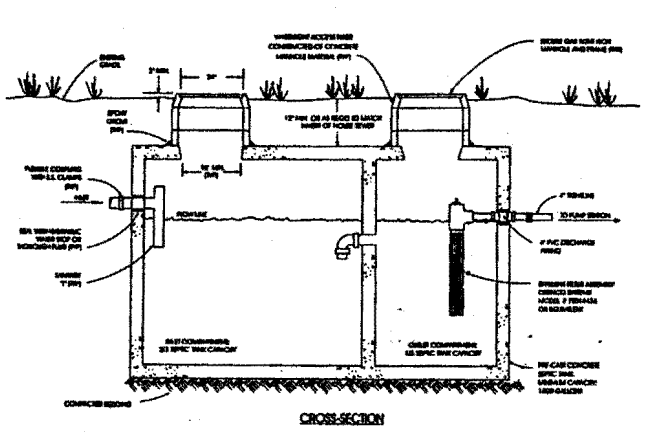
Questa Engineering Corporation
Civil, Environmental, and Water Resource Engineers
P.O. Box 356, 1220 Brickyard Cove Road, Point Richmond, CA 94807

DESIGN: N.H. / P.P.
DRAWN: A.V
CHECK: N.H. / P.P.

SEWAGE DISPOSAL PLAN
921 PIGEON POINT ROAD
SAN MATEO COUNTY, CALIFORNIA

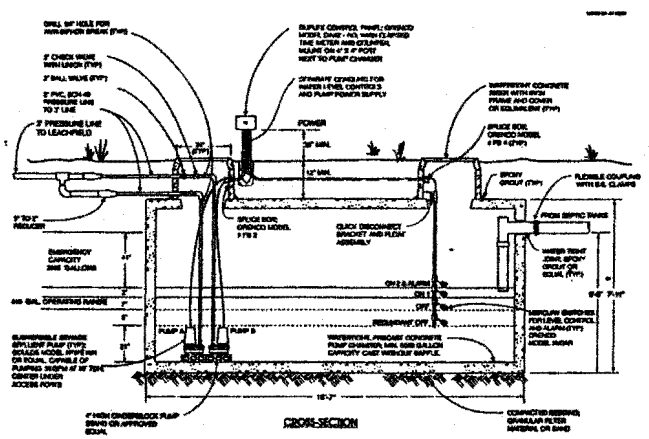
RECEIVED AUG 12 1998 CALIFORNIA COASTAL COMMISSION CENTRAL COAST AREA

SIZE: D | JOB/CAD NO.: 96073 01 | REV: B1
SCALE: 1" = 40'
DATE: 11-26-96
SHT. 1 OF 3



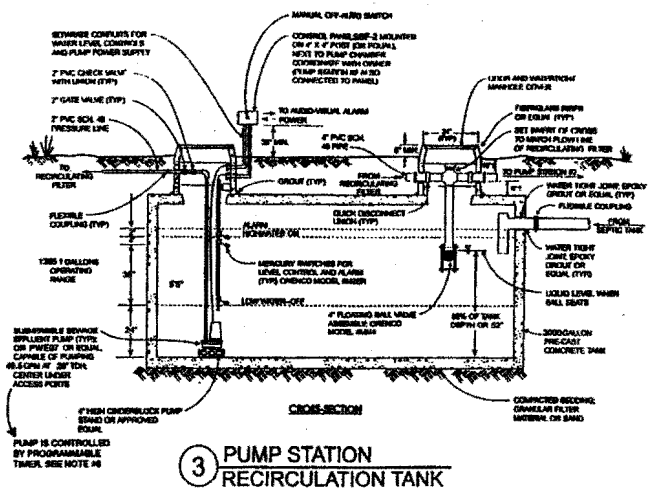
CROSS-SECTION

1 SEPTIC TANK DETAIL



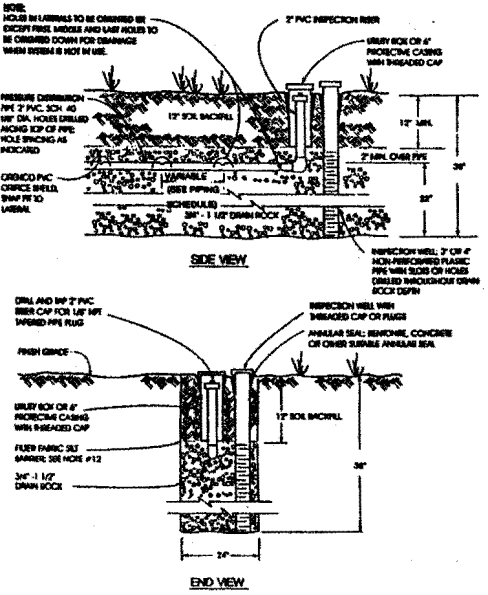
CROSS-SECTION

2 PUMP AND PUMP CHAMBER (STATION #2)



CROSS-SECTION

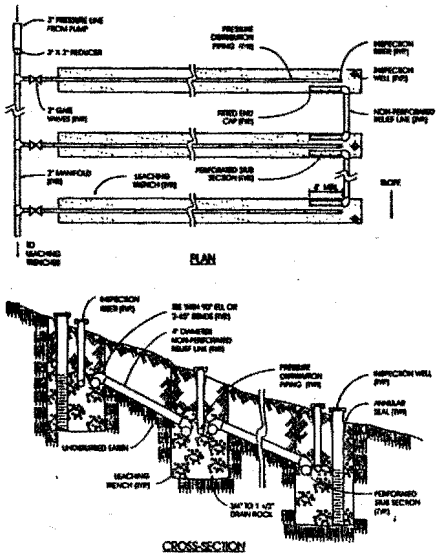
3 PUMP STATION RECIRCULATION TANK



SIDE VIEW

END VIEW

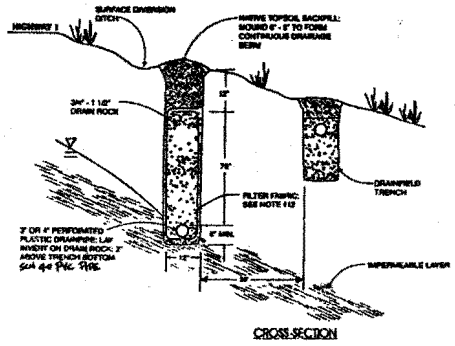
4 PRESSURE-DOSED LEACHING TRENCH



PLAN

CROSS-SECTION

5 RELIEF LINE DETAILS



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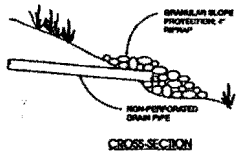
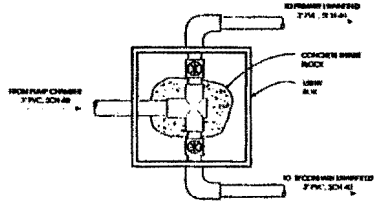


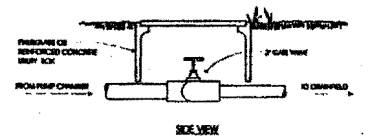
CROSS-SECTION

OUTLET DETAIL

6 INTERCEPT DRAIN DETAILS

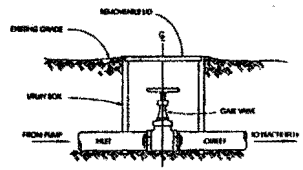


PLAN VIEW



SIDE VIEW

7 DIVERSION VALVE



8 TYPICAL GATE VALVE WITH PROTECTIVE RISER

EXHIBIT NO. 1, p. 2
APPLICATION NO. A-3-SMC-96-008-A1
Sewage & Brine Disposal Plans

DWG	REV.	DATE	BY	DESCRIPTION	APPD.		

Questa Engineering Corporation
Civil, Environmental, and Water Resource Engineers
P.O. Box 396
1220 Brickyard Cove Road
Point Richmond, CA 94807
(510) 236-6114
(FAX) 236-3162

DESIGN	M.H. / P.P.
DRAWN	A.V.
CHK'D	M.H. / P.P.
APPR'D	M.H.

SEWAGE DISPOSAL PLAN
CONSTRUCTION DETAILS
921 PIGEON POINT ROAD
SAN MATEO COUNTY, CALIFORNIA

SIZE	JOB/CAD NO.	REV
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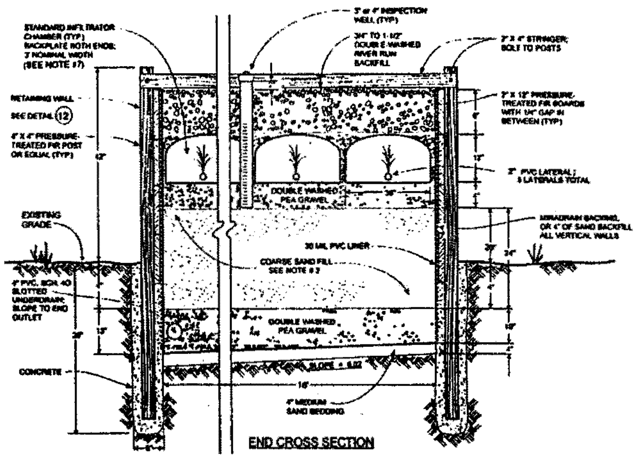
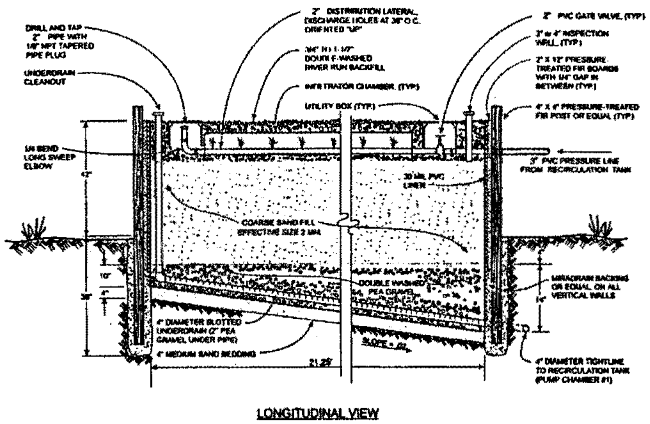
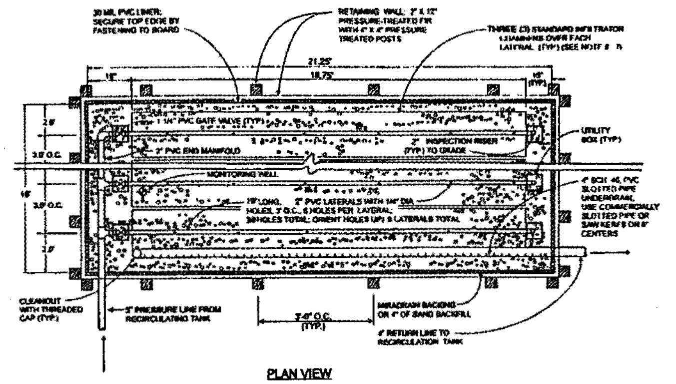
SCALE: NOT TO SCALE		
DATE:	11-26-96	
SHT	2 OF: 3	



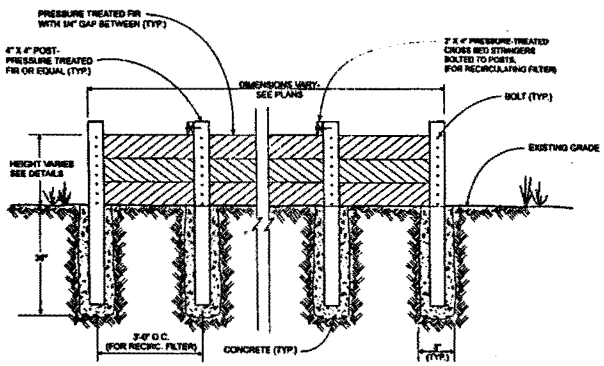
(9) RECIRCULATING SANDFILTER



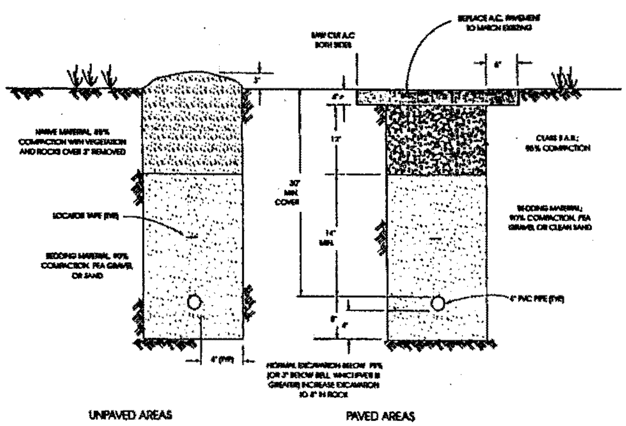
(10) RECIRCULATING SANDFILTER



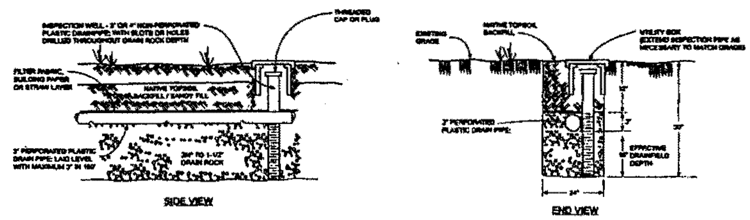
(11) RECIRCULATING SANDFILTER



(12) RETAINING WALL FOR RECIRCULATING FILTER



(13) TRENCH BACKFILL DETAILS



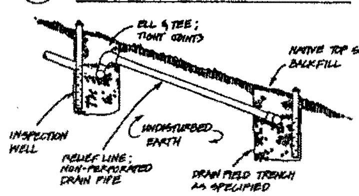
(15) STANDARD GRAVITY LEACHING TRENCH

TRENCH AND PIPING SCHEDULE

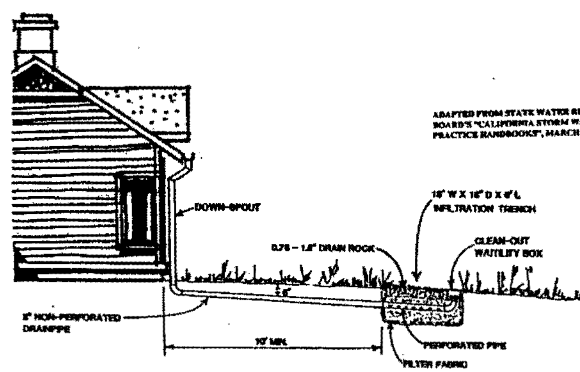
TRENCH #	PIPE DIAMETER	HOLE DIAMETER	NUMBER OF HOLES	HOLE SPACING	PIPE DEPTH*	TRENCH BOTTOM*	LENGTH	DISCHARGE HEAD
A-1	2.0"	1/8"	44	2.5'	16"	36"	110.0'	5.0'
A-2	2.0"	1/8"	44	2.5'	16"	36"	113.0'	5.3'
A-3	2.0"	1/8"	41	2.75'	16"	36"	115.0'	5.6'
					16"	36"	15.0'	5.0'
					16"	36"	30.0'	5.7'
					16"	36"	45.0'	5.6'
					16"	36"	60.0'	5.0'
					16"	36"	75.0'	9.2'
					16"	36"	85.0'	6.2'
					16"	36"	28.0'	6.0'

...by an gravity overflow trench at bottom of field.

EXHIBIT NO. 1, p.3
APPLICATION NO.
A-3-SMC-96-008-A1
Sewage & Brine Disposal Plans



(14) SERIAL DISTRIBUTION DETAIL



ADAPTED FROM STATE WATER RESOURCES CONTROL BOARD'S "CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOKS", MARCH 1993

(16) ROOF DRAINAGE DETAIL

SHT	REV.	DATE	BY	DESCRIPTION	APPD
3	01	11/26/96	NH	DETAIL REVISIONS	NH
		5/6/97	NH	BRINE DRAINFIELD DETAILS	
		6/10/98	NH	ROOF DRAINAGE DETAIL	

Questa Engineering Corporation
Civil, Environmental, and Water Resource Engineers
P.O. Box 356, 1220 Brickyard Cove Road, Point Richmond, CA 94807

DESIGN: N.H. / R.N.
DRAWN: AV
CHK'D: NH
APP'VD: NH

SEWAGE DISPOSAL PLAN
CONSTRUCTION DETAILS
921 PIGEON POINT ROAD
SAN MATEO COUNTY, CALIFORNIA

SIZE: D | JOB/CAD NO.: 96073 01 | REV: 01
SCALE: NOT TO SCALE
DATE: 11-26-96
SHT: 3 OF 3

Questa Engineering Corporation
CIVIL, ENVIRONMENTAL, AND WATER RESOURCE ENGINEERS

August 11, 1998

Mr. Charles Lester, District Manager
Central Coast Area Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Subject: Amendment to Coastal Development Permit A-3-SMC-96-008 (Pigeon Point Country Inn)

Dear Charles:

Provided here, on behalf of Ms. Kathleen McKenzie, are various materials and information as requested in your letter of July 15, 1998, to assist in the processing of an amendment to the Coastal Development Permit for the Pigeon Point Country Inn. This information is intended to address, specifically, Items 2a through 2d outlined in your letter and as further discussed in our meeting of July 16, 1998, at the Coastal Commission offices in San Francisco.

ITEM 2A - EVALUATION OF VISUAL RESOURCES IMPACTS

The location of key elements of the water and wastewater facilities are shown on the enclosed Sewage Disposal Plans, which have been updated for this submission. The construction requirements relative to potential visual impacts are summarized below and are illustrated in the detail drawings on Sheets 2 and 3 of the enclosed plans.

Sanitary Wastewater System

- **Treatment and Pumping Tanks**. The sanitary wastewater system will include several concrete tanks as follows: (1) three, 1,500-gallon septic tanks, one at each building cluster; (2) a 3,000-gallon recirculation tank for the sand filter; and (3) a 5,000-gallon pump tank for emergency storage and for dosing the leachfield. All tanks will be buried entirely below ground with access risers that extend to ground surface for maintenance purposes. The only thing visible will be the iron "manhole" covers for the access risers, which will be flush with the finished grade. The excavations for tank installation will range from seven to nine feet in depth. Borings 1 and 2 from the UPP Geotechnology report of June 5, 1998, are most representative of subsurface conditions in the vicinity of the tanks (see **Attachment A**). The boring logs indicate hard siltstone will be encountered in the excavation for the tanks, but that bedrock "refusal" is at a depth of 10 to 15 feet; this will not present significant difficulties for tank installation.

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- **Pumps and Controls**. The recirculation tank and the pump tank will each be equipped with submersible pumps that will be set inside the tanks; they will not be visible. The control panel for the pumps which houses the wiring and circuitry will consist of a small grey-colored metal box, measuring about 2 feet by 2 feet by 8 inches deep. It will be mounted on the exterior wall of the adjacent storage building and will be covered by a slightly larger wooden enclosure designed to match the siding of the building. The control panel will have a small visual alarm light (red) that will come on in the event of a high water level condition or other malfunction in the pump system.

- **Piping**. The piping for the sewer lines leading to the septic tanks and sand filter, the pressure lines feeding the sand filter and the leachfields, and the leaching trenches themselves will all be buried underground a minimum of 12 inches. The only thing that will be visible will be the utility boxes which will house clean-outs and valves. These boxes will be finished flush with grade and will have green, brown or grey plastic lids. The monitoring/inspection wells near the leachfield will also be finished at grade with similar utility boxes.

- **Sand Filter**. The sand filter will be the only part of the sanitary wastewater system that will extend above ground surface. As shown on **Sheet 3** of the enclosed drawings, the sand filter will be constructed partially above and partially below grade. It will be supported above grade with a low wood retaining wall, approximately 42 inches high. The overall plan dimensions of the sand filter are approximately 16 feet by 22 feet. The surface of the sand filter will be finished with rounded river rock, gravel, or sand, and it may be planted with low maintenance, drought tolerant vegetation or container plants.

Water Treatment & Disposal System

- **Water Well**. The water well is located on the east side of the property and is finished flush with ground surface. The well will have a submersible well pump, buried conduit for electrical power, and a buried pipeline to convey water to the treatment and storage facilities. There will be no above ground structures located at the well site.

- **Treatment Unit**. A reverse osmosis treatment unit will be provided for improvement of the mineral quality of the well water. The treatment unit will be installed inside the existing storage building, and will not be visible from outside the building. The overall size of the treatment unit is approximately that of a standard clothes closet.

- **Storage Tanks**. The water system will have three storage tanks - one above grade and two below grade. The above grade water tank will be the domestic supply tank for the lodging units. It will have a capacity of approximately 6,000 gallons and will be located on the west side of the existing storage building. The tank will be screened with wood siding to match the exterior of the storage building. The below ground storage tanks will include a 4,000-

gallon concrete tank for fire flow purposes, and a 5,000-gallon tank for the collection and storage of the "brine" reject water from the reverse osmosis treatment unit. These tanks will also adjoin the storage building and will not be visible except for the access manhole covers.

- **Pumps and Piping**. The brine disposal system will have a submersible pump and piping nearly identical to that for the sanitary wastewater system. The pump will be located in the 5,000-gallon storage tank. Piping will be installed to the brine disposal field in a common trench with the sanitary wastewater piping. The brine disposal field will be entirely below ground, with utility boxes finished flush with ground surface for access to valves, clean-outs and inspection wells.

Curtain Drains

The curtain drains ("intercept drains") will consist of gravel-filled trenches with a perforated pipe, constructed entirely below grade as shown on **Sheet 2** of the Sewage Disposal Plans. The outlet ends of the curtain drains will come to the surface (i.e., for discharge of the water), where the pipe will be covered with 4-inch rock to protect the pipe from damage and to aid in dispersing the flow from the drain. The rock will cover an area of about 2 feet wide by 5 feet long and will be about 10 to 12 inches deep, partially above and partially below ground. Given the existing dense vegetative growth on the site in the vicinity of the proposed outfall locations, it is anticipated that native vegetation will engulf and totally screen the rock from view within a year or two.

ITEM 2B - IMPACT ON EROSION AND BLUFF STABILITY

Two questions have been raised about potential erosion and bluff stability related to the following aspects of the project: (1) the outflow from the curtain drains; and (2) the additional water discharged near the bluff from the disposal of the "brine" reject water.

Curtain Drain Outflow

Two curtain drains are included in the plans to intercept and divert shallow groundwater from the areas where the sanitary wastewater leachfield and the brine disposal field will be located. The curtain drain for the wastewater system will be located along Pigeon Point Road and will discharge in two directions, about two-thirds draining to the east, and about one-third draining to the west. The curtain drain immediately upslope of the brine drainfield will drain to the east, joining the outflow from the east portion of the wastewater system curtain drain.

- **Estimated Flow**. The estimated groundwater flow that will be collected and discharged from the drains will vary depending upon the time of year and the amount of rainfall in a given year. In normal years, there will be no flow in the drains from May through October, i.e., the

dry season. During the wet season the flow in the drains will be a function of the height of the groundwater, which will tend to increase gradually beginning usually in November, reaching a peak during January and February, and declining back to zero by the end of April.

The amount of water flow in the drain can be estimated by application of Darcy's Law for groundwater flow which is as follows:

$Q = KIA$

where:

- Q = the calculated daily flow;
- K = the horizontal hydraulic conductivity (i.e., permeability) of the soils, which is estimated to be about 10 ft/day for the sandy loam soils on the site. See **Attachment B** for USDA Soil Permeability Chart; sandy loam falls in the range of two to six inches/hour or 4 to 12 feet/day;
- I = the slope of the water table, which is estimated to match the ground surface for perched groundwater situations such as the project site; the slope is about 0.05 for the area where the wastewater system curtain drain is located, and about 0.08 in the brine drainfield area;
- A = the cross-section area of groundwater intercepted by the curtain drain, which is a the product of the length of the perforated pipe/rock section and the depth of perched groundwater; the length is constant, but the depth of perched water varies seasonally as noted above. Based on our field observations, the depth of perched water is estimated of range from about 1.0 to 3.0 feet for the wastewater curtain drain and from about 0.5 to 1.5 feet for the brine area curtain drain.

Using Darcy's Law and the assumptions above, Table 1 has been prepared to provide an estimate of the flow for each of the three sections of curtain drain, for the months of November through April. As indicated, the projected flow ranges from about 0.9 to 2.6 gpm for the east side drains (combined flow), and from about 0.4 to 1.2 gpm for the west side wastewater system curtain drain. This is the average flow for the month; the peak flow during an extended heavy storm period could be 1.5 to 2.0 times the calculated values if there is a substantial rise in the perched groundwater during the storm. Thus, the short-term peak flow might be as high as 4 or 5 gpm for the east side drains and about 2 gpm for the west side drain.

TABLE 1

Estimation of Curtain Drain Flows

MONTH	DRAIN LENGTH (FT)	PERCHED WATER DEPTH (FT)	WATER TABLE SLOPE, I	PERM, K (FT/DAY)	CALCULATED DISCHARGE, Q		
					FT³/DAY	GAL/DAY	GAL/MIN.
WASTEWATER SYSTEM DRAIN (WEST SIDE)							
November	150	1.0	0.05	10	75	561	0.39
December	150	2.0	0.05	10	150	1,122	0.78
January	150	3.0	0.05	10	225	1,683	1.17
February	150	3.0	0.05	10	225	1,683	1.17
March	150	2.0	0.05	10	150	1,122	0.78
April	150	1.0	0.05	10	75	561	0.39
WASTEWATER SYSTEM DRAIN (EAST SIDE)							
November	200	1.0	0.05	10	100	748	0.52
December	200	2.0	0.05	10	200	1,496	1.04
January	200	3.0	0.05	10	300	2,244	1.56
February	200	3.0	0.05	10	300	2,244	1.56
March	200	2.0	0.05	10	200	1,496	1.04
April	200	1.0	0.05	10	100	748	0.52
BRINE DRAINFIELD (EAST SIDE)							
November	160	0.5	0.08	10	64	479	0.33
December	160	1.0	0.08	10	128	957	0.66
January	160	1.5	0.08	10	192	1,436	1.0
February	160	1.5	0.08	10	192	1,436	1.0
March	160	1.0	0.08	10	128	957	0.66
April	160	0.5	0.08	10	64	479	0.33

NOTES

1. Flows calculated according to Darcy's Law: Q = KIA
2. Area A = Drain length x perched water depth
3. Perched water assumed absent from May through October in normal rainfall years.

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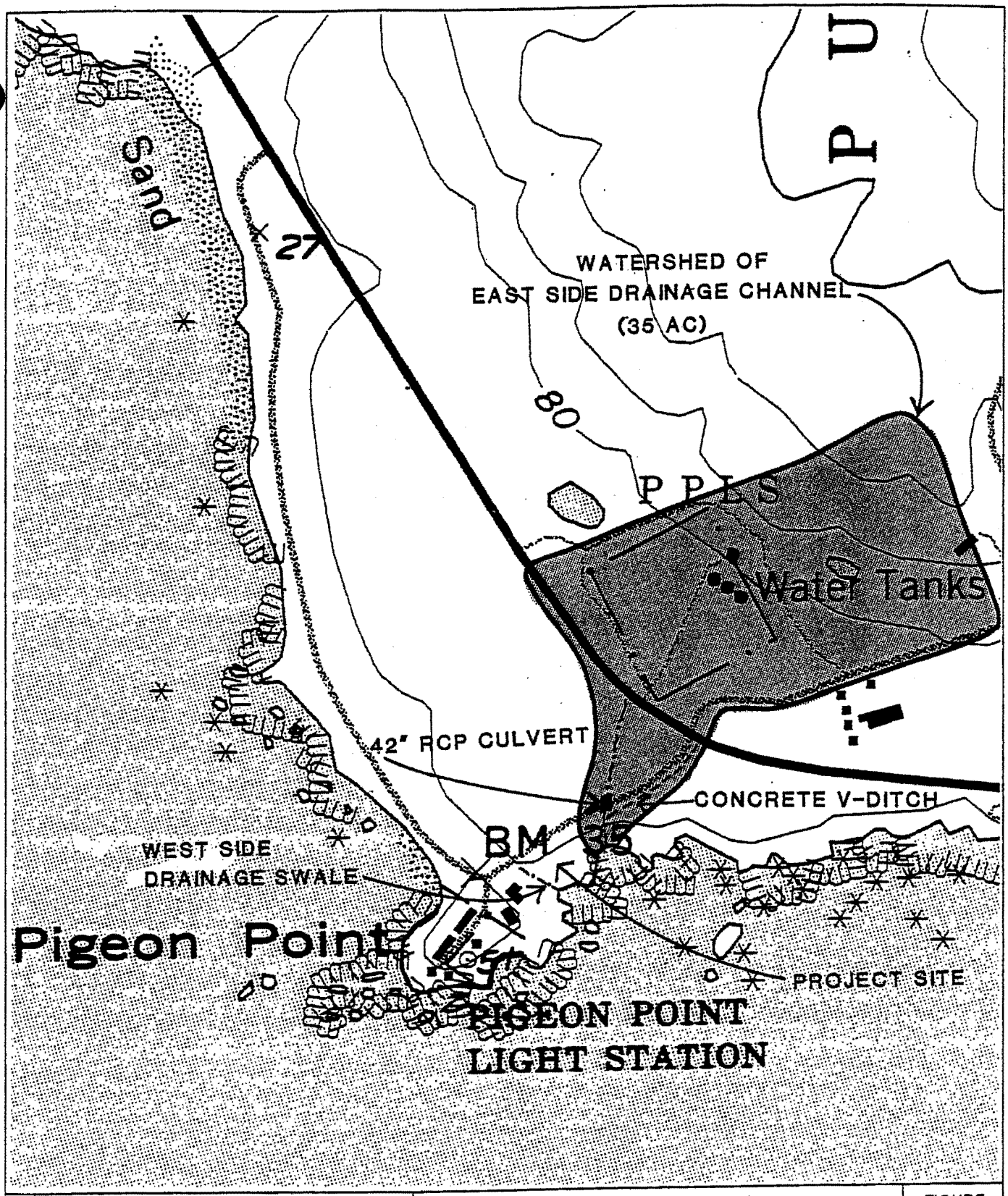
Exhibit 2, p.5

- **Drainage Impact.** The curtain drains outfalls will be directed to existing drainage channels, respectively, on the east and west side of the project site. The runoff characteristics and projected impact of the curtain drain flow on these two drainage channels is reviewed below.

  - **East Side Drainage.** The drainage channel on the east side lies on the adjoining property. It is a broad, heavily vegetated man-made channel that has a bottom width of about 10 to 15 feet, a total depth of about 15 feet deep, and is roughly 40 feet across at the top. It has a drainage area of about 35 acres that extends to the north and east across Highway 1 (see **Figure 1**). There are two major drainage structures that feed the channel: (1) a 42-inch diameter concrete culvert that crosses under Pigeon Point Road; and (2) a 6-foot wide concrete "V" ditch that parallels Pigeon Point Road, on the south side, for drainage of Highway 1 runoff. Using the Rational Method (see calculations in **Attachment B**), we have estimated the two-year storm runoff in this drainage channel to be approximately 13 cubic feet per second (cfs) where it meets the ocean, which is equal to about 5,800 gallons per minute. This is more than 1,000 times the estimated peak flow that will be discharged from the east side curtain drains from the McKenzie project. We can safely conclude that the added water flow from the curtain drains will have no measurable effect on this drainage channel or downstream erosion potential.

  - **West Side Drainage.** The drainage channel on the west side is a deeply incised swale that appears to have been created for beach access rather than drainage. No runoff from Pigeon Point Road or other off-site areas appears to enter this "drainage"; it only collects runoff from the immediately adjoining portions of the project site itself. The drainage area amounts to about 0.4 acres, with an estimated two-year storm runoff flow of about 0.18 cfs (see calculations in **Attachment B**). This flow equates to about 80 gpm; therefore, the projected peak discharge from the west side curtain drain outfall would represent an increase of about 2.5 percent to the storm flow. This is more that the impact of the east side drains, but it must still be considered insignificant, given the small volumes of water involved.

  - **Outfall Protection Measures.** As shown on the Sewage Disposal Plans, the curtain drain outfalls will consist of four-inch rock slope protection (i.e., "rip-rap"). This size rock was chosen because it is the smallest nominal rock size larger than gravel and because the flow from the curtain drains (a few gallons per minute) will require very little energy dissipation. As a matter of reference, we have attached the standard rock rip-rap charts developed by the USDA Soil Conservation Service which show four-inch rock to be suitable for energy dissipation for flows of 3 cfs, which is more than 1,300 gpm (see **Attachment B**). Clearly, the four-inch rock is more than adequate for the curtain drain outfalls.



QUESTA ENGINEERING CORPORATION POINT RICHMOND, CALIFORNIA	**DRAINAGE FEATURES** PIGEON POINT COUNTRY INN	FIGURE 1

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Exhibit 2, p. 7

Additionally, we wish to point out that the vegetation itself on the project site will be more than sufficient to dissipate and disperse the flow from the curtain drains; it is very thick in the areas where the curtain drain outfalls will be located. Please note on the revised Sewage Disposal Plan drawings that the west side curtain drain outfall is proposed to terminate in the heavily vegetated area on the gentle terrace above the west side drainage-beach access swale, rather than directly in the swale itself. This will promote the dispersion of the flow into the soils and vegetation to eliminate the Coastal Commission staff's expressed concern about increased erosion of the beach access trail that might occur from the combination of foot traffic and direct outflow from the curtain drain.

Brine Disposal Water

The "brine" reject water from the reverse osmosis treatment unit will be discharged to a series of sub-surface leaching trenches located on the east side of the property, within 25 to 50 feet of the ocean bluff. The concern has been raised that the added water could increase the potential for bluff instability or erosion. It was specifically with this concern in mind that the curtain drain was included in the initial plans for the brine drainfield. To help understand and evaluate the potential impact on bluff stability/erosion, a month-by-month water balance has been prepared to compare the net effect of the brine disposal field on water flow along the bluff. This is provided in **Table 2**. The key factors in the water balance table are discussed below.

- **Quantity of "Brine" Discharge**. The brine wastewater flow is limited by the Waste Discharge Requirements adopted by the Regional Water Quality Control Board to 450 gpd, based on a 30-day average. The permit allows the single day discharge to be as high as 900 gpd. However, the average flow of 450 gpd is the appropriate value to be used in the monthly water balance analysis. It represents the reject water that will be generated under 100 percent occupancy of the nine (9) lodging units, under the following assumptions:

  - The water demand per lodging unit is estimated to be 80 gpd (based on Highland's Inn, Carmel for similar units); this amounts to 720 gpd for 100 percent room occupancy. Although the water use was initially estimated by Keinfelder to be less than 50 gpd per unit, the 80 gpd/unit is believed to be more appropriate and safe for the purposes of the bluff stability evaluation.

  - The efficiency of reverse osmosis treatment unit is estimated to be 60 to 65 percent; this means that 80 gallons of drinking water will be produced, and 50 gallons "wasted" for every 130 gallons pumped from the well; this efficiency is well within the capabilities of many commercial reverse osmosis treatment units.

TABLE 2

Water Balance Comparison for Brine Disposal Field

MONTH	DAYS PER MONTH	BRINE FLOW[1]		CURTAIN DRAIN DISCHARGE[2]		VERTICAL PERCOLATION[3]		NET CHANGE WATER FLOW
		gal/day	gal/mo	gal/day	gal/mo	gal/day	gal/mo	
WET WEATHER								
November	30	450	13,500	479	14,370	—	—	(870)
December	31	450	13,950	957	29,667	—	—	(15,717)
January	31	450	13,950	1,436	44,516	—	—	(30,566)
February	28	450	12,600	1,436	40,208	—	—	(27,608)
March	31	450	13,950	957	29,667	—	—	(15,717)
April	30	450	13,500	479	14,370	—	—	(870)
		Subtotal	**81,450**	—	**172,798**	—	—	**(91,348)**
DRY WEATHER								
May	31	450	13,950	0	0	260	8,060	5,890
June	30	450	13,500	0	0	260	7,800	5,700
July	31	450	13,950	0	0	260	8,060	5,890
August	31	450	13,950	0	0	260	8,060	5,890
September	30	450	13,500	0	0	260	7,800	5,700
October	31	450	13,950	0	0	260	8,060	5,890
		Subtotal	**82,800**					**34,960**
		TOTAL	**164,250**					**(56,388)**

NOTES

1. Average daily based on 100% occupancy.
2. Per estimates in **Table 1.**
3. Based on assumed permeability of 1 x 10^{-6} cm/sec for weathered sandstone, and 13,000 ft^2 brine disposal field area.
4. ( ) represents reduction in water flow.

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Exhibit 2, p.9

- At 80 gpd/unit water use and 50 gpd/unit brine discharge, the total demand on the water well would be 1,170 gpd, or 0.81 gpm, which is safely within the projected yield of the well.

- Discharge to the sanitary wastewater system is assumed to equal the entire water domestic water demand, or an average of 720 gpd. The wastewater treatment and disposal facilities are designed with an ample safety factor to handle peak daily flows of 1,350 gpd.

- **Curtain Drain Discharge**. The monthly curtain drain discharge for the wet weather season is derived, as shown, using the estimated daily flow rate from **Table 1** (for only the brine field curtain drain) multiplied by the days per month. This represents the amount of subsurface water that currently flows across the bluff that will be eliminated (i.e., diverted to the east side drainage channel) with the installation of the curtain drain. There is assumed to be no perched water during the dry season (May through October).

- **Vertical Percolation**. During the dry season a vertical flow component is included in the water balance to account for water that will percolate into the weathered bedrock beneath the brine drainfield, as opposed to flowing laterally toward the face of the bluff as perched water. The estimate in **Table 2** uses a conservative permeability rate of 1×10^{-6} cm/sec, which is the accepted regulatory standard for an "impermeable" barrier (e.g., landfill liner); this equates to roughly 0.02 gpd/ft^2. The actual permeability of the weathered sandstone and shale at the site likely higher than this "impermeable" rate, which makes this a conservative (safe) analysis. The area used for calculating the total vertical percolation includes all of the surface area including and between the proposed brine drainfield trenches and the edge of the bluff, approximately 13,000 ft^2. No credit for vertical percolation during the winter months was included in the water balance, since there is projected to be a net reduction in water flow solely on the basis of the water diverted by the curtain drain and the fact that the rate of infiltration may be slowed by saturated conditions in the winter.

  It should also be pointed out that the water balance does not include a rainfall infiltration component; since this will not change as a result of the project. Also, there is no factor included for evapotranspiration (ET) losses during the dry season, which will occur to some degree with the "brine" disposal plan. Excluding ET in the water balance gives a more conservative assessment of the bluff stability/erosion issue.

  As can be seen from the results in the far right-hand column in **Table 2**, the combination of the curtain drain and brine disposal field will produce a net decrease in water flow along the adjacent bluff during the winter months which are, unquestionably, the most critical in terms of potential erosion/bluff instability. There is a net reduction in water flow on an annual basis also. The projected reduction in subsurface water flow in the winter is significant (about a

50 percent reduction), and will have the effect of reducing the pore pressures (from soil saturation) that weaken the soil and make it vulnerable to slumping or collapse.

The water balance for the dry season indicates a small increase in perched water flow as compared with existing conditions. The projected increase in water flow would be equivalent to about two inches of water depth if spread uniformly across the bluff area; this will have little or no effect on the stability of the several feet of soil depth along the bluff. Once again, this assessment is based on the very conservative assumptions of "impermeable" weathered bedrock and zero ET losses; as well as 100 percent occupancy and water use at the Inn. It is likely that there will be sufficient losses of water to vertical percolation and ET to absorb all of the brine water flow during most of the dry season.

ITEM 2C - EVALUATION OF AGRICULTURAL SOILS AND COASTAL VEGETATION

Provided in **Attachment C** is a Revegetation Plan for the brine disposal field area, prepared by Questa's Landscape Architect (Margaret Henderson) and Principal Soil Scientist (Jeffrey Peters). The plan addresses the Regional Water Board's requirement for a Revegetation Plan, as well as the specific questions raised in Item 2c of the Coastal Commission letter. Following is supporting information and analysis of the brine water quality and rainfall leaching quantities relied upon for the development of the Revegetation Plan.

Brine Water Quality

Regarding the concentrations of water quality constituents in the brine waste stream, it is anticipated that the minerals and metals will be at concentrations approximately double that found in the source groundwater. This estimate is derived as follows for total dissolved solids (i.e., TDS or salt content), which will be the target parameter for water treatment:

- Groundwater TDS concentration based on three separate analysis in May through August 1996: 1,200 mg/L;
- Finished water objective for TDS: 500 mg/L;
- Mass balance calculation of "brine" TDS concentration (X), with 60 to 65 percent R.O. treatment efficiency:

$$(80 \text{ gpd})(500 \text{ mg/L}) + (50 \text{ gpd})(X \text{ mg/L}) = (130 \text{ gpd})(1{,}200 \text{ mg/L})$$

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Exhibit 2, p.11

$$(X \text{ mg/L}) = \frac{(130)(1,200) - (80)(500)}{50} \qquad X = 2,320 \text{ mg/L}$$

(**Note:** The waste discharge limit is 2,500 mg/L.)

The other constituents will experience a similar doubling in concentration. Of most concern is boron, which was measured at 2.9 mg/L in the 1996 testing of the well; thus, it can be expected to occur at concentrations of about 5 to 6 mg/L in the brine. The electrical conductivity (another measure of salt content) is projected to be in the range of 3 to 4 mmhos/cm. These water quality factors were considered in the development of the attached Revegetation Plan.

Winter Rainfall Percolation

The project site has an average annual rainfall of about 22 inches. Of this amount, very little leaves the site as runoff, due to the permeable nature of the sandy loam surface soils and gentle topography. We estimate runoff of approximately five percent on an annual basis. Of the water retained in the soils, some is lost to evapotranspiration (ET). Based on climatic data for nearby weather stations (San Gregorio and Santa Cruz), about 60 percent of rainfall can be assumed to be lost to ET (see **Attachment B**). Therefore, the remaining water (P) that percolates to become groundwater is estimated to be as follows:

P = Rainfall - Runoff - ET

P = 22" - (0.05)(22") - (0.6)(22")

P = 7.7"/year = 0.64 ft/year

Over the approximately 13,000 ft^2 area that encompasses the brine drainfield, the estimated annual volume of rainfall percolation (for leaching and dilution) is, therefore:

Vol. = (0.64)(13,000 ft^2)(7.48 gal/ft^3) = 62,234 gallons, say 62,000 gallons

ITEM 2D - ALTERNATIVES TO AVOID IMPACTS TO COASTAL RESOURCES

We have reviewed the suggestions for possible facility alternatives/modifications to avoid or minimize potential adverse impacts on coastal resources. While we believe the conclusion will be reached that no adverse impacts will result from the project facilities, as proposed, following are our comments regarding the viability of the possible alternatives noted.

- **Collection of Curtain Drain Flow**. Although the collection and use (e.g., for irrigation) of

the perched water flow from the curtain drains would seem to make sense as a conservation practice, the flow in the drains will occur in the winter season when the water demand is low. In order to make use of this water, additional storage tanks would have to be installed; and these would be prohibitively expensive if they were to have more than a few days of irrigation capacity. Similarly, the water for fire protection is relatively small (i.e., equal to a few days of domestic demand), and, if it is ever drawn down, can be replaced relatively quickly and more reliably from the water well at any time of the year.

- **Combined Wastewater-Brine Disposal Field.** There is no physical possibility for expanding the sanitary wastewater leachfield, given the setback and soil constraints on the site. However, it is our opinion that the sanitary wastewater system is very conservative in its design, and that there is capacity to accept some portion (if not all) of the brine waste flow. The amount of surplus capacity can not be known with certainty except through operation of the system and monitoring of water and wastewater flows.

- Accordingly, a possible alternative that is viable and would not violate the adopted Waste Discharge Requirements, would be to provide an intertie to allow a portion of the brine waste stream to be combined with the treated sand filter effluent for discharge to the wastewater leachfield, instead of the brine disposal field. This could be done during certain times of the year, or based upon flow conditions. The brine drainfield would still need to be installed and available for use as proposed, but its actual use could be minimized by this combined discharge strategy. In addition to lessening the Coastal Commission staff's concern about the proximity of the brine discharge to the bluff, combining the brine flow with the wastewater flow would reduce the effective salt concentration and the attendant concerns about localized vegetation impacts. We would be amenable to including this as an operations strategy; however, the proposed brine drainfield and wastewater leachfield would need to be installed as proposed.

- **Relocate Water Well.** Required setbacks from septic tanks, sand filter and leachfield, along with the cost considerations, make the relocation of the water well impractical.

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Exhibit 2, p.13

We trust this information satisfactorily answers your questions for the amendment process. Please don't hesitate to call (510) 236-6114 if there are questions or if anything else is required.

Sincerely,

Norman N. Hantzsche, P.E.
Principal/Managing Engineer

NNH/cw

Ref.: 96073L14

Attachments

xc: Kathleen McKenzie
Roger Briggs, Central Coastal RWQCB
Brian Zamora, San Mateo County Health Services
Rex Upp, UPP Geotechnology

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Exhibit 2, p. 14

Attachment A

Soil Boring Logs

- on file at the Commission's Santa Cruz office -

Attachment B

Hydrologic Data and Calculations

- on file at the Commission's Santa Cruz office -

Attachment C

Revegetation Plan

Questa Engineering Corporation
CIVIL, ENVIRONMENTAL, AND WATER RESOURCE ENGINEERS

August 11, 1998

Ms. Kathleen McKenzie
Pigeon Point Country Inn
730 37th Avenue
San Francisco, CA 94127

Subject: Revegetation Plan for Pigeon Point Country Inn, San Mateo, California

Dear Ms. McKenzie:

The following provides our recommended planting plan for soil stabilization and native plant revegetation of the brine field subsurface disposal area at the subject property. This has been prepared to meet the requirements of the Central Coast Regional Water Quality Control Board (Regional Board). The discussion of the planting design criteria also addresses the request for an evaluation of impacts to agricultural soils and coastal vegetation made by Coastal Commission staff.

DESIGN CRITERIA AND DESIGN ANALYSIS

Design constraints for this site are summarized below.

- There is potential for wicking to within the lower root zone of brine waters disposed of in leaching trenches at depths of between two and three feet (see illustration in **Figure 1**). Based on the anticipated salinity of the discharge waters, we would point out that the term "brackish" would be appropriate to describe discharge waters, rather than "brine".

- There is potential for seasonal accumulation of salts in the concentration range that might affect deep-rooted salt sensitive plants. However, shallow-rooted salt tolerant plants (up to 12 inches effective rooting depth) should not be affected by the anticipated seasonal accumulation of elevated levels of salt in the subsoils.

- The "brine" discharge is expected to be in the range of 2,000 to 2,500 mg/l TDS. This is equivalent to a salinity of 3 to 4 mmhos/cm at the discharge point at 20 to 30 inches below ground surface.

- Capillary rise (measured from the water table) in the permeable sandy loam soils is estimated to be about 15 to 20 inches based on reference values from Todd (*1980*). The maximum capillary rise will occur during the winter months when there is a perched water table

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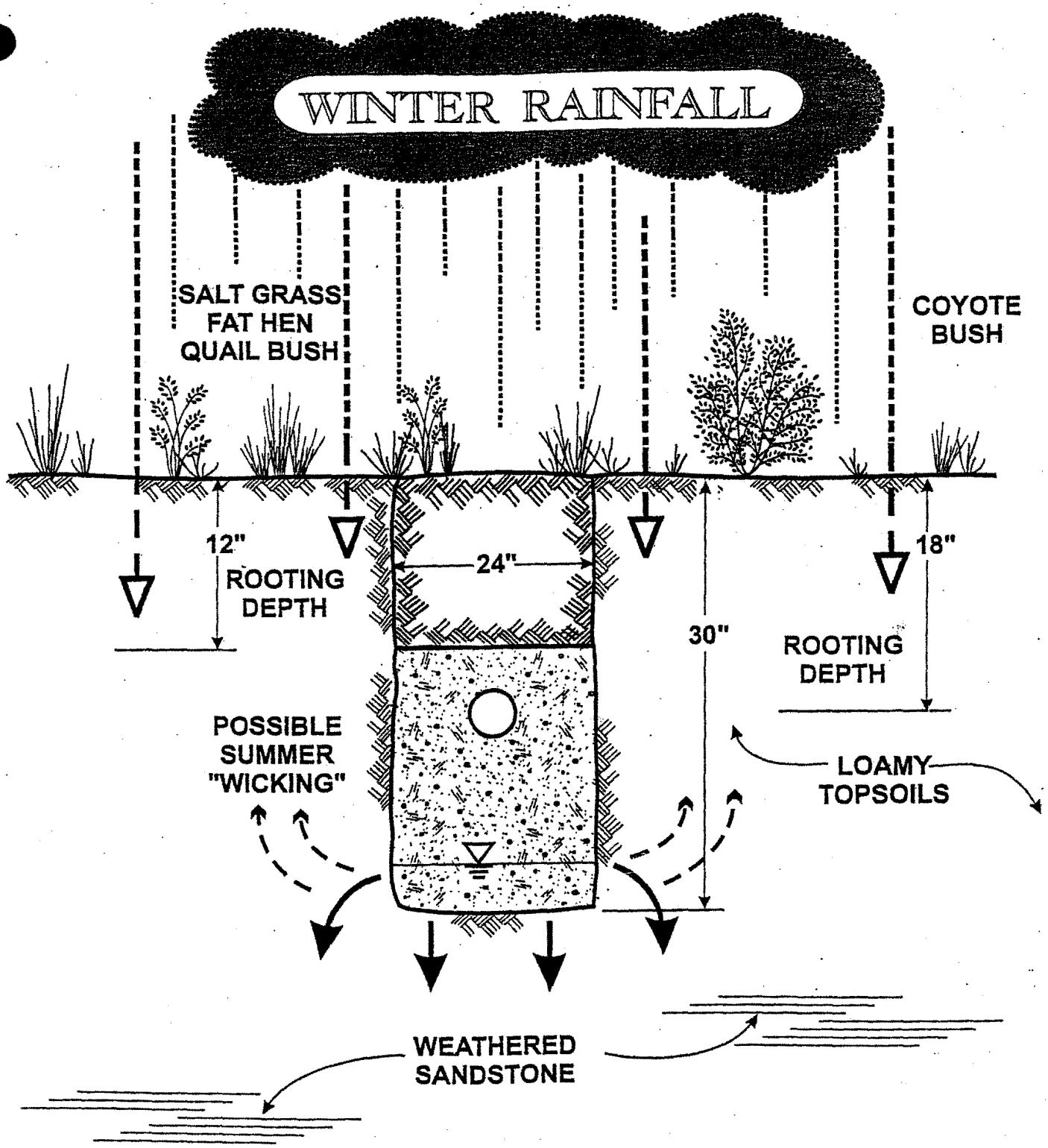

QUESTA ENGINEERING CORPORATION 1220 BRICKYARD COVE ROAD PT. RICHMOND, CA 94807	**SCHEMATIC ILLUSTRATION OF BRINE DISPOSAL FIELD CONDITIONS**	**FIG. 1**

A-3-SMC-96-008-A1
Exhibit 2, p. 19

condition; this coincides with the time of year when rainfall percolation will counteract the salt effects through dilution and leaching. During the dry summer season when the perched water table is absent, the capillary rise will likely be no more than 6 to 12 inches (*API, 1989*).

- Assuming some concentration of salts from evapotranspiration, the expected soil pore water salinity in the zone below maximum normal rooting depth of 14 to 18 inches is expected to be 5 to 6 mmhos/cm. This is well within the salt tolerance range of halophytic plants; soil pore water salinity in coastal salt marsh communities (upper transition zone) can exceed concentrations of 8 to 12 mmhos/cm (*Barbour, 1970*). The salt tolerance of most native grass species is in the range of 3 to 6 mmhos/cm. Increasing growth and productivity problems are experienced above this range (*Mass, 1977*). This salinity increase is expected to be a seasonal (late spring, early summer) problem only in the zones immediately overlying or alongside the leaching trenches. The soils in the zones parallel to and between the leaching trenches are not expected to have a similar design constraint.

- Boron concentrations of 5 to 6 mg/L are expected in the discharge waters. Little information is available on the boron tolerance of native shrubs, grasses, and forbs. Most of the information in the literature is focused on the boron tolerance of agricultural crops and ornamental shrubs (*Francois, 1979, Ayers, 1975*). At an expected boron concentration in the soil pore water of 5 to 6 mg/L, this puts the site in the U.C. Cooperative Extension boron tolerance classification of "tolerant" (4.0 to 6.0 mg/L). Among the few listed native plants included in this range are vetch, a common associate of California coastal grasslands.

  Most coastal salt marshes also have high levels of boron. For instance, a study on the boron concentrations of diked salt marsh completed for the Shorelands Corporation near Hayward found average boron in the soils of 22 mg/L in an area dominated by pickleweed and saltgrass (*WESCO, 1988*). Plants in this zone include several species proposed for revegetation at the project site.

- Winter rains will dilute and leach the accumulated salts out of the soil column in this area where seasonal rains of approximately 22 inches exceed the evapotranspiration (ET) rate (*Ayers, 1976, Tanji, 1990*). Due to the permeable sandy loam soils on the site, nearly all of the rainfall is readily absorbed; very little is lost to runoff. The winter rainfall percolation in the 13,000 ft^2 brine drainfield area is estimated to be about 62,000 gallons for an average winter season. This is nearly equal to the total winter discharge under full occupancy, and will tend to dilute the mineral concentration to levels comparable with background groundwater.

RECOMMENDED PLANTING PROGRAM

To avoid the potential for subsurface salt accumulation to adversely affect the established plant community, plants should be selected that are not deep rooted and that are salt and boron tolerant. A wider array of plants may be established in the zones between the leaching trenches, where subsurface salinity will not be a design consideration. Generally, the annual grasses and forbs that grow in and near brackish marsh are recommended because they are both salt and usually boron tolerant, and also, because of an adequate moisture supply, they are typically not deep-rooted. Based on our experience, the halophytic plants (salt grass and fat hen) will have rooting depths of 4 to 12 inches with most roots in the four- to eight-inch range. The shrub species (quail bush and coyote bush) will be deeper-rooted to approximately 18 inches. The native grasses that would be expected to do well in the zone between the leaching trenches would include a grass seed mix composed largely of blue wildrye (*Elymus glaucus*) and meadow barley (*Hordeum branchyantherum*). The deeper-rooted native perennial grasses typically have rooting depths of between 10 and 14 inches, depending on rainfall and soil conditions.

All of the above species can be established by direct seeding. In this situation, we recommend separate seeding of the more salt tolerant plant mix in a zone roughly three feet wide over the leaching trenches, with overseeding of the native grasses on the remainder areas.

We expect the plants to disperse and intermix into the adjacent zones with colonization occurring according to site conditions and specific plant preferences and tolerances. Success of the planting will be dependant upon:

- Proper seeding techniques;
- Temporary sprinkler irrigation to establish the plants;
- A monitoring program that includes follow-up spot seeding in poor germination areas; and
- Mowing to reduce competition from aggressive weedy species.

If the above outlined establishment and management program is implemented, we do not expect any impacts to the potential productivity of the agricultural soils, the native plant community, or bluff erosion. Detailed planting specifications are provided in **Attachment 1**.

All work should be done by a licensed landscape contractor, with a minimum of five years experience establishing plants in coastal environments, and should be retained to provide maintenance to the site for a minimum of three years, to assure planting success. The initial seeding

and establishment should be observed by a representative from our office, so we can prepare the required report to the Regional Board.

REFERENCES

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Ayers, R.S. and Branson, R.L., 1976, *Guidelines for Interpretation of Water Quality for Agriculture,* U.C. Cooperative Extension Service, U.C. Committee of Consultants (rev. 9/22/76).

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Barbour, M.G., 1970, American Midl. Natur. 84: 105-120.

Francois, L.E. and R.A. Clark, 1979, *Boron Tolerance of Twenty-Five Ornamental Shrubs*, J. American Society Hart Science, 104(3); 319-322, 1979.

Mass, E.V. and G.J. Hoffman, 1977, *Crop Salt Tolerance, Current Assessment,* American Society of Civil Engineers, Proc. J. Irrigation Drainage Div. 103 (IR2): 114-134.

Tanjii, K.K., ed., 1990, *Agricultural Salinity Assessment and Management*, ASCE Manual on Engineering Practices, No. 71.

Todd, David Keith, *Groundwater Hydrology*, John Wiley & Sons, Inc., 1980.

WESCO, 1988, *Soil-Plant Rlationships Study on the Shorelands Project Shite and Oliver Salt Ponds*, Hayward, California.

If you have any questions, please don't hesitate to contact the undersigned at (510) 236-6114.

Sincerely,

Jeffrey H. Peters
Certified Erosion Control Specialist
ARCPACS #376

Margaret Henderson
California Landscape Architect #1689

Enclosures

xc: Roger Briggs, Central Coast RWQCB
Charles Lester, California Coastal Commission

JHP/MH/cw

Ref.: 96073L13

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Exhibit 2, p. 23

ATTACHMENT 1

PIGEON POINT COUNTRY INN
PLANTING SPECIFICATIONS
BRINE FIELD SUBSURFACE DISPOSAL AREA
NATIVE PLANT REVEGETATION

SITE PREPARATION

1. The area shall be disced or tilled to break up and loosen surface soil. The site shall then be raked to break up large clods (>2 inches) and form a gently sloping surface.

2. The area shall be thoroughly irrigated to bring up weed seeds. The area shall be irrigated and tilled again at two-week intervals until area has been watered and tilled twice to control resident weed seed bank in soil. Apply approximately ½-inch of irrigation water per discing.

3. Locate and stake out leaching trench and non-trench areas for separate treatment.

4. Apply seed, either by drilling into the soil 1/4-inch, or by broadcast seeding and cover by raking or dragging an anchor chain across seed bed to cover the seed. Cover with a straw mulch. Seed mix, soil amendment and fertilizer shall be as indicated on the seeding table and plans provided below and on **Figure 2.**

NATIVE GRASS SEED MIX		
Species	**Common Name**	**Application Rate (pounds per acre)**
Elymus glaucus	Blue Wild Rye	17.5
Bromus carinatus	California brome	14.0
Hordeum branchyantheum	Meadow barley	12.0
Festuca megalura	Zorro fescue	6.5
	TOTAL	**50 lbs/ac**

SALT TOLERANT SEED MIX		
Species	**Common Name**	**Application Rate (pounds per acre)**
Distichlis spicata	Salt grass	12
Atriplex patula	Fat hen	7
Baccharis pilularis	Coyote brush	3
Atriplex lentiformis	Quail bush	3
	TOTAL	**25 lbs/ac**

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Exhibit 2, p.24

Apply soil amendment consisting of nitralized sawdust at two tons/acre.

5. Fertilize at 250 lbs/acre, 16-20-0 fertilizer. A temporary irrigation system shall be installed, and water shall generally be applied as follows:

   The Contractor shall use a tensiometer or similar device to measure soil moisture prior to irrigation application, and shall modify the watering regime as necessary (based on temperature and rainfall) to assure that the irrigation is sufficient to support the planted species, and to avoid over watering, runoff and soil erosion problems.

IRRIGATION SCHEDULE		
Week	**Number of applications**	**Amount of water to be applied**
1	Twice daily	1/4-inch uniformly
2	Daily	1/4 to ½-inch uniformly
3	Every other day	½ to 3/4-inch uniformly
4-6	Weekly	3/4 to 1-inch uniformly
6+	As-needed, depending on rainfall	

6. Spot seed and mulch as needed any barren areas larger than three feet by three feet.

7. Flag shrub species when they reach a height of four to six inches, and protect as needed from mowing operations. Mow with flail mower (weed whip or by hand around shrubs) to control annual grasses and weedy species beginning when native grasses are three to four inches tall. Mow as needed to maintain grass height at three inches for the first growing season, a minimum of four mowing operations during the first year. Apply approximately one-half-inch water uniformly over the seeded area after each mowing following stand establishment during the summer months.

8. Hand remove or spot treat with approved herbicide any aggressive weed species such as thistle, broom, Arundo, fennel, pepperweed or hemlock immediately upon sight. Treat halophyte and native grass establishment areas separately.

9. If necessary, the site shall be reseeded, irrigated, mowed and monitored for success utilizing the above outlined procedures for Years 1, 2, and 3. The mowing and irrigation schedule shall be reviewed by the Landscape Architect, and adjustments made as needed to assure planting success and full revegetation of the disturbed area.

10. The Landscape Architect will inspect the site at least once each year during the three-year maintenance period, and provide a report of progress towards meeting success criteria, and management recommendations. This will be provided to the property owner, the Regional Board, and the Coastal Commission.

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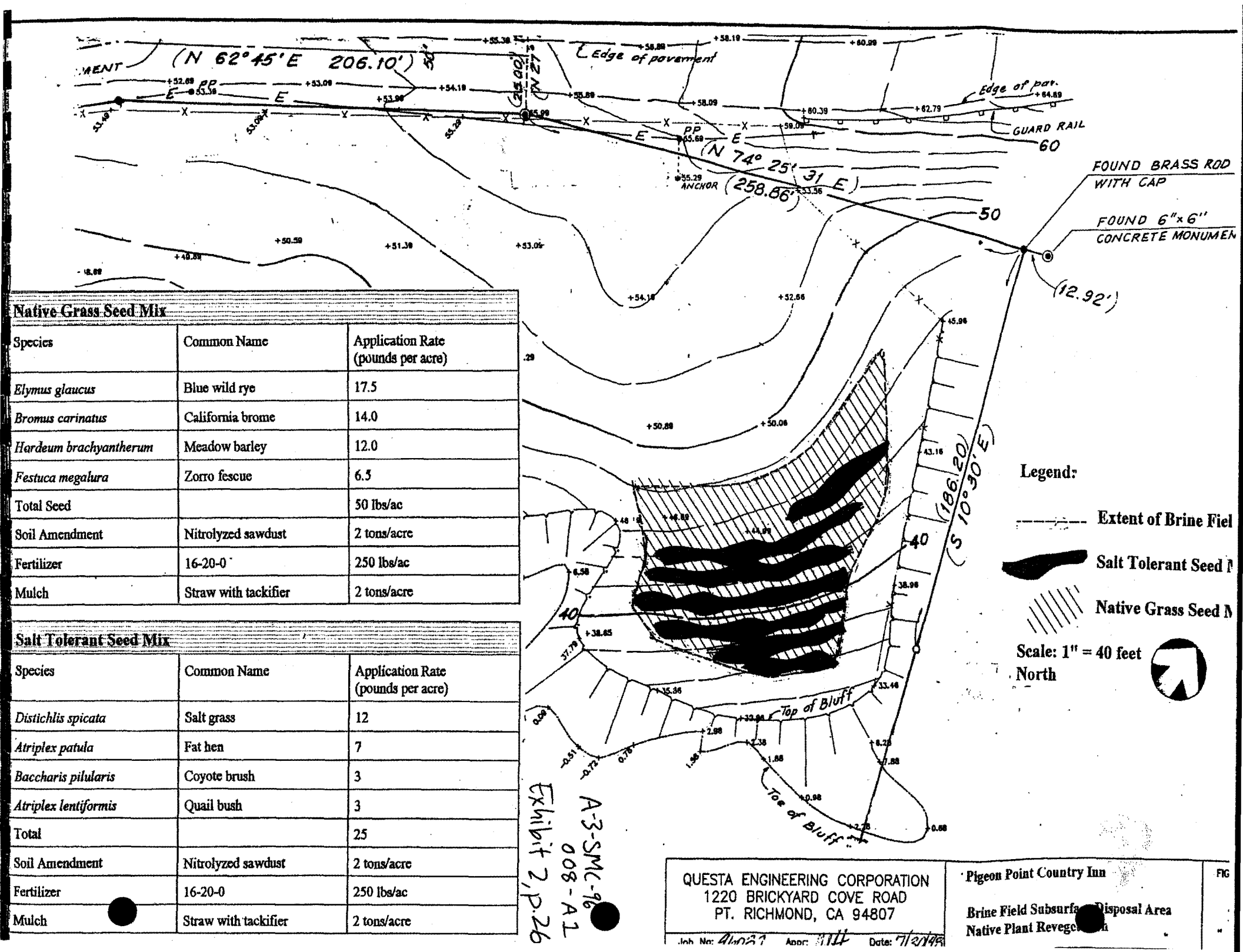

Native Grass Seed Mix		
Species	Common Name	Application Rate (pounds per acre)
Elymus glaucus	Blue wild rye	17.5
Bromus carinatus	California brome	14.0
Hordeum brachyantherum	Meadow barley	12.0
Festuca megalura	Zorro fescue	6.5
Total Seed		50 lbs/ac
Soil Amendment	Nitrolyzed sawdust	2 tons/acre
Fertilizer	16-20-0	250 lbs/ac
Mulch	Straw with tackifier	2 tons/acre

Salt Tolerant Seed Mix		
Species	Common Name	Application Rate (pounds per acre)
Distichlis spicata	Salt grass	12
Atriplex patula	Fat hen	7
Baccharis pilularis	Coyote brush	3
Atriplex lentiformis	Quail bush	3
Total		25
Soil Amendment	Nitrolyzed sawdust	2 tons/acre
Fertilizer	16-20-0	250 lbs/ac
Mulch	Straw with tackifier	2 tons/acre

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QUESTA ENGINEERING CORPORATION
1220 BRICKYARD COVE ROAD
PT. RICHMOND, CA 94807

Job No: 41021 Appr: MH Date: 7/2/96

Pigeon Point Country Inn

Brine Field Subsurface Disposal Area
Native Plant Revegetation

FIG

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
FRONT STREET, STE. 300
TA CRUZ, CA 95060
(408) 427-4863
HEARING IMPAIRED: (415) 904-5200

ATTACHMENT 1

Filed: 1/30/96
49th day: 3/19/96
Staff: SM-SC
Staff Report: 8/21/96
Hearing Date: 9/12/96
Commission Action on Findings:

ADOPTED

STAFF REPORT: REVISED FINDINGS

APPEAL NUMBER: A-3-SMC-96-008

APPLICANT: **KATHLEEN MCKENZIE**

PROJECT LOCATION: 921 Pigeon Point Road, Pescadero, San Mateo County

PROJECT DESCRIPTION: Demolition of existing warehouse type structures, and construction of a 9 unit Country Inn with 1,800 square foot storage/maintenance building, 14 off-street parking spaces, a septic system and a domestic well

COMMISSION ACTION: Approval with Conditions

DATE OF COMMISSION ACTION: July 11, 1996

COMMISSIONERS ON PREVAILING SIDE: Belgard, Flemming, Giacomini, Pavley, Randa, Rick, Staffel, Steinberg, Wan, Wear, Chairman Calcagno

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SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following findings in support of the Commission's action on July 11, 1996, approving with conditions the permit for the above referenced project. The major revisions from the previous staff report include a maximum density of 9 guest units (as opposed to the previously recommended 6 unit maximum), as well as elimination of the previously recommended condition requiring architectural modifications to the guest units.

I. STAFF RECOMMENDATION ON COASTAL DEVELOPMENT PERMIT

The staff recommends that the Commission adopt the findings, listed in Section IV. below, in support of the following resolution approved on July 11, 1996:

Attachment 1

Approval with Conditions. The Commission hereby grants, subject to the conditions below, a permit for the proposed development as modified, on the grounds that, as conditioned, the modified development will be in conformance with the provisions of the San Mateo County certified Local Coastal Program (LCP), the public access and recreation policies of the California Coastal Act of 1976 (Coastal Act), and will not have any significant adverse impact on the environment within the meaning of the California Environmental Quality Act (CEQA).

II. STANDARD CONDITIONS (adopted July 11, 1996)

Attached as Exhibit A

III. SPECIAL CONDITIONS (adopted July 11, 1996)

1. Scope of Permit. This permit authorizes the development of a Country Inn, with an ultimate maximum of 9 units, in two phases. Phase I comprises those 6 units closest to the lighthouse. Phase II comprises the remaining 3 units on the east side of the gully leading to Whaler's Cove beach. The permit also covers the use of an existing warehouse building for storage and office purposes only (no occupancy); visitor parking spaces; and the project's water supply and sewage treatment systems.

2. Compliance with Local Conditions of Approval. All 29 conditions of San Mateo County Coastal Development Permit # 95-0022 become conditions of this permit. (See Exhibit B of this report for a copy of the local conditions of approval). PRIOR TO TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the permitee shall provide evidence to the Executive Director that those conditions requiring action prior to the commencement of any work have been signed-off by the appropriate County official. Evidence of subsequent condition compliance must also be submitted to the Executive Director at the required stage. In the event that County officials do not exercise such authority, permitee shall submit condition compliance materials to the Executive Director for review and approval.

3. Revised Final Plans. PRIOR TO TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the permitee shall submit, for Executive Director Review and approval, final project plans which include the following:

a. Architectural elevations of the maintenance/storage building which improves its design compatibility with the existing highly scenic historic structures at Pigeon Point. The modifications shown on these revised plans shall include a change in the pitch of the roof, the removal of the skylights or screening of the skylights from the public view, and similar design characteristics needed to make the structure resemble similarly-sized support buildings associated with comparably situated traditional lighthouses.

b. Detailed fencing plan indicating the design, materials, and location of all fencing which will be installed as a component of the project, demonstrating that the proposed fencing will not impair public views.

c. A signing plan illustrating the exact design, location, and content of all permanent signs that will be posted on the site. This shall include the signs that will be posted in the guest units informing visitors that pets must be on leash, and that both guests and pets are not permitted on the beach when marine mammals are present. The signing plan shall also include signs identifying public parking spaces and the public viewing area.

d. Specific plans and details for the project's water supply and sewage treatment systems approved by the County Dept. of Environmental Health; such plans shall identify final locations of the water well, water storage tank, septic system, and utility lines. If any of these project elements encroach outside of the parcel on which the project is located, the required easements or encroachment permits must be submitted concurrently.

e. Plans for the public viewing area, in the location of the public viewing platform required by the Negative Declaration adopted by the County of San Mateo. This plan shall identify the boundaries of the viewing area available for public use, as well as improvements to the viewing area, including, at a minimum, a public bench which facilitates ocean and lighthouse viewing opportunities. Signs identifying public parking and viewing areas shall be addressed in the signing plan required by Section c of this condition.

4. Visitor Serving Use Only. PRIOR TO TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the permitee shall submit, for Executive Director review and approval, a deed restriction which indicates that this coastal permit authorizes the development of a 9 unit Country Inn, a visitor serving use exclusively available to the general public. This deed restriction shall also specify that visitor length of stays are limited to no more than 29 consecutive days, and no more than 84 days per year. Furthermore, the deed restriction shall indicate that conversion of any portion of the approved facilities to a private or member only use, or the implementation of any program to allow extended or exclusive use or occupancy of the facilities by an individual or limited group or segment of the public is specifically not authorized by this permit and would require an amendment to this permit which may require a reduction in project density in order to maintain compliance with the density regulations of the San Mateo County certified Local Coastal Program. Upon approval of the Executive Director, the deed restriction shall be recorded within 15 days and a conformed copy submitted for the record. ON A BI-ANNUAL BASIS COMMENCING AT THE CONCLUSION OF THE FIRST YEAR OF PROJECT OPERATION, the permitee shall submit to the Executive Director copies of the project's Transient Occupancy Tax records in order to ensure compliance with this condition.

5. Compliance with Geotechnical Recommendations. Final project plans and project construction shall conform to and incorporate the recommendations contained in the Geotechnical Investigation prepared for the subject project by UPP Geotechnology, Inc., dated September 25, 1995. PRIOR TO THE TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for Executive Director review and approval, drainage and erosion control plans, which include those measures necessary to protect the adjacent marine environment, accompanied by written evidence that UPP Geotechnology has reviewed these plans and concurs with their content.

Attachment 1

6. Construction/Operations Plan. PRIOR TO TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the permitee shall submit, for Executive Director review and approval, a project construction and operations plan which includes the following components:

a. the timing and/or phasing of all elements of project construction;

b. the location of construction staging areas and washdown facilities;

c. identification of the disposal site for excavated agricultural soils, excess grading spoils, demolished buildings, and any other construction wastes; and,

d. means of assuring that access to and from the lighthouse along Pigeon Point road will not be disrupted during project construction.

7. Landscape Plan. PRIOR TO THE TRANSMITTAL OF THE PERMIT, the permitee shall submit, for Executive Director review and approval, a landscape plan which includes the following:

a. use of local drought resistant native plants in all areas that will be disturbed during project construction, as well as in all areas that will be exposed as a result of building demolition;

b. use of Monterey cypress and local drought resistant native vegetation to screen project elements including, but not limited to the water storage tank, water treatment facility, and septic pumps; and

c. an irrigation and maintenance plan necessary to ensure the survival or replacement of the required landscaping.

IV. FINDINGS AND DECLARATIONS

A. Project History:

On December 13, 1995, the San Mateo County Planning Commission approved a Coastal Development Permit (File # CDP 95-0022) for the development of a 9 unit Bed and Breakfast facility at the subject site, and adopted a Negative Declaration pursuant to the California Environmental Quality Act. Rather than being appealed to the San Mateo County Board of Supervisors, the locally-approved Coastal Development Permit was directly appealed to the Coastal Commission. On March 14, 1996, the Coastal Commission opened and continued the public hearing on this appeal. On April 10, 1996, the Commission determined that the appeal raised a substantial issue regarding project conformance with the certified LCP. The De Novo hearing was continued, in order to provide the applicant with additional time to respond to the concerns expressed by the Commission and contained in the staff report prepared for the April Commission meeting (e.g., demonstration of an adequate water source to serve the proposed development). Upon the request of the applicant, the continuance of the De Novo hearing on this project was postponed from June, 1996, until July, 1996, in order to provide more time to

obtain the necessary additional information. Completion of the De Novo hearing on this project, and action on the coastal development permit for the proposed development, was undertaken by the Commission on July 11, 1996. At that hearing, the Commission granted a permit for the project, subject to the special conditions contained in this staff report.

B. Project Description:

The subject project proposes the partial demolition of existing warehouse-type structures on the property, and development of a 9-unit Country Inn with a ± 1800 square foot storage/maintenance building, 14 off-street parking spaces, and a domestic well. The previously proposed repair of an existing private stairway to the coastal bluff has been eliminated from the current project before the Commission. In addition, the applicant has proposed to eliminate landscaping as a component of the subject project.
Four buildings with a combined area of 7,659 square feet, constructed to serve a previously operating oyster farm, originally occupied the 4.5 acre site. One of these buildings, the largest and easternmost warehouse building, has already been demolished, without the benefit of the required coastal development permit.

The subject project proposes to demolish 5,800 square feet of the existing buildings (including the one which has already been illegally demolished), and maintain approximately 1,800 square feet of one of the buildings as a "storage/maintenance building", the exterior of which will be remodeled to match the proposed new development. No landscaping in the areas of existing buildings proposed for demolition has been provided by the proposed project. The floor plans for the "maintenance/storage" building show that the majority of the building will be used for the storage of vehicles, maintenance equipment, and miscellaneous materials. Approximately 150 square feet of this building is proposed to be used for linen storage and a lavatory (Exhibit G).

Eight of the proposed nine individual guest units are 600 square feet each (20 feet by 30 feet), with one of the units having 700 square feet (20 feet by 35 feet), totaling 5,500 square feet of new development. The 9 units are grouped in three clusters of 3 units each, with two of the clusters within the previously developed western portion of the site, and the third cluster located on an undeveloped eastern portion of the site (Exhibit F). The County's approval of this project described the development as being completed in three phases: the first two phases involve the construction of 6 units within the general vicinity of the existing buildings; Phase III would consist of the development of the remaining 3 units located on the currently undeveloped eastern portion of the 4.5 acre site. As illustrated in the submitted plans, each of the 9 units would contain a bedroom/living room with a fireplace, bathroom with a "soak tub", and kitchenette with a microwave oven.

The proposed architectural design of the units is illustrated by Exhibit J. According to the applicant's architect, the proposed design is intended to compliment the style and size of the Pigeon Point Lighthouse caretaker's living quarters, located immediately west of the site. The units would be 16 feet in height from the floor to the peak of the roof, covered by wood siding with a gray color, and private patios would extend from each unit and offer a view of the ocean.

Due to the geologic constraints of the parcel, the units will be located slightly above grade (approximately 1 1/2 feet above ground), on piers that will be drilled into the highly compacted soils of the Pigeon Point formation. According to the submitted grading plan, only minor

grading limited to the area of the units' footprints, is necessary to prepare the site for the development.

No information regarding the maximum length of stay allowed is contained within the project proposal or County record, which has raised concerns that the self-sufficient units, similar in size and facilities to a one bedroom apartment, could be rented out as residences. The parcel on which the project is located has one density credit and is zoned Planned Agricultural District, which conditionally allows one single family residence, or a density of development equivalent to two single family residences if for a Coastal Act priority visitor serving use. Residential uses are not eligible for the 100% density bonus granted for visitor-serving projects by the San Mateo County certified LCP. Thus, as discussed in the following findings, conditions requiring a limit of stay for visitors, and the periodic submission of Transient Occupancy Tax records is necessary to ensure that the proposed development actually functions as a visitor serving facility in perpetuity.

Other important elements of project construction include the installation of a domestic well to serve the project, as well as a sewage treatment system. The details of these facilities have yet to be developed. As a result, assurances that such facilities will be adequate to serve the development without adversely affecting coastal views, marine habitats, and water quality, are essential. The adopted conditions of approval, as further discussed in the findings of this report, address these issues.

With respect to project operation, a resident manager will not be present on site. According to the applicant, a manager will reside within a few miles of the premises, will attend to the site as needed, and will be available by phone 24 hours per day. Laundry service would take place off-site, and no meal service, other than continental breakfasts for each room, will be provided. The applicant will allow pets, including dogs, within the rooms, and anticipates that most guests will be couples, primarily from the Bay Area. With respect to the protection of marine mammals, which occasionally haul out on the adjacent Whaler's Cove beach, the applicant has proposed to post signs within each of the rooms which inform guests that neither humans nor dogs are allowed on the beach when marine mammals are present.

C. Project Location:

The subject 4.5 acre parcel at 921 Pigeon Point Road is directly adjacent to the eastern side of the Pigeon Point Lighthouse Reservation, on the west side of Highway One, in a rural area of the southern San Mateo County coastline (Exhibits C, D, and E), and is included within the State Scenic Highway Corridor. The adjacent Lighthouse is a State of California Historic Landmark, and is listed in the National Register of Historic Places. The Archaeological Reconnaissance Survey completed for this project indicates a rich history of maritime activities on the project site and within the project vicinity.

Pigeon Point, a small point jutting southwesterly into the Pacific Ocean, offers dramatic coastal views which are known to provide excellent opportunities to view migrating Gray whales and other marine life, and is rich in maritime and whaling history. The historic lighthouse on the point is known as one of California's most picturesque lighthouses. The existing ancillary buildings surrounding the lighthouse are currently used as a youth hostel , which provides overnight accommodations for up to 50 people. Other than limited local produce stands, the nearest place for visitors to find food would be the Town of Pescadero, approximately 10 miles

north of the site, or the City of Half Moon Bay (approximately 35 miles north of the site), or the Town of Davenport on the north coast of Santa Cruz County (approximately 20 miles south of the site).

D. Site Description:

The subject parcel, on the southern portion of Pigeon Point east of the lighthouse, is approximately 875 feet long, and varies in width between approximately 120 feet and 300 feet, as defined by the coastal bluffs (Exhibit F). The seaward side is bounded by the Monterey Bay National Marine Sanctuary. The jagged shoreline is marked by steep bluffs ranging in height from 35 to 40 feet. At the base of these bluffs are three small cove beaches, rocky shoreline, and the Pacific Ocean. The westernmost cove beach, closest to the proposed development, is known as Whaler's Cove, indicating its past use by the whaling industry. The parcel is bounded by Pigeon Point Road to the north, and undeveloped coastal land owned by San Mateo County to the east. The County-owned land to the east of the subject site currently offers unimproved parking and an unofficial, hazardous accessway to the beach. Only during low tide can Whaler's Cove be reached from the adjacent unofficial County-owned beach access.

Vegetation on the subject site includes native species of coastal strand habitat, as well as exotic species such as ice plant. Other than Monterey Pine planted amongst the existing buildings, there are no trees on the site.

The extreme western portion of the site was developed with 4 modular structures (one of which has been removed) which cover approximately 7,700 square feet of land, and are surrounded by fences. The existing buildings, originally developed in the 1960's for aquaculture purposes, are currently used for private storage. In the past, one of the buildings has been used as a residence, and another rented as a lodging facility, without the benefit of the required coastal development permits. Other existing development on the property includes a failing wooden walkway leading from the existing development to a promontory at the southwest property corner which then connects to a rickety stairway that leads down the bluff to a lower bluff; an underground water tank; two concrete pads between the buildings; a large black plastic water tank; a gravel driveway; planting areas; and an existing well on the southeastern portion of the property.

To the east of the existing developments is an abandoned road, also described as a "gully" in the County staff report, which leads from Pigeon Point Road to Whaler's Cove. Because this abandoned road serves as a primary drainage for the property, it has been deeply eroded. According to a settlement agreement reached between the State of California, the State Lands Commission, the Coastal Commission, and the property owners, the Whaler's Cove beach is owned by the State of California. Other than the abandoned road on the subject parcel, the only means of accessing this beach is by boat, or at low tides from County owned land southeast of the property, which provides an unofficial, hazardous trail down to the intertidal area southeast of Whaler's Cove.

In responding to comments submitted regarding the Negative Declaration, the County states "the applicant proposes to restore native vegetation on the sides of the gully while leaving an informal path down the center to allow for emergency access to the beach". The applicant has recently proposed to eliminate landscaping from the project proposal. It is assumed that the

proposed project will maintain this accessway to the beach for private use by the facility's guests.

The Whaler's Cove beach, in addition to providing exceptional coastal views and containing important historical artifacts, is also is used by pinnipeds (seals and sea lions) as an occasional haul-out area. Another attraction which makes this beach a desirable destination for coastal recreation, especially during the spring and summer, is the fact that it is protected from the predominantly strong north west winds. Letters received from fishermen, divers, school groups, and other members of the public, have emphasized that the unique characteristics of this beach provide coastal access and recreation opportunities for the public that are unavailable elsewhere. Over 200 letters to the Commission and Commission staff, stressing the importance of public access to this beach, were received and referenced in a previous staff report presented to the Commission at the April, 1996 hearing.

E. Density of Development:

1. Background:

The San Mateo County certified Local Coastal Program (LCP) establishes standards for development which regulate, among other things, the allowable density of development. The appropriate application of LCP density standards is very important, especially in rural areas of the County, as it serves to limit non-agricultural development in order to preserve agricultural land and natural resources, ensure that development takes place consistent with limited public service capacities (e.g., water, sewer, roads); and maintain the projected buildout figures contained in the certified LCP.

The density regulations contained in the San Mateo County LCP are based on the concept of density credits, which each parcel is assigned, according to a variety of factors. Every legal parcel is entitled to at least one density credit, which can be used to build a single family residence, or the equivalent thereof. In order to encourage Coastal Act priority uses, the LCP provides a 100% bonus for such development. For example, a visitor serving development equivalent to two single family residences could be built on a parcel with one density credit. This LCP density bonus is intended to implement the Coastal Act mandate which preserves limited public services for coastal dependent and coastal related development, and gives priority to those uses which are either require a close proximity to the ocean, or enhance public enjoyment of the coast.

One of the problems associated with the LCP's method of calculating allowable density is the difficulty in establishing the equivalent of a single family residence. In developing the LCP, alternatives for objectively determining, on a quantifiable basis, the amount of development equivalent to one density credit were evaluated. In considering elements of development which could provide a means for determining the allowable intensity of development per density credit, such as site coverage, traffic generation, or water use, the County chose water use.

Water use is thus simply a "yardstick" for determining the density of development equivalent to a single family home, for the purpose of allocating the amount of use for one density credit. Water conservation is not the thrust of this policy. In fact, extreme water conservation would significantly increase density projected in the certified LCP. For example, extreme water conservation could allow three single family residences, rather than

one, per density credit, thus tripling buildout and inflicting unknown impacts on resources and infrastructure. So far, water conservation has not been used as a tool to obtain additional single family residences on a site with one density credit. However, water conservation has been used as a tool to increase the allowable density of development for uses other than single family residences, as in case of the Cascade Ranch Health and Fitness lodge.

2. LCP Policies and Ordinances:

The following LCP Policies and ordinances regulate the allowable density of development at the project site:

a. Policy 1.8c.:

"Land Uses and Development Densities in Rural Areas"

"c. Require density credits for non-agricultural land uses in rural areas, including any residential use, except affordable housing ... and farm labor housing. One density credit shall be required for each 315 gallons maximum daily water use as a result of a land use. For purposes of this ordinance, a single family dwelling unit shall be deemed to use 315 gallons per day. In order to give priority to Public and Commercial Recreation land uses, one density credit shall be required for those uses for each 630 gallons of maximum daily water use. Water use shall be calculated on the best available information and shall include all appurtenant uses, e.g., landscaping, swimming pools, etc."

b. Section 6356 of the Zoning Regulations, states in relevant part:

"Maximum Density of Development."

"In order to equate the density credit accrued for different uses permitted in the PAD [Planned Agricultural District], one density credit shall equal 630 gallons/day of water for Public and Commercial Recreation uses, and 315 gallons/day of water for all other uses. For the purpose of this ordinance, a single-family dwelling shall be deemed to use 315 gallons per day. Any uses requiring more than 315 or 630 gallons/day of water shall consume the number of additional whole credits needed. Water use shall be calculated on the best available information and shall include all appurtenant uses, e.g., landscaping, swimming pools, etc. ..."

3. Project Consistency with LCP Density Regulations:

a. Visitor Serving Density Bonus

In order to qualify for the 100% density bonus provided by the LCP for Coastal Act priority developments, the subject project must function as a public or commercial recreational facility. The subject project proposes nine 600-700 square foot "Country Inn" units, and a 1,800 square foot maintenance/storage building, but does not include length of stay limitations that will ensure that the project will truly function as a visitor serving use. If the proposed visitor serving

use was converted to a residential use, the resulting density of development would be twice as much as that currently allowed by the LCP. The concern that the proposed project may be used for residential rather than visitor serving purposes is heightened by the following: the size and type of the proposed units could easily be converted to residential units as they are completely self sufficient; the project lacks the typical Country Inn support facilities (e.g., laundry, manager's residence, dining facility, guest lounge) which is especially peculiar given its remote location; and, the County did not condition its approval of the project in a manner which ensures that the development can only be used for visitor serving purposes.

As a result, Special Condition 4 attached to this permit requires that a deed restriction be recorded which indicates that this permit is for a visitor serving use only, and specifies a maximum length of stay 29 consecutive days, and 84 days out of the year, per visitor. Similar length of stay requirements have been used by the Commission in approving permits for other visitor serving developments, such as in the case of the Hotel Oceano in San Luis Obispo County. Evidence that the requirements of this deed restriction are complied with is also required by Special Condition 4, through the periodic submission of Transient Occupancy Tax records. In addition, Special Condition 4 specifically identifies that a conversion to residential use requires an amendment to this permit, and acknowledges that such a conversion may require a reduction in density in order to maintain consistency with the density regulations of the San Mateo County LCP.

b. Water Use

According to the applicable requirements of the San Mateo County certified LCP, the allowable density of visitor serving development on a parcel with one density credit can not exceed a maximum daily water use of 630 gallons. These requirements state that water use shall be calculated on the best available information and shall include all appurtenant uses, (e.g., landscaping, swimming pools, etc.).

The County's approval of this project allowed 9 units based on a Rural Area Water Use Study prepared for the County by Kleinfelder, Inc. in 1991, which asserts that hostelries, hotels, and motels with water conservation fixtures can support 9.33 units per one density credit. In response to concerns that the County's reliance on this study, which is not a certified component of the San Mateo County LCP, did not ensure consistency with LCP density regulations, the applicant provided project specific water use information (attached to this report as Exhibit K), and revised the project by replacing the proposed "soak tubs" with low-flow showers. The results of the project specific water use analysis indicate that the project will not consume more than 630 gallons per day.

Staff also notes that the County of San Mateo will soon be submitting an LCP amendment intended to provide a more precise and definitive method of objectively calculating density for non-residential development in the County. This comprehensive amendment is expected to assign specific unit values to the various non-residential uses permitted in rural areas of the County, thereby eliminating the need for case by case reviews which have often resulted in significant controversy. The Commission will, upon submittal of this amendment, have the opportunity to review the County's proposal and its potential impacts on the build-out of the rural San Mateo coastline. At this time, staff cannot predict what the final unit values will be when certified, however, it is clear that a more objective method of determining density is on the horizon.

4. Conclusion:

As detailed in the above analyses, the proposed project raises two issues regarding conformance with LCP policies regulating the allowable density of development. These include the project's eligibility for the visitor serving density bonus, and whether or not the project falls within the established 630 gallon per day maximum water use per density credit for a visitor serving facility.

In order to ensure that the project will truly function as a visitor serving use, Special Condition 4 that a deed restriction be recorded which indicates that this permit is for a visitor serving use only, and specifies a maximum length of stay 29 consecutive days, and 84 days out of the year, per visitor. Evidence that the requirements of this deed restriction are complied with is also required by Special Condition 4, through the periodic submission of Transient Occupancy Tax records. In addition, Special Condition 4 specifically identifies that a conversion to residential use requires an amendment to this permit, and acknowledges that such a conversion would require a reduction in density.

Special condition 1 notes that this permit authorizes a maximum development of 9 units, consistent with LCP density regulations which establish a maximum daily water use of 630 gallons a day per density credit for visitor serving facilities. This conclusion is based upon the best information available to the Commission regarding the anticipated water demand of the proposed project.

Accordingly, as conditioned, the project is found to be consistent with standards of the San Mateo County certified LCP regulating maximum densities of development.

F. Agricultural Resources:

1. Background:

The project site is within the Planned Agricultural District (PAD) of the San Mateo County Zoning Regulations, which serves as the Implementation Program for land designated for agricultural use in the San Mateo County certified LCP. This PAD designation indicates the LCP's intent to preserve existing and potential agricultural operations on the site, and to minimize conflicts between agricultural and non-agricultural land uses within the project vicinity. This zoning district, and its associated regulations for development, are integral components of the San Mateo County LCP, as they provide the means for achieving the protection of coastal agriculture mandated by the Coastal Act of 1976. Consistent implementation of these regulations is necessary to protect the extensive agricultural resources of southern San Mateo County's coastal area, which is subject to intensive development pressures due to its location between the cities of Santa Cruz and San Francisco, as well as its scenic beauty and recreational resources.

The project site contains almost equal portions of both prime agricultural soils, and non-prime agricultural soils (otherwise referred to as lands suitable for agriculture by the LCP). The entirety of the proposed development is outside the areas containing prime agricultural soils, which are located within the eastern portion of the site, with the exception of the proposed well

and leachfield. It is noted that during the County's review of the subject project, the leachfield was also proposed outside of prime agricultural soils, but has since been relocated to the eastern portion of the site due to percolation constraints.

The site has not been under agricultural development in recent history, but is located across Pigeon Point Road from an agricultural field typically farmed for Brussels sprouts. The project has received approval from the County's Agricultural Advisory Committee, and as approved by the County, the applicant is required to record a "Right to Farm" statement in order to minimize project conflicts with adjacent agricultural operations. This condition, originally required by the County, is maintained by Special Condition 2 of this permit, which incorporates all of the County's conditions (attached as Exhibit B).

As evidenced by the need to record a "Right to Farm" statement, an important component of the agricultural resource protection policies contained in the LCP is to prevent non-agricultural development from adversely affecting agricultural operations. This includes the protection of agricultural water supplies, which are extremely limited along the southern San Mateo coastline. As a result, the LCP policy identified below requires that prior to approving a development permit for non-agricultural development, it must be demonstrate that the site has an adequate on-site water source to serve the proposed development, which does not adversely affect agricultural water supplies, or those water supplies necessary for the survival of a sensitive habitat area.

2. LCP Requirements:

LCP Policy 5.22a., "Protection of Agricultural Water Supplies", states:

> "Before approving any division or conversion of prime agricultural land or other land suitable for agriculture, require that:
>
> "a. All non-agricultural uses permitted on a parcel demonstrate the existing availability of a potable and adequate on-site well water source.
>
> "b. Adequate water supplies needed for agricultural production and sensitive habitat protection in the watershed are not diminished.
>
> "c. All new non-agricultural parcels are severed from land bordering a stream and their deeds prohibit the transfer of riparian rights."

3. Project Consistency:

The applicant has not yet demonstrated that an adequate well exists on-site to serve the proposed development. As expressed by many of the Commissioners at the April 1996 hearing on this project, resolution of this issue was a prerequisite to final Commission consideration of this project.

In complying with the directives of the Commission, staff met with the applicants and their representatives immediately following the April, 1996 hearing. At this meeting, the involved parties reviewed the additional information necessary to return the project for final consideration by the Commission, including approval by the San Mateo County Department of Environmental

Health of a well adequate to serve the proposed development. A follow up letter to the applicant summarizing the additional information necessary (including well approval) was sent on April 24, 1996, and is attached to this report as Exhibit O.

Since that time, the applicant has failed to obtain the requested well approval from Environmental Health. The applicant has submitted, however, a Well Test Report summary (Exhibit Q), and a water quality analysis (Exhibit R). The results of these investigations have raised concerns regarding the well's ability to adequately serve the proposed project, as discussed below. The Commission indicated at the April, 1996 hearing that the water supply issue should be resolved before review of this project was completed; however, many Commissioners also expressed a desire to meet the applicant's needs for a timely hearing, and requested that the project be scheduled for the June, 1996 meeting. This hearing date was postponed until the July Commission meeting upon the request of the applicant, due to the fact that the information necessary for the continued hearing (including well approval) was not yet available.

The submitted well test report indicates that on June 5, 1996, a 24 hour well test was undertaken (the location of the well is depicted by Exhibit P). The subject well, which was drilled to a depth of 735 feet, started the test with the water level at 80 feet. At the conclusion of the test, the water level was at a depth of 672 feet, indicating a total drawdown of 592 feet over the 24 hour test period. The total production of the well over the 24 hour period was 7,250 gallons, resulting in an average yield of 5.03 gallons per minute. Although the final sustained yield was not determined, the report states that the "well stabilized at 5 gpm [gallons per minute] at the top of the pump".

The above information is not adequate to determine the adequacy of the proposed well because there is no indication of the level at which, and at what point during the test, the well stabilized. This "time versus drawdown" information is necessary to determine the well's ability to recharge during and after the withdrawal of water, which directly relates to the well's capacity to serve the proposed development over the long term. In addition, there has been no analysis of the materials encountered during the drilling of the well. This information applies to the type, size, and geologic stability of the aquifer, which also relates to the well's long term ability to serve the proposed development.

The submitted water quality analysis (Exhibit R) identifies the presence of total coliforms, as well as characteristics and constituents within the water which exceed drinking water standards. These include conductivity, total dissolved solids, chloride, and fluoride. As a result, the proposed water system will require treatment, the extent of which has not been identified. The need to treat the water in order to meet public health standards raises concerns that the amount of water available for use by the project may be reduced, and that the treatment may result in the need to dispose of effluent in the surrounding environment. As discussed later in this report, the low permeability of the surrounding soils may complicate the disposal of such effluent, and therefore result in adverse impacts to adjacent marine habitats and water quality.

Other concerns raised by the proposed water supply, and the fact that it has not been approved by the San Mateo County Department of Environmental Health, include:

- The well's proximity to the ocean and its depth below sea level, which increase the possibility of salt water intrusion. This concern is heightened by the fact that the submitted water quality analysis indicates levels of conductivity and total dissolved solids which exceed public health drinking water limits. Such characteristics are indicative of salinity.

- The geologic characteristics of the area in which the well is located, commonly referred to as the "Pigeon Point Formation", and known for its highly compacted soils, indicates that the aquifer from which the water will be derived is a "fractured" aquifer as opposed to the more common "porous" aquifer. This feature may not only reduce the reliability of the water source, but may increase the potential for salt water intrusion. The Commission staff has discussed the hydrogeologic characteristics of the site with a certified geologist[1], who described the Pigeon Point formation as a "graveyard of dry holes", and the potential for seawater intrusion was confirmed. This geologist, who participated in the water availability analysis for the Cascade Ranch project, also stated that from his experience in looking for water at the adjacent Campbell's Mushroom Plant, where 18 test wells came up dry, he would not consider looking for water on the western portion of Cascade Ranch underlain by the Pigeon Point formation.

With respect to the well's affect on agricultural water supplies, the surrounding agricultural operations use agricultural impoundments, as opposed to wells, for irrigation, and should therefore not be impacted by the project. This does not , however, address the potential for seawater intrusion posed by the proposed well, which would result in adverse impacts to future agricultural operations, should such activities require the use of groundwater supplies.

4. Conclusions:

The project can not be approved consistent with LCP Policy 5.22 until it has been demonstrated that an adequate and potable water supply exists on site to serve the proposed development, that will not result in adverse impacts to water supplies needed for agriculture and the protection of sensitive habitats. As detailed above, evidence that the proposed well will adequately serve the proposed development has not been provided. In addition, the proposed well has the potential to cause seawater intrusion, which could adversely affect groundwater supplies on adjacent properties. Furthermore, the disposal of effluent resulting from the required treatment of the water supply has the potential to adversely affect adjacent marine habitats.

As a result, Special Condition 3d. attached to this permit requires the permitee to submit specific plans and details for the project's water supply as approved by the San Mateo County Department of Environmental Health, for review and approval by the Executive Director prior to the transmittal of the coastal development permit. This condition is necessary to ensure project consistency with the specific requirements of LCP Policy 5.22a.

G. Sensitive Habitats:

1. Background:

[1] Personal Communication with Barry Hecht of "Balance Hydrolics", June 20, 1996

The ocean waters adjacent to the project site fall within the boundaries of the Monterey Bay National Marine Sanctuary. According to Policy 7.1 of the certified LCP, marine habitats and coastal tide lands are defined as sensitive habitats. Policy 7.22 specifically designates Pigeon Point as a marine and estuarine habitat requiring protection. Whaler's Cove beach, on the south side of Pigeon Point and directly adjacent to the proposed project, is used periodically as a seal haul-out area and may also be used for pupping activities. Other features of the Whaler's Cove beach and intertidal areas which are representative of their sensitive habitat designation include: tidepools which provide habitat for a wide variety of marine life, including abalone; "Prisoner Rock", a seastack (i.e., geologic feature in the form of a small but tall rocky island protruding from the ocean) which is used as a haul out area by marine mammals such as harbor seals; and, the close proximity Gray whales during their annual migrations. Because the subject project is directly adjacent to such habitat areas, LCP policies protecting sensitive habitat areas apply to the proposed development.

2. LCP Requirements:

Policy 7.3, "Protection of Sensitive Habitats", states:

> "a. Prohibit any land use or development which would have significant adverse impact on sensitive habitat areas."
>
> "b. Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats."

Policy 7.5, "Permit Conditions", states in part:

> "a. As part of the development review process, require the applicant to demonstrate that there will be no significant impact on sensitive habitats..."

3. Project consistency:

In summary, the proposed project has the potential to adversely effect the adjacent sensitive habitat areas by:

- Attracting visitors, and their canine pets, to the site when seals or sea lions are present.

- Increasing the rate of erosion, as well as the quantity of sediment and urban pollutants contained in runoff from the site, as a result of project construction and operation. Such impacts can diminish water quality and biological productivity, adversely affecting sensitive habitats and the species dependent upon these habitats.

- Discharging contaminants to the marine environment from the disposal of effluent resulting from the required treatment of the water supply, and/or from a sewage treatment system that does not function properly.

Attachment 1

These potential impacts, and their relative significance, are analyzed in more detail in the following paragraphs.

The applicant will require that dogs be kept on leash when outside the guest units, and will advise project guests that neither humans nor dogs are permitted on the Whaler's Cove beach when marine mammals are present. These rules will be described in signs posted in each guest unit, which must receive Executive Director review and approval prior to the issuance of the permit pursuant to Special Condition 3c.. Considering these safeguards, and in light of the small scale of the project, as well as the fact that the adjacent beach area is not currently considered a significant marine mammal haul-out area, the project's impacts to adjacent sensitive habitat areas resulting from limited numbers of additional visitors is not considered significant.

The potential for erosion and sedimentation as a result of project implementation was identified by a geotechnical investigation of the project site and proposed development undertaken in September 1995. This study found that "the soil that blankets the site is poorly consolidated", and, as a result, stated that the "control of surface drainage is critical to the successful development of the property" as "the results of improperly controlled run-off may include erosion, gullying, ponding, and potential slope instability". The report recommends controlling drainage and surface runoff via closed conduit discharge system with an energy dissipater. Such a feature, has not, however, been incorporated into current project plans.

The impacts of erosion, sedimentation, and urban pollutants on marine and intertidal habitat areas can be significantly adverse if they are not properly controlled. Sources of erosion, sedimentation, and urban pollutants include: an increase in the quantity and velocity of stormwater runoff resulting from the increased extent of impervious surfaces; instability of surface soils caused by earth moving activities and the demolition of existing structures; improper control of stormwater during project construction; inadequate or poorly designed drainage facilities; washdown and use of improperly maintained construction equipment; and the increased quantity of automobile fluids (i.e., oil and coolant) contained in stormwater runoff as a result of increased visitation by the public using automobiles.

Erosion, sedimentation, and urban pollutants can significantly degrade intertidal and marine habitats by: reducing water clarity, thereby diminishing the amount of sunlight available to bottom dwelling organisms dependent upon sunlight; directly removing habitat areas through the erosive forces of high velocity runoff; smothering (with sediment) habitat areas dependent upon water circulation for survival; and introducing toxic substances to the marine environment which can result in mortality, reproductive failure, or other adverse impacts to biological resources within intertidal and marine environments.

As a result of the potentially significant impacts described above, Special Conditions have been attached to this permit which ensure that such impacts are minimized to an insignificant level.

Special Condition 5 requires compliance with the recommendations contained in the Geotechnical Investigation conducted for the project, and requires the submission of drainage and erosion control plans for Executive Director review and approval. This condition provides the mechanism for ensuring that project construction and project drainage facilities will not

result in adverse impacts to adjacent habitat areas or reduce the stability of surface soils and coastal bluffs.

Special Condition 6 requires the submission of a construction operations plan which identifies construction staging and washdown areas, as well as methods of spoils disposal, for Executive Director review and approval. The intent of this condition is to minimize site disturbance, and ensure that proper precautions are implemented during project construction, in order to prevent sediment and contaminants from entering adjacent habitat areas.

Special Condition 7 requires Executive Director review and approval of a landscape plan for the portion of the site proposed for development. Installation and maintenance of native vegetation enhances soil stability, especially in areas that will be disturbed as a result of project implementation. The Negative Declaration adopted by the County of San Mateo for this project pursuant to the California Environmental Quality Act states "protective native landscaping is proposed to prevent acceleration of erosion at this site". However, the applicant has recently proposed to eliminate landscaping from the project proposal. Therefore, the landscaping requirement not only provides a means to reduce erosion and control sediment in order to protect adjacent habitats, but also maintains project conformance with the Negative Declaration adopted by the County.

The impact from discharging water treatment effluent on marine and intertidal habitats, as well as from potential contaminants from the proposed septic system, must be assessed at the development review stage pursuant to LCP Policy 7.5a.. With respect to the project's water supply, the extent of the required treatment is currently unknown. This information is crucial to identifying the quantity and constituents of the effluent resulting from water treatment. Due to the low permeability of the soils on the project site and the extent of the proposed septic system (addressed in more detail in the following paragraphs), upland on-site disposal of the effluent will be problematic, and may result in ocean disposal. This has the potential to adversely affect marine and intertidal habitats through a reduction in water quality, depending upon the quantity and constituents of the effluent. As a result, subsequent review and approval of the proposed water supply system, including the specific details of the required treatment process, is required by Special Condition 3c.

Regarding the issue of sewage treatment, the constraints of the site's geology and irregular narrow shape, as well as its proximity to the marine environment, demands an in depth review of the proposed septic system in order to ensure that it can adequately handle the effluent generated by the project, and not result in significant adverse impacts to adjacent sensitive habitat areas. Potential effects of an inadequate or malfunctioning septic system include the introduction of bacteria and toxic substances to the marine environment and/or subsurface waters, which can diminish the biological productivity of marine habitats and result in human health risks.

Initial percolation tests undertaken at the project site found that the terrace deposits underlying the project site failed to percolate adequately. As a result, subsequent percolation tests were conducted within surficial soils (at a depth of two feet). These surface soils exhibited very good percolation rates. Based upon these test results, the geotechnical consultants recommend "installing a shallow leachfield system utilizing 4-foot deep trenches. The leachfield should be located in the areas outlined in Figure 2 [Exhibit O]. We do not recommend using the

driveways and parking areas to the north of the existing structures as part of the leachfield area because the shallow soils have been disturbed by vehicular traffic and do not exhibit adequate percolation rates. We do not recommend using the area around Pits 12 and 13 because the mantle of silty topsoil is less than approximately 2 feet thick in this area...". The proposed leachfield location includes a 100 foot setback from the proposed well, a 50 foot setback from the coastal bluffs, and a 10 foot setback from the northern property boundary adjacent to Pigeon Point road. As a result of these setbacks, the report states that in the consultants opinion, "it is unlikely that effluent will surface along these cuts or create slope instability problems".

While the consultants have stated that the site can accommodate a shallow leachfield on its eastern portion, it is unclear how the recommended 4-foot trenches will function properly since the percolation tests indicated that the soil did not percolate at a depth of 4 feet. In addition, there has been no analysis of the size of the leachfield or septic tank needed to accommodate the quantity of effluent resulting from the project. This analysis may prove the need to expand the size of the leachfield proposed by the consultants, thereby reducing the setbacks from the coastal bluff or well, and exacerbating potential risks to the health of adjacent habitats, humans, and the stability of the coastal bluffs.

Other constraints identified by the percolation testing report include the "possibility that surface water infiltrating the permeable silty surficial soils could perch on top of the less permeable terrace deposits", and the possible occurrence of groundwater within 3 feet of the bottom of the leachfield. The report states that these constraints could be mitigated by installing an approximately 8-foot deep subdrain uphill of the leachfield, which would intercept both perched water and high groundwater. Upon review of this report, the County of San Mateo Health Services Agency submitted a letter concurring with this mitigation measure, and identifying the need to install the subsurface drain prior to the construction of the septic system. This report also noted that "a detailed design of the proposed septic system employing the shallow drainfield with its equivalent sidewall capacity will need to be submitted ... for review and approval prior to the issuance of the building permit". The required size of this leachfield will be determined at this stage of review, and remains unresolved as of the writing of this staff report.

The report also acknowledges that the location of the leachfield, uphill of the proposed guest facilities, will require pumping of the effluent. Pumping of sewage currently requires a variance from the County, and is subject to problems during power outages, which are common at the subject site. Other difficulties posed by the proposed leachfield location include routing of water lines around the leachfield, which lies directly between the proposed well and guest units. In addition, access to the proposed cluster of units on the east side of the beach access gully would be problematic, as the leachfield would be located between these units and Pigeon Point Road and driveways are not permitted to be constructed over leachfields due to the potential compaction problems associated with the driving across the leachfield.

Due to the potentially significant impacts to sensitive habitats posed by on-site sewage disposal, resulting from the unique characteristics of the subject property, the Commission staff requested, within an April 24, 1996 letter to the applicant, San Mateo County Department of Environmental Health approval of a septic system adequate to serve the proposed development. The basis of this request was to allow Commission staff to establish project consistency with the previously identified LCP sensitive habitat protection policies, which require such a finding to be made prior to the approval of a coastal development permit.

Because the adequacy of the proposed septic system remains unresolved, a finding that the project is consistent with LCP sensitive habitat protection policies can not be made. As a result, special condition 3d. has been attached to this permit, which requires the final septic system design, as approved by the San Mateo County Department of Environmental Health, to be submitted for subsequent review and approval by the Executive Director prior to the transmittal of the coastal development permit.

4. Conclusions:

As detailed by the above analysis, significant adverse impacts to sensitive habitat areas adjacent to the project are posed by the potential increase in erosion, sedimentation, and urban contaminants resulting from project construction and operation, as well as by the potential discharge of contaminants from the required water treatment and sewage disposal systems.

Special Conditions have therefore been attached to this permit, which ensure that appropriate mitigation measures will be implemented during project construction, and in the design of the project's drainage system, in order to protect adjacent sensitive habitat areas from the adverse impacts of erosion, sedimentation, and urban pollutants. In addition, these conditions require subsequent review of the project's water treatment and septic systems, in order to ensure that their final designs adequately protect adjacent intertidal and marine habitats within the waters of the Monterey Bay National Marine Sanctuary.

Only with the implementation of the special conditions summarized above can the project be found to be consistent with the policies of the San Mateo County certified LCP protecting sensitive habitat areas.

H. Visual Resources:

1. Background:

The proposed project is directly adjacent to the Pigeon Point Lighthouse, which is described in National Register of Historic Places as a highly visible and important component in the development and heritage of the San Mateo County's coast. This lighthouse is one of the most picturesque in the State, and is a popular subject for artists and photographers.

The scenic qualities of this lighthouse are supplemented by the extensive views of rural coastline and open ocean which surround Pigeon Point. The vistas available from Pigeon Point are also known to provide excellent opportunities to view whales and other marine life. The significance of these views, and their accessibility by motorists and bicyclists traveling along Highway One, are evidenced by the fact that this area is included within the California State Scenic Highway Corridor. From the project site and adjacent Pigeon Point public road, expansive views of the ocean and coastline to the south of Pigeon Point are available, including views of Point Ano Nuevo and Ano Nuevo Island.

Based on the adverse visual impact that the proposed development would have on the adjacent lighthouse, the County's Historic Resources Board voted 5-3 to deny the project. As indicated in the County staff report for this project, the Historic Resources Board action did not have any

impact upon the approval granted by the County Planning Commission, other than resulting in conditions of approval requiring the protection of archaeological resources.

The County staff report and Negative Declaration prepared for this project, indicated that visual impacts resulting from the proposed development were to be mitigated by the construction of a public viewing platform. This mitigation measure, however, was not reflected in the County's conditions of approval, and has since been dropped from project plans.

2. LCP Requirements:

The following policies contained in the San Mateo County certified LCP regulate the impact of new development on visual and scenic resources of the San Mateo County coastal zone and apply to the subject project:

a. Policy 8.4b.:

"Set back bluff top development and landscaping from the bluff edge (i.e., decks, patios, structures, trees etc.) sufficiently far to ensure it is not visually obtrusive when viewed from the shoreline except in highly developed areas where adjoining development is nearer the bluff edge, or in special cases where a public facility is required to serve the public health, safety, and welfare."

b. Policy 8.5:

"Minimize the number of structures located in open fields and grassland areas; require that structures be designed in scale with the rural character of the region, and that they be clustered near existing and natural or man-made vertical features."

c. Policy 8.10:

"Replace vegetation removed during construction with plant material (trees, shrubs, ground cover) which are compatible with surrounding vegetation and is suitable to the climate, soil, and ecological characteristics of the area.

d. Policy 8.12c.:

"Locate and design new development and landscaping so that ocean views are not blocked from public viewing points such as public roads and publicly owned lands."

e. Policy 8.13d.:

"Encourage new buildings to incorporate architectural design features found in the historic buildings of the community (see inventory listing), i.e., clean and simple lines, precise detailing, steep roof slopes, symmetrical relationship of windows and doors, wood construction, white paint, etc. Require remodeling of existing buildings to retain and respect their traditional architectural features, if any.

f. Policy 8.15:

"Prevent development (including buildings, structures, fences, un-natural obstructions, signs, and landscaping) from substantially blocking views to or along the shoreline from coastal roads, roadside rests and vista points, recreation areas, and beaches."

g. Policy 8.16a.:

"Use plant materials to integrate the man-made and natural environments and to soften the visual impact of new development."

h. Policy 8.18a.:

"Require that new development be located, sited, and designed to fit the physical setting, so that its presence is subordinate to the preexisting character of the site, enhances the scenic and visual qualities of the area, or maintains the natural characteristics of existing major water courses, established and mature trees, or dominant vegetative communities."

i. Policy 8.21 regulates the design and location of commercial signs.

j. Policy 8.22 requires new utility lines within State Scenic Corridors to be installed underground, unless a specific exception is granted by the Planning Commission on the basis of constraints posed by topographic features.

3. Project consistency with Visual Resource policies:

Six of the nine proposed guest units are located within an area of the site which was previously developed with 4 buildings that were a component of an oyster farm, one of which has already been removed. The existing buildings are very utilitarian in nature and design, and are not considered an asset to the visual qualities of Pigeon Point. While the proposed removal of 3 of these buildings will clearly be an asset to the visual resources at Pigeon Point, the new development proposed in this area will be taller than the existing development, thereby increasing its visibility from the public beach area and adjacent public roads.

The project also proposes to utilize an existing 1,800 square foot building as storage/maintenance building, the siding of which will be replaced in order to match the new development. Replacing the siding of this building will not, however, adequately address the architectural design considerations required by LCP policy 8.13d. and 8.18a.. This is primarily due to the fact that the roof of the existing building is almost flat, and contains 6 large bubble shaped skylights which are incompatible with the design of the proposed development and the historic buildings of the surrounding area. It may be possible to resolve this visual incompatibility by replacing the roof of this building, or constructing a false roof over the exiting one. Special Condition 3 therefore requires final project plans to address this design consideration, and be submitted for Executive Director review and approval.

The remaining three units proposed as a component of this project are located on the eastern side of the existing access road to the beach, in an open space area of the parcel which has not been previously developed. These units will result in the blockage of significant ocean views

available from Pigeon Point road, and will also be clearly visible from the adjacent public beach area, inconsistent with LCP policies 8.4b., 8.5, 8.12c., and 8.15.

The adverse visual impact of this component of the proposed development was acknowledged by the County staff report and Negative Declaration prepared for this project, which proposed to mitigate this impact with the construction of a public viewing platform. However, implementation of this mitigation measure was not required by the County's conditions of approval, and has since been removed from project plans.

Due to the unmitigated significant adverse visual impacts resulting from the project, special condition 3a. requires the submission of final project plans which include modifications to the maintenance/storage building consisting of a change in the pitch of the roof, removal of the skylights or screening the skylights from public view, and similar design characteristics needed to make the structure resemble similarly-sized support buildings associated with comparably situated traditional lighthouses. In addition, Special condition 3e. requires the permitee to submit final plans which include a public viewing area in the location of the public viewing platform required by the Negative Declaration adopted by the County of San Mateo, as mitigation for the visual impacts resulting from Phase III of the development.

Another visual resource issue associated with the proposed project is LCP landscaping requirements. While the County's approval of the proposed project included landscaping, the applicant has recently proposed to delete landscaping from the project proposal. The elimination of landscaping is clearly inconsistent with LCP policies 8.10 and 8.16a. previously cited, which require vegetation removed during construction to be replaced with suitable plant materials, and use of landscaping to soften the visual impact of new development. As a result, Special Condition 7 requires a landscape plan responding to these requirements to be submitted fro Executive Director review and approval.

The remaining issues regarding project consistency with LCP visual resource protection policies, have to do with project fencing, and utility lines. The submitted project plans do not identify the type of fencing that will be used, nor do they address the LCP requirements that new utility lines be installed underground. These issues will be resolved during the Executive Director's review of final project plans, as required by Special Condition 3.

4. Conclusions:

The subject project is proposed within an area of significant visual resources, and must therefore be designed and constructed in strict adherence to the visual resource component of the San Mateo County LCP. As the above analysis indicates, the subject project will result in the beneficial visual impact of removing existing warehouse type buildings that are incompatible with surrounding historical structures. However, the new development proposed will be taller than the existing buildings, increasing their visibility from Whaler's Cove beach and Pigeon Point Road. As proposed, the project will also result in adverse impacts to visual resources by increasing the visibility of development from the adjacent public beach area, covering undeveloped open space lands, and blocking significant coastal views available from Pigeon Point road that are currently unobstructed. Other visual impacts include: design incompatibilities between the proposed use of an existing warehouse and the surrounding historical buildings;

the complete lack of landscaping; and, the possible impairment of views by fencing, signs, or overhead utilities for which no plans have been provided.

The most significant visual impact associated with the proposed project is the blockage of significant coastal views available from Pigeon Point Road that would result from the development of the three units on the undeveloped east side of the beach access gully, as well as the visibility of these units from the adjacent Whaler's Cove public beach. Considering the significant adverse visual impacts resulting from these units, special condition 3e. requires final plans to include a public viewing area as mitigation, consistent with the Negative Declaration adopted by the County.

Other Special Conditions attached to this permit address the remaining visual impacts by requiring Executive director review and approval of final project plans, including landscaping, signing, fencing, and utility plans, which must respond to these requirements. Only with the implementation of these conditions can the project be found to be consistent with the Visual Resource Component of the San Mateo County certified LCP.

I. Public Access and Recreation:

1. Background:

As described in Part IV.C. of this staff report, the site on which the subject project is located contains the only safe accessway to the adjacent Whaler's Cove beach, which according to a settlement agreement reached between the State of California, the State Lands Commission, the Coastal Commission, and the property owners, is owned by the State of California. Other than this abandoned road, the only means of accessing this beach is by boat, or only by the most adventurous at low tides from County owned land south east of the property, which provides an unofficial, hazardous trail down to the intertidal area southeast of Whaler's Cove.

The unique characteristics of Whaler's Cove beach make it an attractive place for coastal access and recreation activities, including swimming, diving, sunbathing, fishing, and boating. The qualities of this beach which make it so attractive for the above activities include: shelter from strong winds, waves, and ocean currents; the ability to transport a small boat from the nearby public roadway and launch it in a protected area; and the opportunity to observe tidepools and marine life, including migrating whales. Other unique features which have made this beach a popular destination for educational groups ranging from elementary schools to university students and elder hostels, include: its rich history of maritime and whaling activities; the biological productivity of the intertidal and offshore marine environment; and the unique geologic characteristics of the Pigeon Point formation.

Attached to the previous staff report distributed to the Commission at the April, 1996 hearing, were examples of letters received from fisherman, divers, school groups, and other members of the public, which expressed that the unique characteristics of this beach provide coastal access and recreation opportunities for the public that are unavailable elsewhere. Over 200 of these letters to the Commission and Commission staff, stressing the importance of public access to this beach, were received.

Attachment 1

The project site, including the accessway to Whaler's Cove beach, is subject to a settlement agreement which resolves issues of implied dedication to the general public (i.e., whether the public, by virtue of historic use, has obtained an easement over some portion of the property), and what portion of the site is subject to the public trust. According to the terms of this settlement agreement, the beach area of the project site has been conveyed to the State of California, under the jurisdiction of the State Lands Commission. Regarding the issue of implied dedication relevant to the path across the subject property which leads to the beach, both the State of California and the County of San Mateo have acknowledged and agreed that they are precluded from finding that the existence or possible existence of implied dedication rights in the site constitute a basis for imposing any public access conditions.

The settlement agreement does not, however, bar the Coastal Commission or the County of San Mateo from considering other public access issues which are not, in whole or in part, based on any claim of implied dedication. The County and the Coastal Commission can impose appropriate public access conditions that are based on issues outside the scope of implied dedication.

At the County hearing on this project, the applicant volunteered to incorporate limited public access provisions across the subject property. As worded by the County's conditions of approval, this component of the project includes "limited access as provided herein, to school groups and fishermen over the path designated by the owner on the owners property from Pigeon Point Road to the public beach, provided that any such group or fishermen have entered into a written agreement with the owner providing reasonable terms and conditions governing such access, including without limitation release of any liability of owner, reasonable insurance requirements, and regulations of hours of use and minimizing disturbance of project guests. No access shall be permitted when any pinnipeds are present on the beach. Owner shall not be required to permit access to more than one school group per week in months July through December and more than two school groups per week in months January through June. Fishermen shall be limited to launching portaged boats for pole and line fishing from the boats."

2. Coastal Act Policies:

a. Coastal Act Section 30212 states, in relevant part:

"(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:"

"(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,"

"(2) adequate access exists nearby, or"

"(3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway".

b. Section 30210 states:

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

c. Section 30214 states, in relevant part:

"(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:"

"(1) Topographic and geologic site characteristics."

"(2) The capacity of the site to sustain use and at what level of intensity"

"(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to the adjacent residential uses."

"(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter."

"(b) It is the intent of the legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. ..."

3. LCP Requirements:

The following access policies of the San Mateo County LCP apply to the subject project:

a. Policy 10.1, "Permit Conditions for Shoreline Access":

"Require some provision for shoreline access as a condition of granting development permits for any public or private development permits (except as exempted by Policy 10.2) between the sea and the nearest road. The type of provision, the location of the access and the amount and type of improvements required shall be consistent with the policies of this component."

b. Policy 10.13:

"Require the establishment and improvement of vertical (trails) and lateral (shoreline destinations) public access and parking consistent with Policy 10.22(e) as a

condition of approval for obtaining a permit for commercial and industrial development along the shoreline, except where the establishment of access would disrupt activities which are essential to public safety."

(note: Policy 10.22(e), referenced by the above policy, calls for the provision of trails linking parking facilities to nearby shoreline destinations that do not have existing parking facilities because such facilities would be inconsistent with other parking policies.)

c. Policy 10.22d.:

"New commercial or industrial parking facilities of 10 or more spaces within 1/4 mile radius of an established shoreline access area shall designate and post 20% of the total spaces for beach user parking between 10:00 a.m. and 4:00 p.m."

d. Policy 10.30:

"Requirement of Minimum Access as a Condition of Granting Development Permits"

"a. Require the provision of shoreline access for any private or public development between the sea and the nearest public road."

"b. Base the level of importance and development of access support facilities at a site on the Locational Criteria and Development Standard Policies and the Site Specific Recommendation contained in Table 10.6."

note: Table 10.6 lists the subject site under "Beaches Along Pigeon Point Road", and contains the following site specific recommendations: "consolidate bluff trails"; "develop interpretive educational displays discussing the fragile nature of the tidepools at Pigeon Point and prohibiting removal of species"; "construct short staircases to beaches"; "landscape parking area at Yankee Jim Gulch"; and, "include public access in all plans for the development of Pigeon Point Lighthouse". This table also recommends, for special consideration, to "close Pigeon Point Road to vehicular traffic. Retain existing right of way for use by bicycles, hikers, and limited traffic to the lighthouse".

"c. Base the responsibility and requirements of the property owner for the provision of this access on: (1) the size and type of development, (2) the benefit to the developer, (3) the priority given to the type of the development under the Coastal Act and (4) the impact of the development, particularly the burden the development would place on the public right of access to and use of the shoreline. Determine the minimum requirements according to the following:"

"...(3) For large agricultural and non-agricultural developments (i.e., developments of more than one single family house, major subdivisions, commercial and industrial developments, and large greenhouses and agricultural processing plants), require

the property owner to provide, improve, and maintain shoreline access consistent with the policies of this component."

Note: Since the subject development constitutes a non-agricultural commercial development, part 3 of Policy 10.30c. applies to this project.

e. Policy 10.31:

"Require additional access areas, improvements or operation and maintenance beyond the minimum when a project decreases the existing or potential public access to the shoreline by: (1) removing or infringing upon an area which has historically been subject to public use without permission or effective interference by the owner and/or (2) decreasing the amount of sandy beach by building seawalls, etc., and/or (3) removing future recreation opportunities by committing lands suitable for recreational development to uses which are not assigned priority for use of oceanfront land by Section 30222 of the Coastal Act."

4. Precedential Court Decisions:

The application of the above Coastal Act and San Mateo County LCP access policies must be taken in context with important court decisions which have set a precedent regarding the implementation of these policies. The following discussion summarizes the relationship between the proposed project and applicable court decisions:

a. Nollan vs. California Coastal Commission:

The applicable legal point made in the Nollan decision was that there needed to be a direct connection, or "nexus" between the impact caused by a project and the mitigation proposed to address it. This decision requires that in order for the Commission to impose an access condition on the subject development, it must find that the project will result in an adverse impact to public access which must be mitigated.

b. Dolan vs. City of Tigard:

The Dolan decision refined the Nollan decision discussed above by finding that, in addition to limiting mitigation measures to those that have a direct nexus to the impact of the project, such mitigation measures must be "roughly proportional" to the extent of the impact. As a result, in order to impose a condition requiring public access as a component of project approval, the Commission must find the benefits of such a condition are equivalent to the project impacts on public access which the condition is intended to offset.

5. Analysis:

In order to determine the applicability of the Coastal Act and LCP access policies previously identified, the degree to which the proposed project will impact public access must be determined, in light of the precedents set by the above court decisions. In this particular case,

this analysis must also consider, and be consistent with, the terms of the Settlement Agreement which resolved the issue of implied dedication, and to which the Coastal Commission was a party.

As described in Part IV.J.1. of this report, the terms of the Settlement Agreement preclude the State of California and the County of San Mateo from finding that the existence or possible existence of implied dedication rights at the site constitutes a basis for imposing any public access conditions. This effectively bars the Commission or County from asserting that the project will adversely impact public access by blocking the accessway to the beach located on the subject property.

The settlement agreement does not, however, bar the Coastal Commission or the County of San Mateo from considering other public access issues which are not, in whole or in part, based on any claim of implied dedication. The County and the Coastal Commission can impose appropriate public access conditions that are based on issues outside the scope of implied dedication.

In light of the terms of the Settlement Agreement, the only impacts that the project could have on public access and recreation opportunities would be intensifying the use of Whaler's Cove beach, and adversely affecting the sensitive habitat areas which is one of the reasons why this beach is an attractive destination. Because the issue of project impacts on sensitive habitat areas are addressed in detail in Section IV.E. of this report, the following analysis focuses on whether or not an intensified use of the site will affect the public access and recreation opportunities. Such an analysis is mandated by Coastal Act Section 30214, which requires that the capacity of a site to sustain a certain level of intensity of use be considered. This analysis is also required by LCP Policy 10.30c., which bases requirements for public access on "the impact of the development, particularly the burden the development would place on the public right of access to and use of the shoreline", among other factors.

The increased intensity of use of Whaler's Cove beach that will result from the subject project, and the burden that this will place on the public right of access to, and use of, shoreline areas is directly related to the project's density of development. As conditioned, the project is limited to 9 guest units, which would introduce approximately 18 visitors per day, and a smaller number of dogs, to the beach during periods of high occupancy. It is likely that these visitors will recreate on the beach for limited periods of time, and at different times of day, thereby reducing the number of project guests that are on the beach at one time. This minor addition of visitors to the beach should not significantly affect the public's ability to access or recreate on this beach.

6. Conclusions:

The minor increase in the intensity of beach use that will result from the subject project will not reduce the public's ability to access or recreate on Whaler's Cove beach, and therefore does not provide a nexus for a public access requirement pursuant to the Nollan decision. Similarly, a requirement for public access would not be proportional to the insignificant impact of a few additional beach users, and can not be pursued consistent with the precedent set by the Dolan case. Furthermore, because the project interferes with a coastal access route which the public has no established legal right to use, the Commission does not have a basis for requiring public access across the subject site as a condition of development approval.

J. Violations:

Violations of the Local Coastal Program have taken place on the subject property in the recent past. These include:

a. Erection of a fence without benefit of a coastal development permit;

b. Use of the agricultural storage building as a guest residence/rental; and,

c. Demolition of a building without benefit of a coastal development permit.

In response to the first two violations mentioned above, the County of San Mateo required the applicant to apply for coastal development permit for the fence, and to re-establish the agricultural storage building to its permitted use. An "after the fact" coastal development permit exemption was subsequently issued by the County for the fence.

With respect to the recent demolition of an existing building on the site, the County issued a demolition permit in January, 1996, but did not issue the required coastal development permit. This violation has yet to be resolved.

Although violations have taken place on the subject property prior to Commission review of this project, consideration of this project has been based solely on the project's conformance with applicable policies of the San Mateo County certified LCP and the Coastal Act. The Commission's action on this permit is without prejudice, as if the unpermitted development had not previously occurred. This action does not, however, constitute a waiver of any legal action with regard to any violation of the Coastal Act that may have occurred.

K. Relationship to Local Permits:

San Mateo County issued a coastal development permit for this project (CDP 95-0022), along with a Planned Agricultural Permit (PAD 95-0008) and Architectural Review (AR 95-0007), subject to 29 conditions attached to this report as Exhibit B. By finding "substantial issue" on April 10, 1996, the Coastal Commission stayed San Mateo County's coastal permit approval. The Coastal Commission approved a coastal development permit for this project, subject to the stated conditions, on July 11, 1996. The conditions of approval adopted by the Commission incorporate all of the local conditions of coastal permit approval. While many of these conditions overlap, they are internally consistent, and can be implemented without contradiction. Except as they may require modification to conform with the Commission's action, the other County permits remain valid; however, no development can commence until the applicable terms of this Coastal Development Permit are satisfied. Any future proposed changes to this project or the conditions of approval must be submitted to the Coastal Commission for approval.

L. California Environmental Quality Act (CEQA):

The County of San Mateo County adopted a Negative Declaration for the subject project on December 13, ~~1996~~ 1995 (SM). This Negative Declaration included six mitigation measures designed to ensure that the proposed development would not have a significant impact on the environment.

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The County's conditions of approval for this project, which are incorporated into the conditions of approval for this permit, do not, however, incorporate, or require compliance with, two of the six mitigation measures. These include:

"3. The applicant shall either provide for public access on the proposed stairway to the beach, or the stairway shall be removed from the plan", and

"4. If the applicant eliminates the stairway to the beach, a public viewing point shall be established on-site prior to the completion of Construction of Phase III of the project".

As previously stated, the applicant has removed the proposed stairway to the coastal bluff (as opposed to the beach) from the project plans, thereby complying with Mitigation 3 of the Negative Declaration. Mitigation 4, intended to provide compensation for the visual impacts of the project, is maintained by special condition 3e. of this permit, which requires that final plans include a public viewing area in the location of the public viewing platform required by the Negative Declaration.

Other potentially significant environmental impacts which may result from project implementation have been mitigated to an insignificant level by the special conditions attached to this permit. This is documented in detail throughout the text of this staff report. As a result, approval of this permit, as conditioned, will not have a significant adverse impact on the environment within the meaning of the California Environmental Quality Act.

COASTAL DEVELOPMENT PERMIT

STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

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EXHIBIT NO. A
APPLICATION NO. A-3-SMC-96-08
McKenzie
Standard Conditions

access to the beach area. The "gully," which lies between Phases I and II and Phase III of the project, and which has been the subject of claims of public and private access, will not be developed. The status of this "gully," and any other claims of implied access over the property, is the subject of an action to quiet title brought by the owners of the property against the State of California, the State Lands Commission, the Coastal Commission and the County of San Mateo. This lawsuit, entitled McKenzie v. County of San Mateo, et al., will resolve any claims of implied public access over the beach area and the upland property. If, for any reason, it is judicially determined that such rights exist, the proposed development would not impede such access. Further, the proposed development would not impede any private prescriptive rights that may be perfected in the future by private individuals or groups.

c. Development of Phases I and II will not result in impacts to coastal views in that the site for these phases is currently developed with warehouse structures of the approximate size and location as the proposed development. For this reason, no conditions are necessary as to Phases I and II to protect coastal views. Phase III of the project, however, will occur on a site that is not currently developed, and thus will result in a blockage of coastal views.

Attachment 1

Regarding Architectural Review:

8. Found that the project, as described in the application and materials and as conditioned, is in compliance with the Architectural and Site Control within the Cabrillo Highway Corridor.

EXHIBIT NO. B
APPLICATION NO. A-3-SMC-96-08
McKenzie
Local Conditions

CONDITIONS OF APPROVAL

Planning Division

1. This approval is for the nine one-bedroom units, well, parking area and conversion of the warehouse unit into a manager's office, repair of a bluff top stairway and installation of utilities. Any major modifications to this project shall be subject to subsequent review and planning permits.

2. If any significant cultural materials are exposed or discovered during site clearing of site work, or during subsurface construction, operations shall stop within ten (10) feet of the find immediately and a qualified archaeologist retained for professional recommendations. Significant artifacts or features include, but are not limited to, aboriginal human remains, chipped stone, groundstone, shell and bone artifacts, concentrations of fire cracked rock, ash, charcoal, shell, and bone; and historic

features such as privies or building foundations. Appropriate mitigation of significant cultural resources may include the systematic scientific excavation and removal of the cultural resource. Any artifacts or samples collected, as part of the initial discovery, monitoring or mitigation phase must be properly conserved, cataloged, analyzed, evaluated, and curated along with associated documentation in a professional manner consistent with current archaeological standards. All artifacts and samples collected shall be submitted to the San Mateo County Historical Museum for curation. The project archaeologist shall submit all recommendations for mitigation to the Planning Division for review and approval. The Planning Division will require any recommended mitigation or conditions contained within the project archaeologist's report to be incorporated into the project. All documentation prepared during the initial discovery, monitoring, or mitigation phase shall be submitted to the Planning Division and the San Mateo County Historical Museum.

3. The applicant is required to retain the services of a qualified Archaeologist and to implement an archaeological monitoring program during the initial soil exposure after the following removal and prior to the issuance of any building permit(s): (1) vegetative removal, concrete pad(s) removal, existing building(s) removal, and parking and driveway encroachment areas for Phase I, (2) vegetative removal in the area proposed for Phase II building including the parking and driveway encroachment areas east of the main ravine on the property, and (3) waterline construction, to prepare a professional general reconnaissance report and recommended mitigation for archaeological resources for those areas identified above. All documentation prepared during the initial discovery, monitoring, or mitigation phase shall be submitted to the Planning Division and the San Mateo County Historical Museum. The project archaeologist shall submit the general reconnaissance report and recommended mitigation to the Planning Division for review and approval. The Planning Division will require any recommended mitigation or conditions contained within the project archaeologist's report to be incorporated into the project. All artifacts and samples collected shall be submitted to the San Mateo County Historical Museum for curations. If during this phase of monitoring and report preparation the project archaeologist determines the existence of significant cultural resource(s), the applicant shall retain the services of a qualified historian or historical archaeologist to prepare a focused historical research and report for the McKenzie Pigeon Point property to detail the history of land use on the property and the association with the significant cultural resource(s) as required by this condition.

4. Owner shall permit limited access as provided herein, to school groups and fishermen over the path designated by owner on the owner's property from Pigeon Point Road to the public beach, provided that any such group

Attachment 1

Exhibit B p.2

[redacted]

5. Storm water runoff from the site shall be controlled so as not to increase the velocity of the runoff and to maintain the same or improved quality of the surface runoff from this site. Drainage improvements shall be assessed at the building permit stage.

6. Prior to completion of construction of Phase I of the project, the applicant shall record the "Right to Farm" statement, pursuant to Local Coastal Program Policy 5.15.a (Mitigation of Land Use Conflicts), on the deed for the property.

7. The applicant shall submit a night lighting plan of the site to the Planning Director for review and approval prior to installing outdoor lighting on this site. The outdoor lighting shall be designed to minimize glare and visibility from the right-of-way along Highway 1, and shall not directly illuminate areas beyond the project site. The lights shall be located as close to ground as possible with the use of motion sensitive lighting encouraged where necessary.

8. Prior to completion of the building permit, the applicant shall submit a sample of the exterior color and materials to be used on the units for review and approval by the Planning Director. No reflective or bright colors shall be permitted.

9. All landscaping installed by the applicant shall consist of native vegetation. Prior to issuance of the building permit for Phases I and II, the applicant shall provide a landscape plan for review and approval by the Planning Director. Landscaping shall be installed prior to completion of construction of Phases I and II.

10. Exterior trash receptacles shall be screened from view from off-site locations. Vegetation or fencing shall be employed to screen dumpsters and trash receptacles.

11. Prior to installation of signs on this site, the applicant shall submit a sign program to the Planning Director for review and approval.

Attachment 1
Exhibit B, p.3

12. The water storage tank shall be screened from public view. Prior to issuance of a building permit for the water storage tank, the applicant shall submit a screening plan consisting of either native vegetation or a wooden fence to screen the tank from public view.

13. The applicant shall be responsible for assuring that 1) all dogs outside of guest units on the site shall be leashed or contained; and 2) no people or their dogs shall be allowed access to the beach when marine mammals are present.

14. The applicant shall provide to guests, and prominently display in each unit, a "right to farm" notice which informs them of the inconvenience which may accompany residing adjacent to agricultural operations. This notice shall be to the satisfaction of the Planning Director.

15. If the applicant fences the property, open fencing shall be utilized around the perimeter of the site to allow visibility. Fencing around courtyards adjacent to units may be closed.

Department of Public Works

16. Prior to issuance of the building permit, the applicant will be required to provide payment of "roadway mitigation fees" based on the square footage (assessable space) of the proposed bed and breakfast operation per Ordinance #3277.

17. The provisions of the San Mateo County Grading Ordinance shall govern all grading on and adjacent to this site. Unless exempted by the Grading Ordinance, the applicant may be required to apply for a grading permit upon completion of the County's review of the development plans.

18. The applicant shall submit a driveway "plan and profile" to the Department of Public Works, showing the driveway access to the parking lot areas complying with County standards for driveway slopes (not to exceed 20%) and to County standards for the driveways (at the property line) being the same elevation as the center of the access roadway (Pigeon Point Road). The driveway plans shall also include and show specific provisions and details for handling both the existing and the proposed drainage.

19. No construction work within the County right-of-way shall begin until Public Works requirements for the issuance of an encroachment permit, including review of the plans, have been met and an encroachment permit issued.

Attachment 1

Exhibit B, p.4

Building Inspection Section

20. Fire sprinklers shall be required to be installed in each unit.

21. The applicant shall submit plans for review and approval of a demolition permit and building permit prior to commencement of demolition of existing structures or construction of new structures on site.

22. A survey of the site shall be required for a building permit.

Fire Marshal

23. Upon submittal of a final site plan and building plans, the Fire Marshal shall review the plans to establish a "fire lane" in the parking area serving six units.

24. Upon submittal of building plans, the Fire Marshal shall determine the quantity of water storage, the size of the water mains, location of hydrants and pressure pump requirements for fire suppression needs.

25. The applicant shall design emergency pedestrian access around the units to the satisfaction of the Fire Marshal.

26. All chimneys shall have an approved spark arresting device installed prior to final approval of the building permit to the satisfaction of the Fire Marshal.

Environmental Health Division

27. The applicant shall submit a plot plan showing the existing and proposed septic drainfield and water supply to the Environmental Health Division for review and approval prior to issuance of a building permit. The septic system shall be required to meet Environmental Health standards prior to issuance of the building permit.

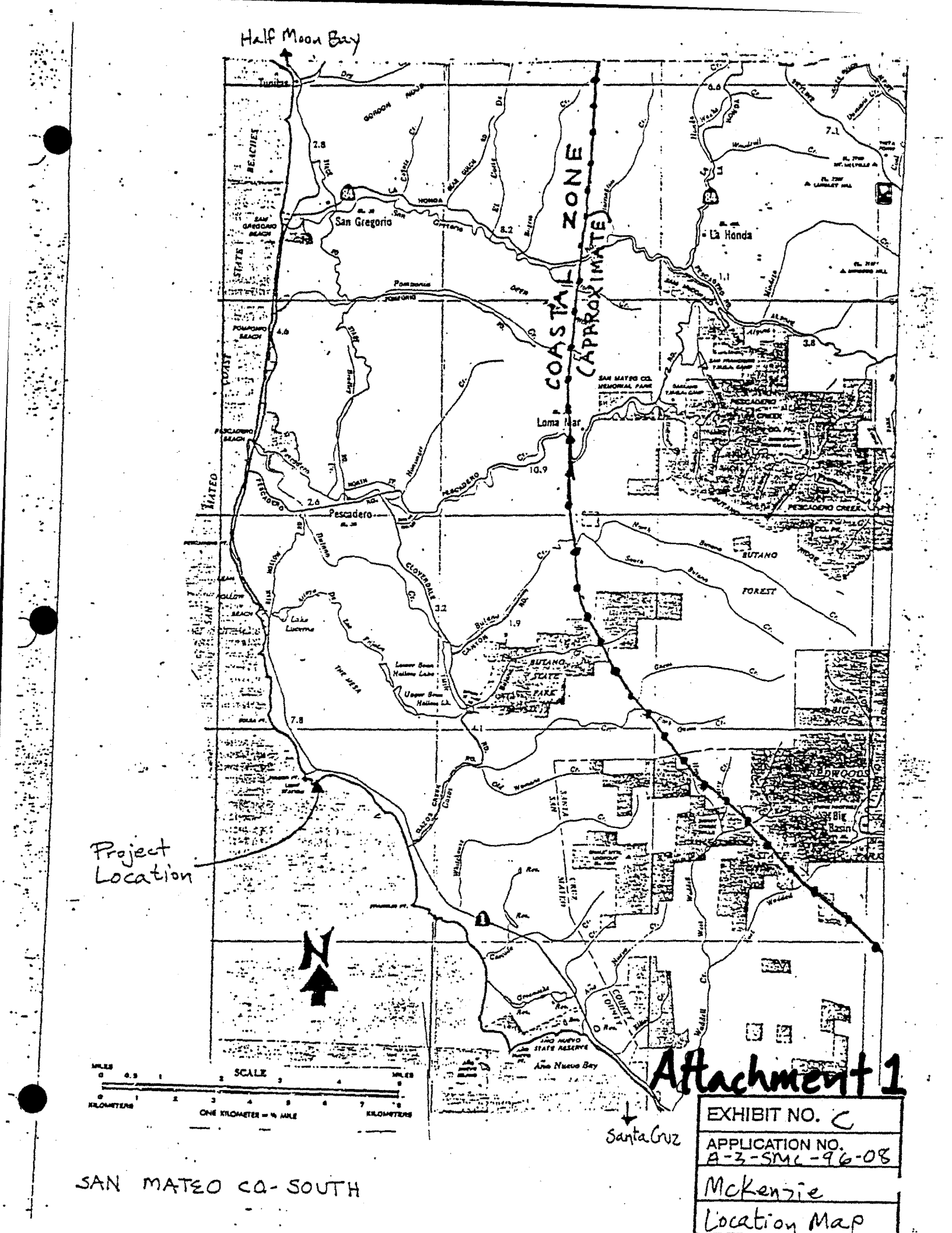
28. The applicant shall submit water quality tests for the new and existing well to the Environmental Health Division for review and approval prior to issuance of the building permit.

Geotechnical Division

29. The applicant shall submit a geotechnical report for review and approval by the Geotechnical Division to ensure the stability of the proposed construction prior to issuance of a building permit for this project.

Any interested party aggrieved by the determination of the Planning Commission has the right of appeal to the Board of Supervisors within ten (10) days from

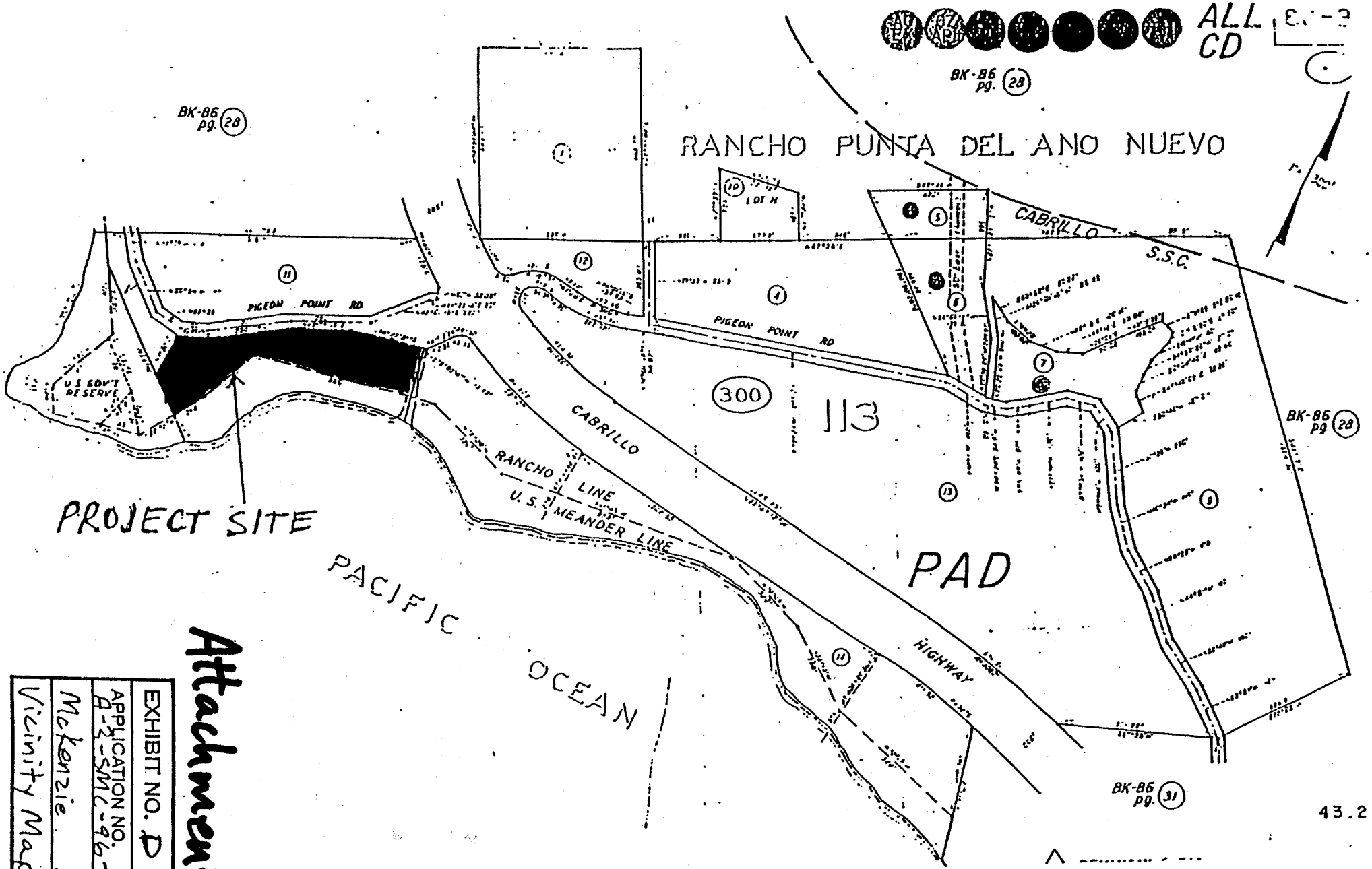
Attachment 1
Exhibit B, p.5



Attachment 1

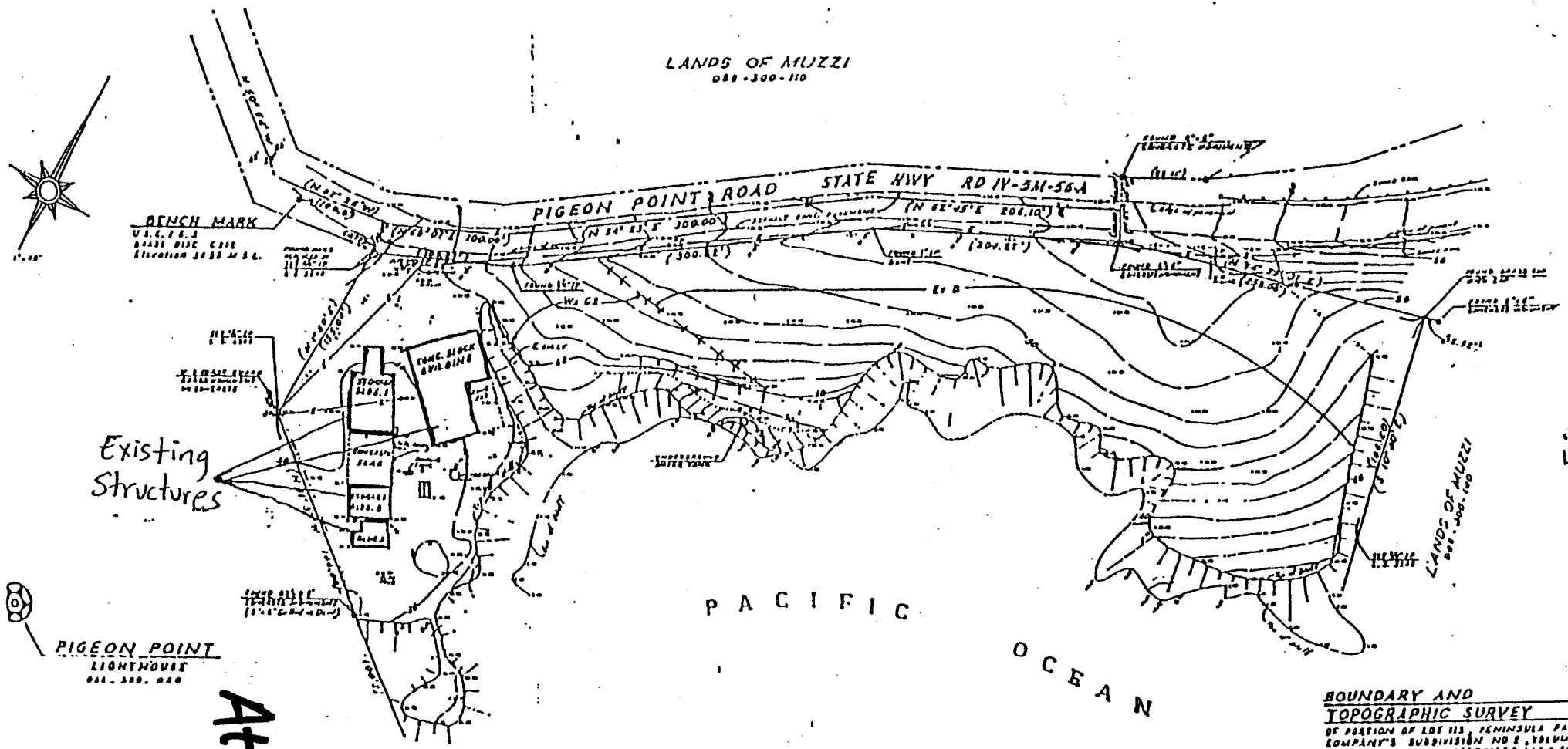
EXHIBIT NO. C
APPLICATION NO. A-3-SMC-96-08
McKenzie
Location Map

SAN MATEO CO - SOUTH



Attachment 1

EXHIBIT NO. D
APPLICATION NO. A-3-SMC-96-08
Mckenzie
Vicinity Map



Attachment 1

EXHIBIT NO. E
APPLICATION NO. A-3-SMC-96-08
McKenzie
Site Map

BOUNDARY AND TOPOGRAPHIC SURVEY

OF PORTION OF LOT 113, PENINSULA FARMS COMPANY'S SUBDIVISION NO 2, VOLUME 11 AT PAGE 28 AND AS DESCRIBED IN A DEED IN SAN MATEO COUNTY RECORDS, CALIFORNIA

APN 086-300-030

FOR:
JIM ZEITH
328 27TH AVENUE
SAN FRANCISCO, CA 94121
(415) 668-3481

NOTES:

1. Topographic features accurate ± two feet
2. Contours accurate to one half contour interval.
3. Es A = Elkhorn Sandy Loan Class 2 soil
4. Ws CE = Watsonville Sandy Loan Class 3 soil

Soil line interpolated from "Soil Survey San Mateo Area, California" Series 1958 No 13 Plate No 48

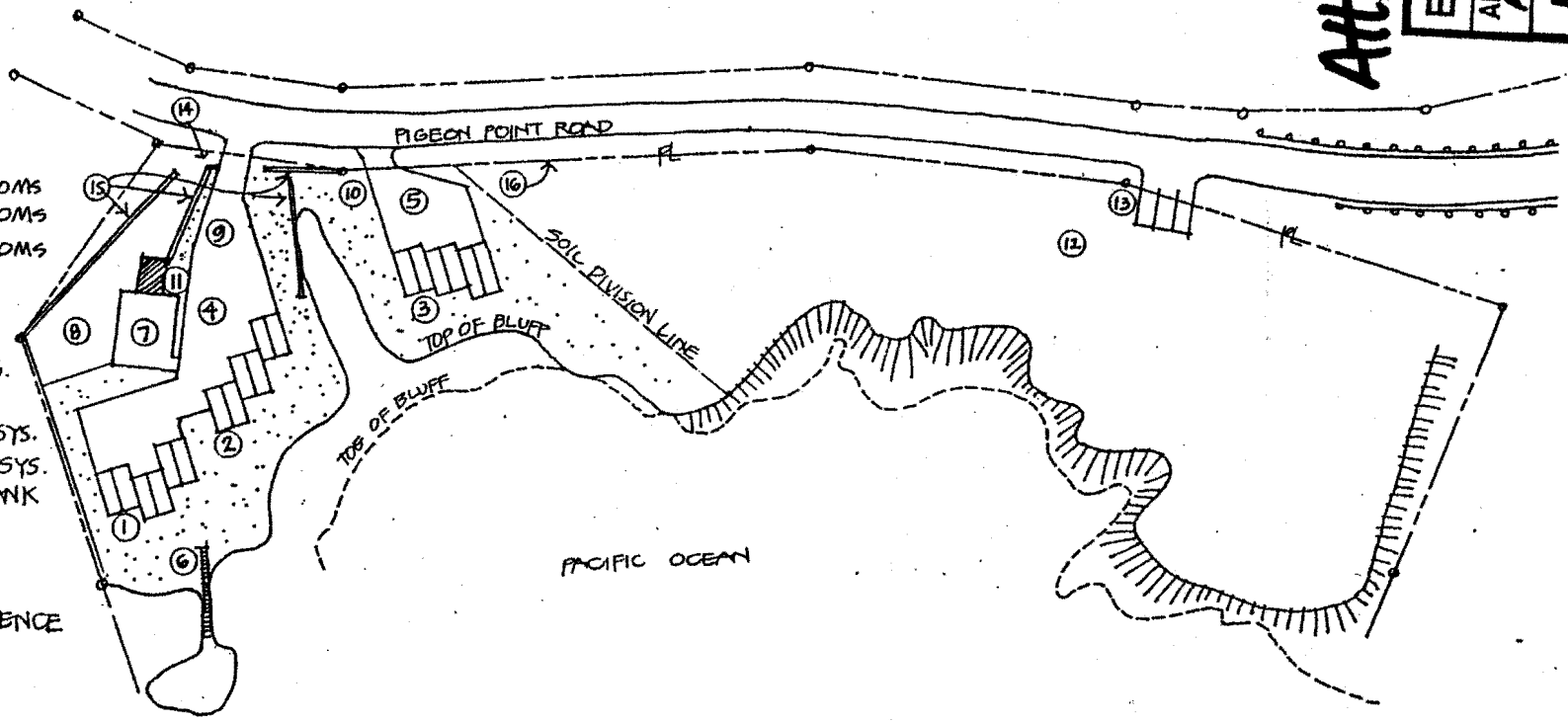
LEGEND:

- FENCE
- TOP OF BLUFF
- TOE OF BLUFF
- CENTERLINE
- PROPERTY LINE
- RIGHT OF WAY
- OVERHEAD ELECTRIC
- E FLOW LINE
- ( ) RECORD INFORMATION
- JOINT POLE
- POWER POLE

JOSEPH R. BEHNKE

Attachment 1

EXHIBIT NO. F
APPLICATION NO. A-3-SMC-96-058
Mckenzie
Site Plan



1 CLUSTER A - 3 ROOMS
2 CLUSTER B - 3 ROOMS
3 CLUSTER C - 3 ROOMS
4 PARKING/ACCESS
5 PARKING/ACCESS
6 REBUILT WALKWAY
7 MAINTENANCE BLDG.
8 SERVICE AREA
9 EXPANDED SEPTIC SYS.
10 SECONDARY SEPTIC SYS.
11 WATER STORAGE TANK
12 WELL LOCATION
13 PARKING - PUBLIC
14 SIGN LOCATION
15 EXISTING BOARD FENCE
16 WIRE/POST FENCE

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JUN 7 1996
CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

PIGEON POINT COUNTRY INN
921 PIGEON POINT ROAD, SAN MATEO COUNTY

SITE DEVELOPMENT

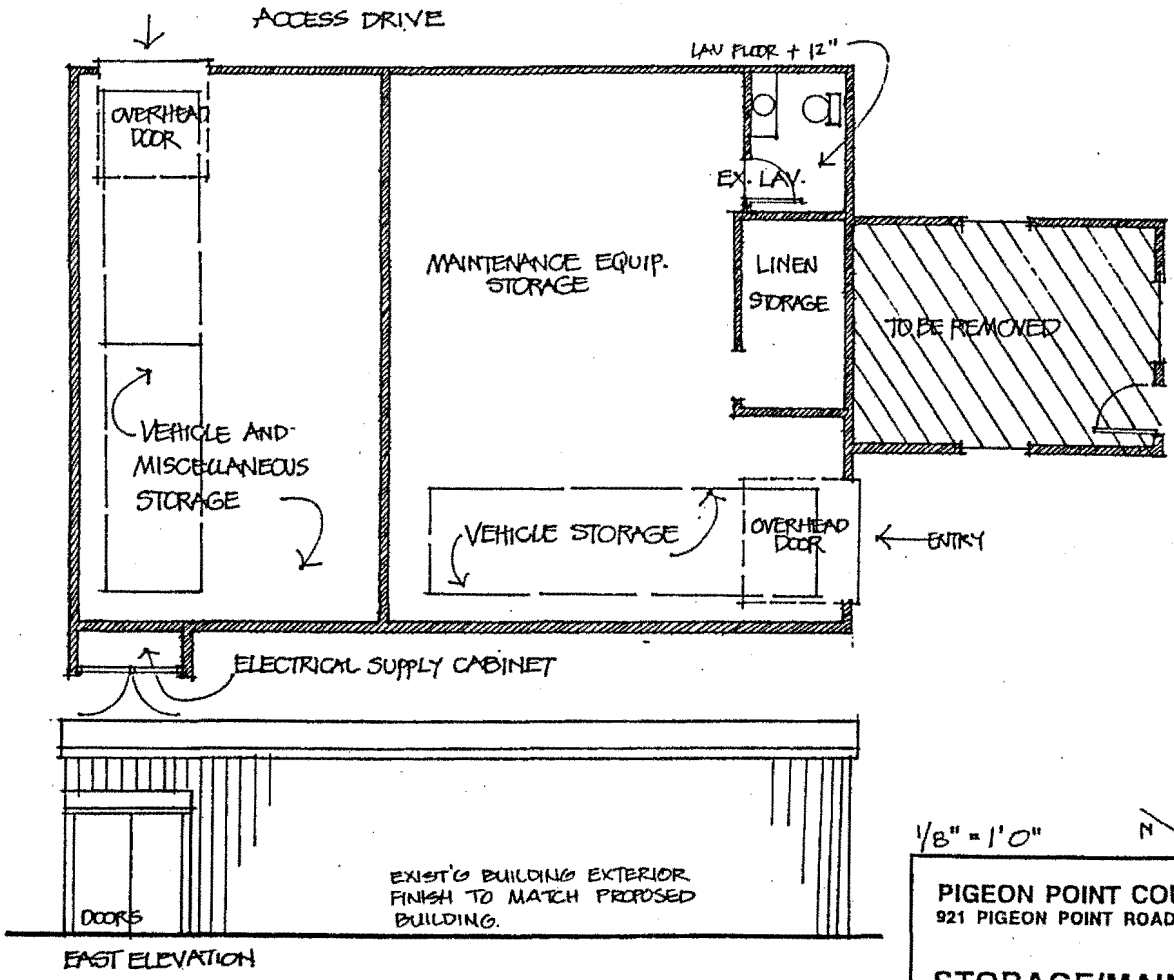
1

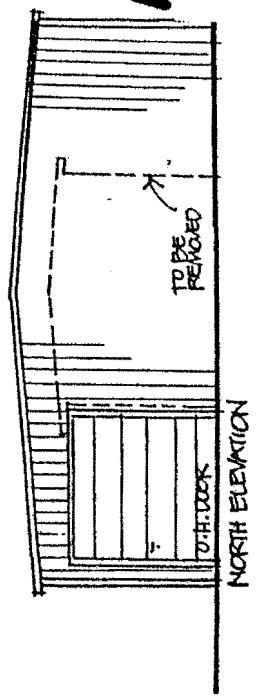
REV. MAY 96

HELLMUTH, OBATA + KASSABAUM, INC • SAN FRANCISCO • 415/243 0555 • FEB 1996

Attachment 1

EXHIBIT NO. G
APPLICATION NO. A-3-SMC-96-09
McKenzie
Storage Building





1/8" = 1'-0"

N

PIGEON POINT COUNTRY INN
921 PIGEON POINT ROAD, SAN MATEO COUNTY

STORAGE/MAINTENANCE BUILDING

9

REV. MAY 9

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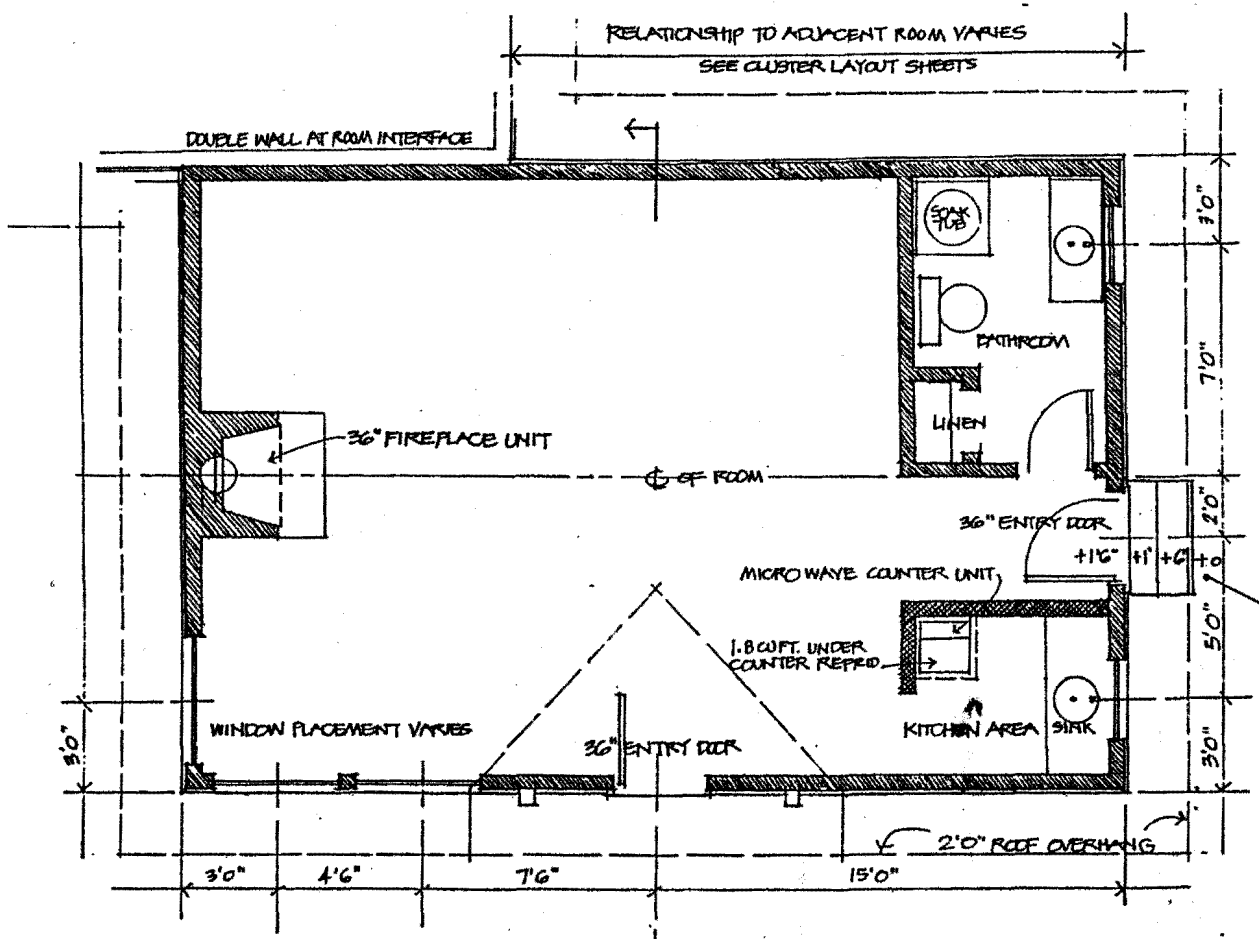
Attachment 1

EXHIBIT NO. H
APPLICATION NO. A-3-SMC-96-98
McKenzie
Unit Floor Plan



FINISH FLOOR IS 1'6" ABOVE GRADE OF SITE AT REAR ENTRY DOOR - TYP.

NOTE: LAYOUT OF ROOM IS TYPICAL AND WILL VARY ACCORDING TO PLACEMENT IN RELATIONSHIP TO OTHER ROOMS. SEE CLUSTER LAYOUT SHEETS 10,11 & 12 FOR VARIATIONS AND WINDOW PLACEMENT.

SECTION · SHEET 7

SEE SHEET 7 FOR ENTRY ELEVATION

SCALE 1/4"=1'0"

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PIGEON POINT COUNTRY INN
921 PIGEON POINT ROAD, SAN MATEO COUNTY

TYPICAL FLOOOR PLAN

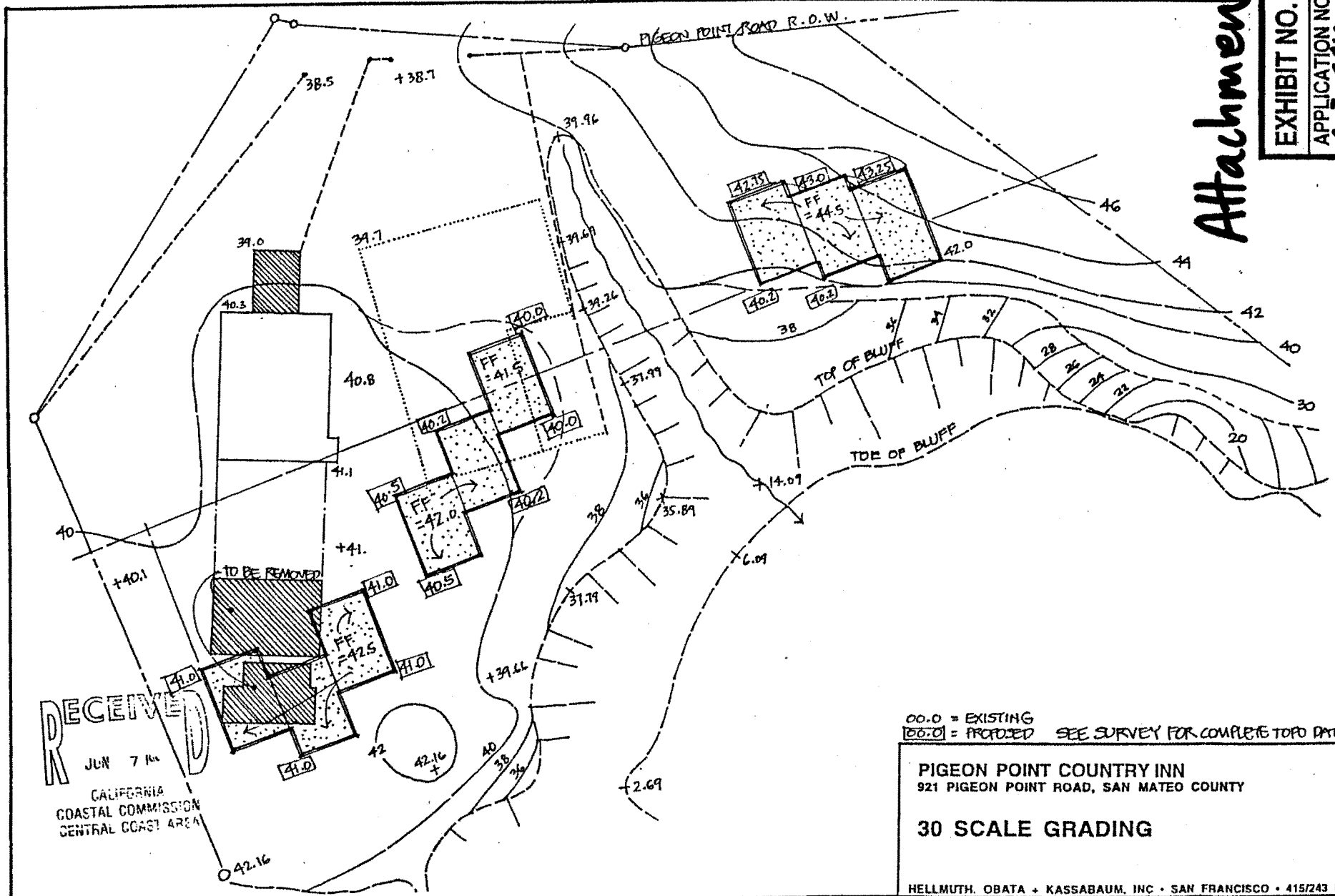
6

REV. MAY 96

HELLMUTH, OBATA + KASSABAUM, INC · SAN FRANCISCO · 415/243 0555 · FEB 1996

Attachment 1

EXHIBIT NO. 1
APPLICATION NO. A-3-SMC-96-08
McKenzie
Preliminary Grading



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PIGEON POINT COUNTRY INN
921 PIGEON POINT ROAD, SAN MATEO COUNTY

30 SCALE GRADING

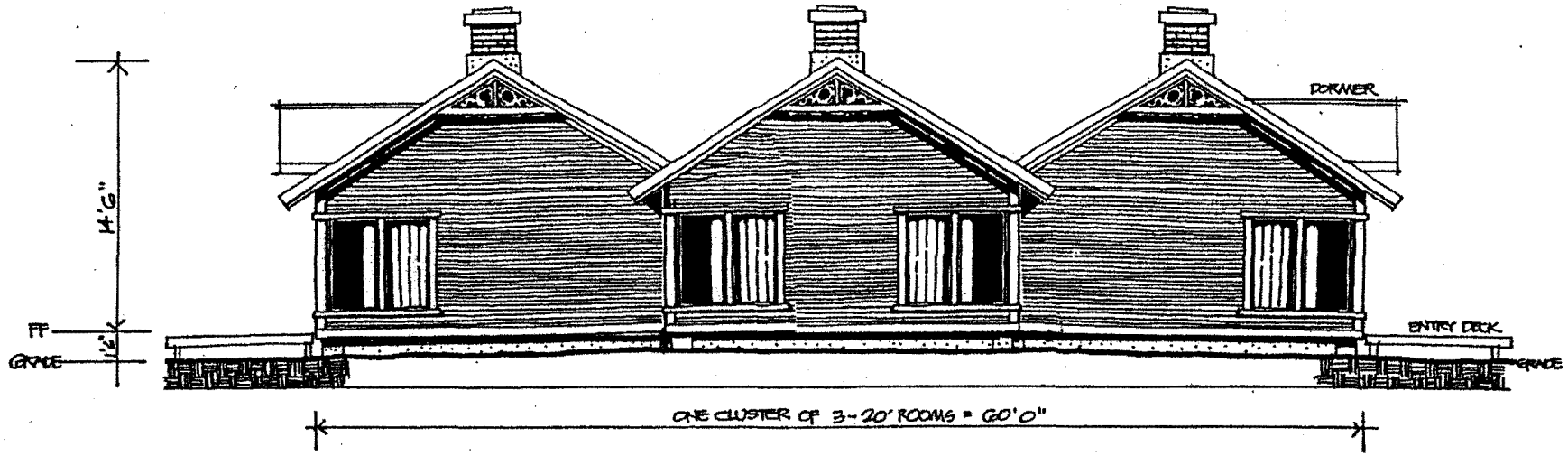
5

REV-MAY

HELLMUTH, OBATA + KASSABAUM, INC • SAN FRANCISCO • 415/243 0555 • FEB 19

Attachment 1

EXHIBIT NO. J
APPLICATION NO. A-3-SMC-96-08
McKenzie
3 unit Elevation



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JUN 7 ...
CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

NO SCALE

PIGEON POINT COUNTRY INN
921 PIGEON POINT ROAD, SAN MATEO COUNTY

ELEVATION

8

REV. MAY 96

HELLMUTH, OBATA + KASSABAUM, INC • SAN FRANCISCO • 415/243 0555 • FEB 1996

KLEINFELDER

WATER USE ASSESSMENT
PIGEON POINT COUNTRY INN
SAN MATEO COUNTY, CALIFORNIA

June 6, 1996

Attachment 1

05-96-68
21-339001

1 INTRODUCTION

Kleinfelder, Inc. has prepared this water use assessment for the proposed Pigeon Point Country Inn located at 921 Pigeon Point Road, San Mateo County, California. This water use assessment is a planning document for use by the owner and by the architects Hellmuth, Obata & Kassabaum, Inc., San Francisco, California.

The proposed Pigeon Point Country Inn will be located on a parcel of land located adjacent to the Pigeon Point Lighthouse. The property is described as a "portion of lot 113, Peninsula Farms Company's subdivision No. 2, volume 11 at page 28 and as described in O. R. 84101858, San Mateo County records, California".

This water use assessment will evaluate the projected water consumption for the proposed development of nine tourist units and one manager's office/storage area.

Attachment 1

Exhibit K, p.2

2 BACKGROUND

The proposed facility will consist of nine identically plumbed guest units, in three groups of three units, and one separate manager's office/storage area. The floor plan of the proposed development indicates that similar bathroom and kitchen facilities are planned for each unit. Each unit will comprise one shower, one toilet, one bathroom basin and one kitchen sink. The units will not include laundry facilities nor appliances such as dishwashers, water treatment, or washing machines. No saunas, hot-tubs, spas, swimming pools, irrigation for landscaping or fountains will be utilized at the proposed facility. Washing facilities such as for. automobiles or housekeeping are not considered in the assessment. Laundering will be conducted off-site.

A well has been constructed on the property. At the time of drilling and development, the well was airlift tested at the rate of 5 gallons per minute. This flow rate should only be used as a guide to determine the supply capacity of the well. A formal pump test including constant pumping and drawdown and recovery data will be conducted in order to evaluate the sustained supply capacity of the well.

Attachment 1

Exhibit K, p.3

3 WATER DEMAND

No generally recognized standards for water use in "country" inns are available that can be used as a guideline for design of this system. However, information for average and peak consumption in hotels and motels (including rooms with kitchens) was available from several sources including texts and publications (see reference section). Principal documents are publications by The Environmental Protection Agency (EPA) and "Rural Area Water Use Study" prepared for San Mateo County by Kleinfelder in 1991. Texts are Water Quality, Tchobanoglous and Schroeder, 1987 and Wastewater Engineering, Metcalf and Eddy, 1991.

Average Water Consumption

Review of the selected data is directed towards assessment of motel or hotel rooms with a double occupancy rate. These motel and hotel units have water usage similar to the guest units proposed in the architectural plans. This is based on one shower, one toilet, one washbasin, and one kitchen sink in each unit. Water consumption for the individual units and all units combined is calculated from the average of water consumption rates published in the reference material and presented in Table 4. These consumption rates are based on measured historical data and refer to conventional appliances and fixtures.

Relative Percentage Consumption Per Guest Unit

The use of water in the guest units for hotels and motels is generally consistent with residential water use. A general list of residential water use is described by Kleinfelder, 1991 and is made up of four components. These components are toilet, shower, and washbasin consumption in the bathroom, and consumption for cooking and cleaning in the kitchen. These percentages show the ratio of consumption of each of the fixtures, to the total consumption for each guest unit. The percentages are not altered by average or peak consumption caused by occupancy rates.

Percentage Consumption of Water per Guest Unit

Toilet	40 percent
Shower	30 percent
Bathroom Faucets	15 percent
Kitchen Faucets	15 percent
Total	100 percent

Attachment 1

Exhibit K, p.4

These figures are consistent with water use figures for hotels and motels as presented by Kleinfelder, 1991.

Peak Consumption Factor

Peak daily water use assumes that the nine guest units are fully occupied with two guests in each unit. This does not take into account any seasonal factors where the occupancy rate is likely to be less than 100 percent. Occupancy rates for the project are not available; however, it is considered necessary to evaluate the effect of occupancy rates on water consumption. (see Table 1)

TABLE 1

Occupancy Rate	Average consumption / guest unit	Average consumption for project	Peak Consumption for project	Peak Consumption using low flow devices	Peak Consumption using Ultra-low flow devices
	Gallons/day	Gallons/day	Gallons/day	Gallons/day	Gallons/day
40%	36	358	527	248	169
60%	54	537	790	371	253
80%	72	717	1053	495	337
100%	90	896	1317	628	428

The peak daily consumption was estimated based on individual customer account records supplied by the Coastside County Water District. The records were taken from the 1987 billing year, the last year to include available records for maximum available water supply.

The average daily water use rate is taken as the average daily water use rate for the whole of the billing year. The peak daily water use rate was taken as the average daily water use rate for the two month billing period with the highest consumption for the whole of the billing year. The peak daily water use factor is derived by the ratio of the peak daily water use to the average daily water use, for the billing period. This peak use factor is applied to the average daily consumption to calculate the peak water consumption rate for the project. The adjusted peak daily water use for hotels and motels as reported by Kleinfelder, 1991 is 1.47 times average daily water use.

This peak water consumption rate is a conservative planning figure. The peak rate assumes 100 percent occupancy at all times. Occupancy rates for guest units at hotels and motels are generally not one hundred percent at all times. However, due to the storage capacity being considered, peak consumption may be achieved over a five day period and the peak rate factor considered should be viable. Based upon the information presented in Table 1, the water demand

Attachment 1

Exhibit K, p.5

for the project is anticipated to be 428 gallons per day. This requires a constant supply rate from the well of approximately 18 gallons per hour.

Water Conservation Techniques.

The water consumption rates calculated thus far are attributed to conventional water fixtures. Low flow devices such as Low flow flush toilets and low flow shower heads and faucet flow control devices can significantly reduce the consumption of water, (see Table 2).

TABLE 2

Appliance or Fixture	Conventional Consumption	Consumption using Low Flow fixtures	Percent savings	Consumption using Ultra Low Flow fixtures	Percent savings
Toilet (gallons/flush)	6.00	3.50	42	1.50	75
Shower (gallons/minute)	8.00	2.00	75	2.00	75
Bathroom faucet (gallons/minute)	5.00	2.75	45	2.50	50
Kitchen (gallons/minute)	5.00	2.75	45	2.50	50

Savings made by utilizing these fixtures is estimated to average 53 percent of average flows with conventional fixtures. The use of Ultra low flush toilets can reduce water consumption by approximately 75 percent per flush, when compared to conventional flush toilets. This contributes to an overall saving of approximately 68 percent over conventional fixtures. This factor is applied to the peak water consumption figure to determine the water usage rates that will be applicable when water conservation devices are used., (see Table 3).

TABLE 3

Appliance of Fixture	Percent Use	Percent Saving contribution using Low Flow fixtures	Percent Saving contribution using Ultra Low Flow fixtures
Toilet	40	17	30
Shower	30	23	23
Bathroom faucet	15	7	8
Kitchen	15	7	8
Total	100	53	68

Attachment 1

Exhibit K, p. 6

Water Consumption

The calculation for water consumption rates for the project is based on the consumption of nine guest units and one manager's office/storage area. The manager's office/storage area is for daytime use as an office and is not expected for use as overnight accommodation. The construction of the manager's office/storage area will, however include similar fixtures as the guest units and, to be conservative, all calculations are based on full occupancy and equivalent water usage of the guest units and manager's office/storage area at peak loads. Table 4 presents a summary of water consumption based upon the aforementioned information.

TABLE 4

Unit Description	Average Consumption / Guest Unit	Average* Consumption for Development	Average Consumption using ultra low flow fixtures	Peak Consumption for Development using ultra low flow fixtures	Information Source
	Gallons/day	Gallons/day	Gallons/day	Gallons/day	
Small Hostelry, Hotel/Motel room	125	1250	406	597	Rural Area Water Use Study
Motel Room	70	700	228	334	Wastewater Engineering, Metcalf and Eddy, 1991
Motel Room	62	620	202	296	Water Quality, Tchobanoglous and Schroeder, 1987
Motel Room with Kitchen	80	800	260	382	Wastewater Engineering, Metcalf and Eddy, 1991
Motel Room with Kitchen	110	1100	358	526	Water Quality, Tchobanoglous and Schroeder, 1987
Motel Room with Kitchen	100	1000	325	478	Manual of Individual and Non-Public Water Supply systems. EPA, 1991.
Lodging House and Tourist Home	80	800	260	382	Wastewater Engineering, Metcalf and Eddy, 1991
Average	90	896	291	428	

* Assumes 10 guest units.

The method of calculation takes the following steps:

Attachment 1

Exhibit K, P.7

- Calculate the average water consumption from conventional fixtures based on the reported consumption rates published in the selected texts and publication:
  Average Consumption = 90 gallons per unit per day

- Calculate the total consumption using the number of guest units multiplied by the average consumption per unit (The managers office/storage area is included in this calculation).
  Total number of guest units equals 10.
  Total Consumption = Average Consumption * Number of Units =>
  90*10=900 gallons per day.

- Calculate the total consumption using ultra low-flow (ULF)devices and appliances based on the total consumption rate minus the percentage reduction (percentage reduction is 68 percent)
  Total ULF Consumption = Total Consumption *(1-percentage reduction)=>
  900*(1-0.68)=291 gallons per day

- Calculate peak consumption using ULF devices and appliances using total ULF consumption multiplied by the peak use factor which is 1.47.
  Peak Consumption using ULF devices = Total ULF Consumption * peak use factor =>
  291*1.47=428 gallons per day

The anticipated water consumption for the project was selected based upon the average rates of consumption for several types of accommodations as presented in Table 4. Based on the preceding calculations our estimate is a peak water consumption rate of 428 gallons per day for the project. This projection is based on the installation of ultra low-flow devices throughout the project. Kleinfelder further estimates that a peak consumption rate of 628 gallons per day for the project is achievable using low-flow fixtures throughout the project

Attachment 1
Exhibit K, p. 8

4 WATER STORAGE

Fire Fighting

Water reserved for fire fighting must be considered in the calculation for storage requirements. The Office of the Fire Marshall of San Mateo County has released the following guidelines.

The storage requirements for fire use is based on the number of square feet of the building multiplied by a conversion factor equal to 1.6. The area of each guest unit is approximately 600 square feet. Therefore, each three-unit guest structure has a floor plan area of approximately 1800 sq. ft. The managers office/storage area is assumed to be approximately the equivalent of four guest units or 2,400 square feet. The storage requirements are presented in Table 5

TABLE 5

Building	Approximate Area square feet	Storage required for fire fighting gallons
Cluster "A"	1800	2880
Cluster "B"	1800	2880
Cluster "C"	1800	2880
Office and Storage	2400	3840

Each of the clusters and the office and storage building are separated and can be considered separate buildings, thus the minimum storage requirement for fire safety, based upon the largest square foot, is 3,840 gallons. Office of San Mateo County Fire Marshall requires that this storage requirement not be included in storage calculation for daily guest or manager office/storage area water consumption for the project.

Water Storage Requirements

San Mateo County requires a storage tank capacity calculated for three days of peak consumption. Kleinfelder recommends that the capacity be increased to five days. The increased storage capacity will better accommodate down capacity for possible repairs and the importance of maintaining a supply of water to the guests. These extended down times for pump and piping repairs may be expected because of to the remote location of the project. Storage capacity is calculated using the following steps.

Attachment 1
Exhibit K, p.9

- Calculate storage capacity required assuming peak consumption using ULF devices multiplied by number of days of storage required. (Kleinfelder recommends 5 days of storage, San Mateo County requires a minimum of 3 days of storage)

  Storage capacity = Peak ULF consumption rate * No of days of storage required =>

  428 * 3 = 1284 gallons (San Mateo County)

  428 * 5 = 2140 gallons (Kleinfelder)

Peak consumption and storage capacity requirements are presented in Table 6.

TABLE 6

Unit Description	Peak Consumption using Ultra Low flow devices	Capacity required for 3 days storage	Capacity required for 5 days storage	Information Source
	Gallons/day	Gallons	Gallons	
Small Hostelry, Hotel/Motel room	597	1792	2986	Rural Area Water Use Study
Motel Room	334	1003	1672	Wastewater Engineering, Metcalf and Eddy, 1991
Motel Room	296	889	1481	Water Quality, Tchobanoglous and Schroeder, 1987
Motel Room with Kitchen	382	1147	1911	Wastewater Engineering, Metcalf and Eddy, 1991
Motel Room with Kitchen	526	1577	2628	Water Quality, Tchobanoglous and Schroeder, 1987
Motel Room with Kitchen	478	1433	2389	Manual of Individual and Non-Public Water Supply systems. EPA, 1991.
Lodging House and Tourist Home	382	1147	1911	Wastewater Engineering, Metcalf and Eddy, 1991
Average	428	1284	2140	

Attachment 1
Exhibit K, p.10

Total Storage Requirement

- The water storage requirements are calculated as the sum of the storage requirements for fire safety and the water requirements for project use.

Total Storage Requirement = Storage for fire safety + Storage for project use.

= 3840 + 1284 = 5124 gallons (San Mateo County)

= 3840 + 2140 = 5980 gallons (Kleinfelder)

Based upon the base capacity required for fire safety and the average capacity required for five days of storage at the peak consumption using low flow devices, Kleinfelder suggests that the tank size be approximately 6000 gallons. The size recommended to fulfill the requirements of the San Mateo County is approximately 5000 gallons.

Attachment 1

Exhibit K, p.11

5 RECOMMENDATIONS

Kleinfelder makes the following recommendations for water consumption and storage capacity for the country inn project at Pigeon Point, San Mateo County, California.

- ☐ The storage capacity for the project is recommended to be approximately 6000 gallons.
- ☐ Ultra low-flow devices and fixtures should be used throughout the whole project.
- ☐ Install devices and fixtures that will deliver flows as listed below

Toilet	1.1 - 1.5 gallons per flush
Shower head	2 - 2.5 gallons per minute
Faucets	2 - 2.5 gallons per minute

These fixtures and devices are commonly available and the flow rates are listed on the product information. The toilets are available in either gravity flow or pressurized flushing systems.

Kleinfelder recommends that each guest receive a water conservation pamphlet that highlights the water conservation features of the facility. The pamphlet should encourage each guest to conserve water and should provide guests with water conservation practices that can be followed.

The following water saving practices are recommended in order to decrease water consumption rates:

- ☐ Repair all leaks as soon as they are discovered
- ☐ Flush only human waste and toilet paper.
- ☐ While shaving or brushing teeth, only turn the water on as needed, do not leave the water running continuously.
- ☐ Wash dishes and then rinse them all at once, do not rinse the dishes before washing them.
- ☐ Keep a bottle of water in the refrigerator for drinking, do not let the faucet run while waiting for cold water for drinking.
- ☐ Don't use running water to thaw frozen food.

Attachment 1
Exhibit K, p.12

CALCULATED AVERAGE CONSUMPTIONS COMPARISON CHART
updated 3/12/91

(acre feet/year unless otherwise noted)

	MARIN W.D.	MONTEREY W.D.	SANTA BARBARA W.
Auto Repair	NA	.03/1000sq ft	.11/1000sq ft
Bar	NA	.0202/seat	NA
Bank	.021/1000sq ft	.16/1000sq ft	.17/1000sq ft
Beauty Shop*	.089/station	.02576/station	NA
Bed & Breakfast	NA	.0934/unit	NA
Car Wash w/Recycle*#	.441/1000sq ft	.52/1000sq ft	NA
Church*	.064/1000sq ft	NA	.17/1000sq ft
Church w/School*	.121/1000sq ft	NA	.18/1000sq ft
Cleaners/Comm. Laundry	NA	.64/1000sq ft	
Condominium	NA	NA	.28/unit
Cinema*	.0028/seat	NA	NA
Convalescent Hosp.*	.105/bed	NA	.11/bed
Delicatessen*	.168/1000sq ft	.24/1000sq ft	NA
Gas/Mini Market*	.37/1000sq ft	NA	.49/1000sq ft
Grocery/Market	.211/1000sq ft	.63/1000/sq ft	.42/1000sq ft
Health Club*	.4/1000sq ft	NA	.32/1000sq ft
Hospital*	.18/1000sq ft	.3/1000sq ft	NA
Houseboat	.17/houseboat	NA	NA
Industrial Assembly & Manufacturing	NA	NA	.085/1000sq ft
Industrial R&D	NA	NA	.15/1000sq ft
Launderette/self-serve	NA .175	.1275/machine	NA
Lodge/Motel	.103/room	.1208/room	.13/room
Lodge/Restaurant	NA	NA	.15/room
Lodge/restaurant bar/laundry	.168/room	NA	NA
Lodge/laundry	.135/room	NA	NA
Lodge/restaurant & bar	.136/room	NA	NA
Lodge/bar	.65/room	NA	NA
Medical Office*	.21/1000sq ft	.08/1000sq ft	.15/1000sq ft
Medical/Dental*	.365/1000sq ft	.16/1000sq ft	.23/1000sq ft
Meeting Hall	NA	.02/1000sq ft	NA
Multi-Family Apt.	NA	NA	.24/1000sq ft
Nursing Home	NA	.1323/room	NA
Office	.087/1000sq ft	.16/1000sq ft	.10/1000sq ft
One person-resi.	70gals./day	NA	NA
Open Space (non-turf)	3/acre	.88/acre	NA
Open Space (turf)	4/acre	1.76/acre	NA
Photographic*	2.275/1000sq ft	2.4/1000sq ft	NA
Plant Nursery*	.074/1000sq ft	.016/1000sq ft	NA
Public Restroom	NA	.1012/toilet	NA
Restaurant*	.023/seat	.0171/seat	.0
Restaurant, 24hr*	.036/seat	NA	.0
Rest., Fast Food*	.905/1000sq ft	.0161/seat	1.
Retail-Large	NA	NA	.0
Retail-Small	.025/1000sq ft	.03/1000sq ft	.1
Retail-Photo	NA	.09/1000sq ft	NA
Retirement Home	NA	NA	.1
School-Childcare	.016/student	.24/1000sq ft	NA

Attachment 1

EXHIBIT NO. L
APPLICATION NO. A-3-SMC-96-08
McKenzie
Water Use Chart

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
640 CAPITOLA ROAD
SANTA CRUZ, CA 95062
(408) 479-3511

November 15, 1991

Mark Duino
San Mateo County Planning Department
County Government Center
Redwood City, CA 94063

Dear Mark:

Thank you for sending the "Rural Area Water Use Study" prepared by Kleinfelder and dated October 21, 1991. I have reviewed the material and offer the following comments:

DOCUMENTATION OF WATER USE

The author did an excellent job of researching water use figures for the various land uses included in the study. The analysis of figures from a variety of sources (EPA, EIR's, Water District, Water Studies) provides an objective rationale for the final figures selected for each land use category (Table 3). The inclusion of both average and maximum daily figures also allows the County to clearly and quickly calculate the effects on project density which occur throughout the use of one set of figures or the other. Commission staff notes that Policy 1.8(c) of the Certified LCP indicates that maximum water use figures should be applied.

CALCULATION OF WATER USE BASED ON
WATER CONSERVATION AND OTHER VARIABLES

Table Seven of the study indicates water use figures for the various land uses if adjusted for water conservation and then if further adjusted for average rather than maximum daily use. The author of the study did not include an adjustment for "seasonality" because, as he correctly points out on page 59, the sources from which the use figures have been derived have already adjusted for "seasonality." In any event, this Table is very useful because it clearly demonstrates the dramatic effect that these adjustments have on the density of some of the land uses. For example, hotel units could be increased by as much as 300% if adjusted for average rather than maximum water use and then adjusted again for water conservation.

As presently adopted, the LCP does not provide for what is, in effect, a density bonus for water conservation. As indicated in our earlier comments on the preparation of this study, water conservation is laudable but is not relevant to this process. The establishment of water use figures in this case, has less to do with water use per se than with using the figures to set

Attachment 1

EXHIBIT NO. M
APPLICATION NO. A-3-SMC-96-08
McKenzie
comments on water study

an objective density for non-residential land uses in the rural areas. Thus, the policy thrust of the LCP -- which is to limit density in the rural areas consistent with resource protection goals -- is a significant factor to be considered along with the technical water use data in setting the final numbers.

Again, thank you for the opportunity to comment on this thorough, well documented study. We will present a report on the study to the Coastal Commission at the December 1991 meeting in Los Angeles.

Very truly yours,

David Loomis
Assistant District Director

David Loomis

Diane S. Landry
Legal Counsel

DL/DSL/cm

5908A

Attachment 1
Exhibit M, p. 2

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
640 CAPITOLA ROAD
SANTA CRUZ, CA 95062

September 10, 1990

Mark Duino
San Mateo County Planning Department
County Government Center
Redwood City, CA 94063

Dear Mark:

Thank you for sending along the July 27, 1990 procedural report on the Rural Area Water Study for our review and extending an invitation to attend the Board of Supervisors meeting on Tuesday. Unfortunately, neither Dave nor I will be able to attend. I will be at the Commission hearing in Los Angeles and Dave is heavily scheduled in Santa Cruz.

We did receive the material on August 29, 1990 and have both reviewed the proposal. We offer the following brief comments:

METHODOLOGY: The methodology proposed for gathering data on water consumption, pg. 11-12, appears straightforward and is similar to the approach we used in developing use information for the Cascade Ranch recommendation. The consultants may save some time, and money, by making use of the information already generated in that report as it includes the rates used by Department of Parks and Recreation and the Department of Water Resources, as well as others. You may also wish to conduct the Monterey Water Management District as they have a similar climate and have been maintaining detailed records of water consumption for a variety of land uses for the past twelve years.

We note that important assumptions used in developing standardized water use data sometimes vary. In most instances, for example, an occupancy rate has already been factored into the equation. In some cases, the use rates are based on older plumbing fixtures and in other instances on the newer, more conserving fixtures. It is therefore helpful to learn the basic assumptions behind the data to gain a clearer picture of how one rate compares with another.

PROPOSED DENSITY TABLE: (pgs. 6-10) The format proposed is logical and easy to follow. We are concerned, however, about the impact of providing what are essentially density "bonuses" based on seasonality and water conservation.

Attachment 1
Exhibit M, p.3

THE FUNCTION OF WATER CONSUMPTION RATES WITHIN THE BROAD SCOPE OF THE LCP

It is understandable that this proposal focuses on water consumption and, in that context, explores the effect of variables on that rate. It is, in this case, however, essential to pull back from this narrow technical area and reflect on its place in the broader scope of the Certified LCP.

A foundational premise of the LCP was that the various specific policies of the LCP would adequately protect the County's considerable natural resources so long as the overall density, at build-out, did not exceed the equivalent of ±1700 single family homes. The effective implementation of the LCP is thus predicated on not only a rigorous application of specific policies, but also on an understanding that, in the final large picture, density must not exceed a certain level. Therefore, in this case, water use per se is not the fundamental issue. Water, in the larger context of the LCP, is a device to ensure that overall density limitations will not be exceeded.

In summary, if the issue was simply setting density based on water consumption then it would no doubt be useful to look at all the variables. In San Mateo County, however, the density has already been set in the LCP, and the job of this work program is to ensure that the certified density of ±1,700 single family home equivalents is what will occur. An essential part of this project would be to estimate the final build-out densities based on whatever figures or scenarios are ultimately determined to be the most appropriate. If the final densities are higher than the certified amount then an LCP amendment should be considered.

THE SEASONALITY FACTOR PRESENTS PLANNING AND ENFORCEMENT PROBLEMS

The consideration of seasonality as a factor in determining density presents some problems. The most obvious problem is one of effective enforcement -- both legally and from a practical standpoint. The other issue to consider is the effect on the ultimate build-out under the plan, i.e., is it consistent with planning objectives to protect coastal resources to maintain excessive density for part of the year?

It may well be that in certain limited circumstances it would be appropriate to factor in seasonability. The potential impacts of such a course should, however, be fully considered as they relate to other plan objectives.

Attachment 1
Exhibit M, p.4

WATER CONSERVATION ALLOWANCES COULD
RESULT IN EXCESSIVE DENSITY

Water conservation is certainly a laudable planning goal. Policies which require or encourage water conservation are becoming increasingly popular. As a vehicle for conserving a valuable resource, there is no question that such a policy body is highly appropriate. In this case however, a water conservation policy is extended to affect another planning objective -- appropriate land use density. According to the work program, density could increase over 100% if water conservation was factored into the equation. This increase in density could cumulatively result in a substantial impact on coastal resources, particularly as other non-water effects are considered, i.e., traffic, site coverage, number of people. An equity issue is also present in that it appears that all land uses -- with the exception of single family homes could take advantage of the increased density due to water conservation. We would therefore encourage the County to have a water conservation policy, but not one which offers such a generous density bonus.

Very truly yours,

David Loomis
Assistant District Director

Diane Landry

Diane S. Landry
Coastal Planner

DL/DSL/cm

4918A

Attachment 1

Exhibit M, p.5

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
725 FRONT STREET, STE. 300
SANTA CRUZ, CA 95060
(408) 427-4863
HEARING IMPAIRED: (415) 904-5200

June 19, 1996

Christopher S. Johnson
Kleinfelder, Inc.
1410 F Street
Fresno, CA 93706

BY FAX

Subject: Water Use Assesment for Pigeon Point Country Inn (Kleinfelder Job No. 21-339001)

Dear Mr. Johnson:

As a follow up to our telephone conversation this morning, I am faxing you this request for clarification regarding information contained within the above referenced report.

Please explain the figures contained in Table 3, specifically the "percent saving contibution" amounts, and how these amounts were derived. In addition, please provide a source of reference for the "percent savings" figures contained in Figure 2. Finally, please explain the basis for:

- averaging water consumption figures of units that do not have kitchens with those that do (Table 4), when it is known that this project includes kitchens in all 9 of the units; and
- applying the calculated "percentage reduction" to the project's overall water use, when it appears that water conserving fixtures will reduce water use for certain activities, but not others (e.g., filling a bath tub or kitchen sink).

I am also interested in your professional opinion regarding the accuracy of assuming that the project, with water conserving fixtures, will not consume more than 628 gallons per day at peak consumption, and with ultra low flow fixtures, will not consume more than 428 gallons per day at peak consumption. Please consider the following factors when responding to this request:

- the project proposes a "soak tub" in each unit;
- the project is located in an isolated location, several miles from the nearest restaurant or deli, which will likely increase the frequency of kitchen use when compared to typical transient facilities; and

Attachment 1

EXHIBIT NO. N
APPLICATION NO. A-3-SMC-96-09
McKenzie
Water Use

- some degree of landscaping will be reguired as a condition of project approval. At a minimum, landscaping will be required to be installed within areas of disturbance that will not be covered by structures or facilities. This may include the entire leachfield area, which, due to its shallow depth, will require backfilling. Although the use of drought resistant native vegetation will be required, it is necessary to consider that even these type of plants require some degree of irrigation to become established. It also seems reasonable to assume that the applicant will want to have some ornamental landscaping in order to enhance the visual attractiveness of the project.

Thank you for your anticipated response. If you have any questions rearding the information requested, or wish to discuss these issues further, please contact me at (408) 427-4863.

Sincerely,

Steve Monowitz
Coastal Planner

cc: Harry O'Brien

0428M

Attachment 1

Exhibit N, p. 2

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
725 FRONT STREET, STE. 300
SANTA CRUZ, CA 95060
(408) 427-4863
HEARING IMPAIRED: (415) 904-5200

June 20, 1996

Christopher S. Johnson
Kleinfelder, Inc.
1410 F Street
Fresno, CA 93706

BY FAX

Subject: Addendum to June 19, 1996 Request for Information on Water Use Assessment for Pigeon Point Country Inn (Kleinfelder Job No. 21-339001)

Dear Mr. Johnson:

As a follow up to the above referenced letter, please also address the following issue in clarifying the information contained in the subject assessment:

- In researching the amount of water that can reasonably be expected to be saved through the use of ultra-low flow fixtures, it has come to our attention that standard plumbing codes have required the installation of low flow fixtures in all new developments since approximately 1980. Please discuss how this fact may affect the 53% savings through low-flow fixtures, and 68% water savings through ultra low flow fixtures, asserted by the subject report.

It appears that the average consumption figures contained in Table 4, which were all developed in 1991 or 1987, may already include water conserving fixtures. As a result, to figure additional savings of 53% or 68% would be double counting.

We recommend that you address this issue by:

- revising Table 2 to indicate conventional consumption levels according to current plumbing code standards;
- calculating the percent savings that could be achieved when compared to the above amounts; and
- correcting the "percent savings contributions" and overall estimated project water consumption accordingly.

Thank you for your anticipated cooperation. Please contact me if you require further explanation of this request.

Sincerely,

Steve Monowitz
Coastal Planner

Attachment 1

EXHIBIT NO. N, p.3
APPLICATION NO. A-3-SMC-96-08
McKenzie
Water use

cc: Harry O'Brien
Brian Zamora, San Mateo County Health Services Agency

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
725 FRONT STREET, STE. 300
SANTA CRUZ, CA 95060
(408) 427-4863
HEARING IMPAIRED: (415) 904-5200

April 24, 1996

Harry O'Brien
Coblentz, Cahen, McCabe & Breyer
222 Kearny Street, 7th Floor
San Fransisco, CA 94108-4510

Subject: Additional Information Needed for the June 1996 Coastal Commission Hearing on the McKenzie Appeal (A-3-SMC-96-008)

Dear Mr. O'Brien:

Thank you for meeting with us today, and for providing supplemental information regarding the proposed bed and breakfast project at 921 Pigeon Point Road. As a follow up to our meeting, this letter summarizes the additional information which must be submitted to this office by the project applicant in order for the Commission staff to adequately analyze the subject project. This information should be submitted as soon as possible, and no later than May 13, 1996, in order for Commission staff to present a recommendation to the Commission at the June, 1996 Commission meeting. As our discussion revealed, a general description of the project which better details how the facility will be managed, who the targeted clientele will be, etc. will also be helpful.

The additional information required for processing the permit includes:

A. Water Source.

1. San Mateo County Department of Environmental Health approval of a well adequate to serve the proposed development under full occupancy.

2. Hydrologic analysis evaluating the impact of the well on agricultural water supplies within the project's vicinity.

B. Sewage Treatment.

1. San Mateo County Department of Environmental Health approval of a sewer treatment facility (percolation, septic tank, and leach field) adequate to serve the proposed development under full occupancy.

C. Plans (to scale and reproducible).

1. Site plan including location of all development (well and sewer as approved by Environmental Health, water tank, fencing, and utility lines) and indicating existing developments to remain and be removed;

2. Floor plans for all units and manager's office (including extent of kitchen facilities);

Attachment 1

EXHIBIT NO. 8
APPLICATION NO. A-3-SMC-96-08
McKenzie
Post April Hrg. Ltr.

3. Elevation drawings of all new development (guest units, renovated manager's office, water tank);

4. Foundation plans;

5. Drainage plans;

6. Landscape/irrigation plans;

7. Grading plans;

8. Stairway plans, prepared by a certified engineer, indicating what portions of the existing stairway will remain and what will be replaced; and

9. Summary description of signing and outdoor lighting plans.

D. Water Use.

1. Analysis of maximum anticipiated daily water use (under full occupancy, considering "kitchennete" use, meal service, and facilities for staff).

2. Maximum daily water use associated with landscaping.

3. Water use associated with special events (e.g., weddings, family reunions, conferences)

E. Visual Impacts.

Using photos and elevation drawing overlays, illustrate the visual impact of all elements of the proposed development (units, water tank) on views of the ocean and lighthouse available from Highway One, Pigeon Point Road, and Whaler's Cove. (The visual information presented at the meeting should be supplemented with an analysis of impacts to ocean views from Pigeon Point Road and as viewed from Whaler's Cove beach).

F. Marine Resource Protection Provisions.

1. Rules for keeping dogs on site, and how they will be enforced; and

2. Rules regarding guest use of Whaler's Cove beach when marine mammals are present, and how they will be enforced.

If you have any questions regarding these requirements, please contact me, or staff analyst Steve Monowitz, at (408) 427-4863.

Sincerely,

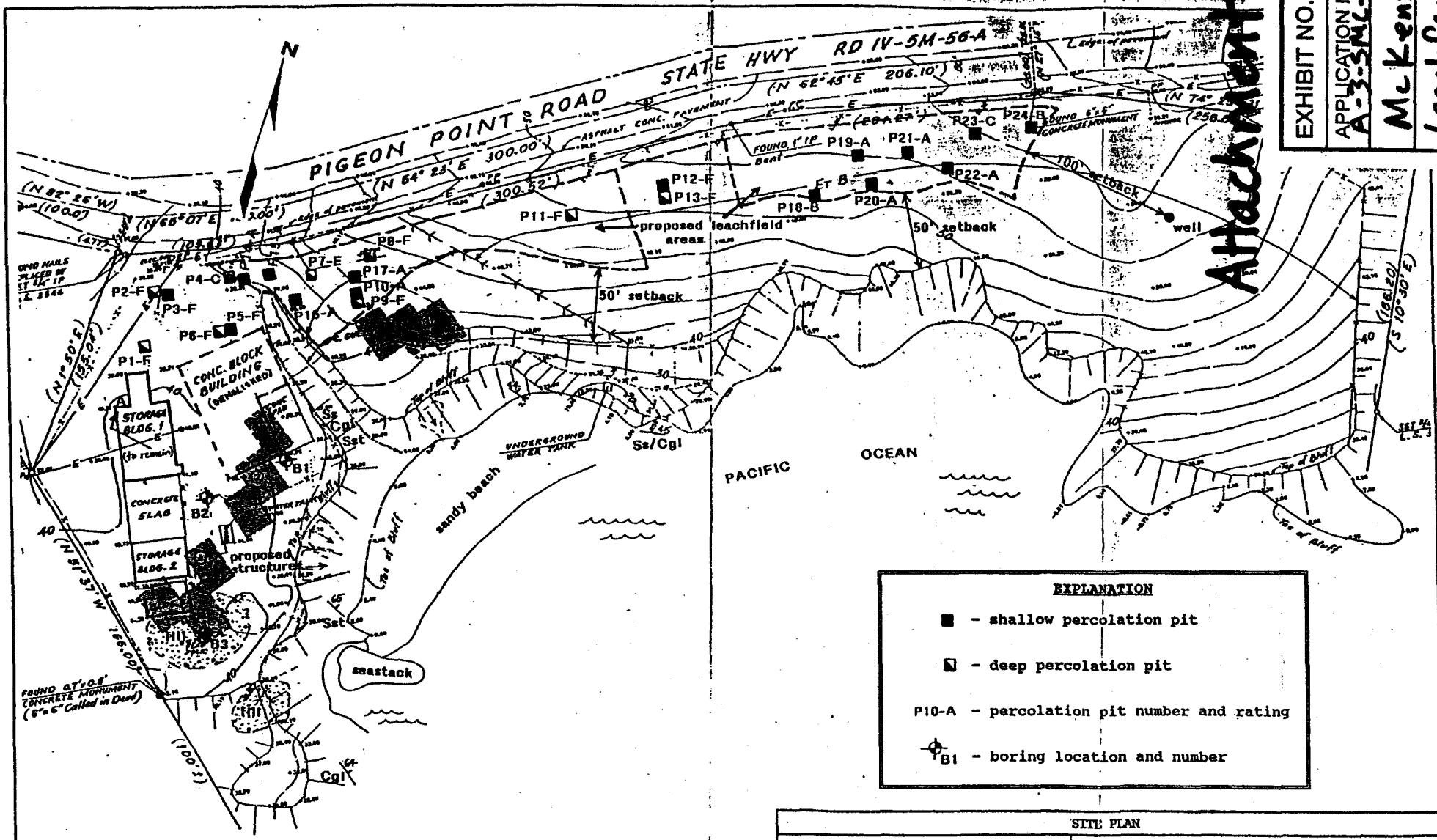
Tami Grove

Tami Grove
District Director

Attachment 1
Exhibit 9 p.2

EXHIBIT NO. P
APPLICATION NO. A-3-SMC-96-03
McKenzie
Leachfield

Attachment 1



EXPLANATION

- ■ – shallow percolation pit
- ◪ – deep percolation pit
- P10-A – percolation pit number and rating
- B1 – boring location and number

SITE PLAN

UPP GEOTECHNOLOGY
Engineering Geology • Geotechnical Engineering

LANDS OF McKENZIE
921 Pigeon Point Road
San Mateo County, California

APPROVED BY	SCALE	PROJECT NO.	DATE	
MB	1" = 2,000'	1410.2L1	June 1996	Figure 2

BASE: Boundary and Topographic Survey; JOSEPH R. BENNIE; December 1994

MAGGIORA BROS. DRILLING, INC.

DRILLING CONTRACTORS – PUMP SALES & SERVICE
CALIFORNIA CONTRACTOR'S LICENSE NO. 249957

Corporate Office
595 Airport Boulevard
Watsonville, CA 95076
(408) 724-1338

(800) 728-1480

Branch Office
2001 Shelton Drive
Hollister, CA 95023
(408) 637-8228

WELL TEST REPORT

A. Customer: KATHLEEN MCKENZIE / JAMES KEITH Telephone: 415-879-1455
Mail address: 732 37TH AVE., SAN FRANCISCO, CA 94121
Well Location: 921 PIGEON POINT APN:
Date Drilled: MAY 11, 1996 By: MAGGIORA BROS. DRILLING, INC.

B. Well Data:

	Previously Reported:	Measured In Test:
Depth of Well:		735'
Diameter of Casing:		5" PVC
Depth of Perforation:		
Type of Perforation:		FACTORY PERF.
Standing Water Level:		80'
Pump Type and HP:		GRUNDFOS 3HP
Depth Pump Set:		672'

C. Well Test: Date of Test: JUNE 5, 1996

(1) Water Level at Start:	80	ft.
(2) Sustained Pumping Level:	672	ft.
(3) Drawdown (1-2):	592	ft.
(4) Test Duration:	1440	min.
[X]		
(5) Observed Total Production:	7250	gal.
(6) Average Yield for Test Period (5/4):	5.03	gpm
[ ]		
(7) Final Sustained Yield:		gal.
(8) Calculated Total Production (4x7):		gpm

Pump Broke Suction During test:	Yes [ ]	No [X]
Bacteriological Analysis Attached:	Yes [X]	No [ ]
Chemical Analysis Attached:	Yes [X]	No [ ]

D. Water System Visual Inspection (N/Ob means not observed):

Pump Operation:	Normal [X]	Deficient [ ]	N/Ob [ ]
Electrical Equip.:	Normal [ ]	Deficient [ ]	N/Ob [X]
Pressure Tanks:	Normal [ ]	Deficient [ ]	N/Ob [X]
Water Pipes:	Normal [ ]	Deficient [ ]	N/Ob [X]
Storage Tanks:	Normal [ ]	Deficient [ ]	N/Ob [X]

E. Comments: WELL STABILIZED AT 5 GPM AT THE TOP OF THE PUMP.

Dated: JUNE 7, 1996

Rev. 11/94

Attachment 1

PLEASE SEE DEFINITIONS AND ADDITIONAL TERMS OF THE R

DRILLING – Municipal, Industrial, Agricultural, Domestic, Foundation, Test Holes, Envi

PUMPS – Turbine, Submersible, Centrifugal, Jet, Split Case, Waste &

"WATER IS OUR BUSINESS"

EXHIBIT NO. Q
APPLICATION NO. A-3-SMC-96-08
McKenzie
Well Test

WELL TEST REPORT

DEFINITIONS AND ADDITIONAL TERMS

Sustained yield. Sustained yield is the pumping rate at which long-term pumping can be maintained, and is the rate normally used to compare wells. If the test is of sufficient duration (and assuming the aquifer has a large storage capacity), sustained yield is the best indicator of long term well production during regular operation. As used in this report, sustained yield is the production rate measured at the conclusion of a test in which the pumping level in the well is held constant for the period of time indicated.

Average yield. In many wells, especially wells with small diameter casings, water levels cannot be monitored during pumping, and sustained yield can only be approximated by calculating average yield (which is total volume pumped divided by total pumping time including any period in which the pump breaks suction). Since the pumping level may be declining while testing, and the measured water production may include water in storage in the well and surrounding formation at the start of the test, average yield calculations may be significantly higher than the true sustained yield (particularly where the pumping time is less than four hours).

Unusual pumping conditions. Wells which break suction while pumping, or have high drawdowns in relation to the standing water level, are often indicative of marginal long term water producers. These wells should always have protective shutoff devices on the pumps to prevent pump burnout from lack of water. A smaller capacity pump may improve electrical efficiency and sustain less wear by enabling longer pumping cycles. Conversely in stronger wells, the pump itself may be too small to pump the full well capacity, and thus the true sustained (or average) yield may be higher than observed in this test.

Sole report. This report contains the sole observations and conclusions of the company pertaining to the testing of the Customer's well. Any prior statements of the agents or employees of the company which are not contained herein are superseded by this report, and shall be relied upon at the Customer's own voluntary risk.

Test limitations. The data and conclusions provided are based upon the tests and measurements of the company using standard and accepted practices of the groundwater industry. However, conditions in water wells are subject to dramatic changes in even short periods of time. Additionally, the techniques employed may be subject to considerable error due to factors within the well and groundwater formation which are beyond the company's immediate control or observation. Therefore, the data are valid only as of the date and to the extent of the observational limitations of the test or installation indicated.

Use of test. The test conclusions are intended for general comparison of the well in its present condition against known water well standards or guidelines, and should not be relied upon to predict either the future quantity or quality of water that the well will produce. Wells should be periodically retested to show both seasonal and long-term fluctuations.

Disclaimers. In presenting the data and conclusions, the company makes no warranties, either express or implied, as to future water production of the well. Further, the company, unless expressly stated to the contrary, does not represent (1) that the well or pump system is in any particular condition or state of repair, or (2) that the test results will satisfy cognizant governmental ordinances or regulations, or (3) that the test duration or methodology is sufficient to meet local water system or new construction permit standards (which usually require 24 hour or more tests), or (4) that the water is adequate for a particular purpose contemplated by Customer, (5) the accuracy and reliability of the report for any purpose more than one year after the date of the test.

Customer's release. In accepting this report, the Customer releases and holds the company harmless from liability for consequential or incidental damages arising (1) out of the breach of an express or implied warranty of future water production, or (2) in any manner through the further dissemination of this report, or its conclusions, by either Customer or third parties, except as the dissemination is required to complete the project or other activity for which the report was prepared.

Exhibit Q, p.2
Attachment 1

ANALYTICAL CHEMI
and
BACTERIOLOGISTS
Approved by State of California

Tel: 408 7243422
FAX: 408 7243188

SOIL CONTROL LAB

42 HANGAR WAY

A Division of Control Laboratories Inc.

In any re[illegible] please [illegible] Certified Analyti[illegible] Number appearing [illegible].

115018- 459

Maggiora Bros.
595 Airport Blvd.
Watsonville CA 95076

10 Jun 1996

CERTIFIED ANALYTICAL REPORT

BACTERIOLOGICAL EXAMINATION OF WATER FOR COLIFORM ORGANISMS

MATERIAL: Water sample received 07 JUN 1996
REPORT: Bacteriological examination of water for total and fecal coliforms by MMO-MUG procedure using 100 millilter sample is as follows:

Identification	Total Coliforms	Fecal Coliforms
#60350-3: KATHLEEN MCKENZI	PRESENT	ABSENT

Public Health Drinking Water Standards for bacteriological quality of drinking water are met when coliform organisms are absent in a water sample. If coliform organisms are present, the water is considered unsafe to drink unless the water is treated to remove the bacteria. NOTE: The above test does not establish whether this water meets Public Health Standards for chemical composition of drinking water

Attachment 1

The undersigned certifies that the a[illegible] accurate report of the findings o[illegible]

EXHIBIT NO. 2
APPLICATION NO. A-3-SMC-96-058
McKenzie
Water Quality

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

[redacted] HANGAR WAY

A Division of Control Laboratories Inc

Tel: 408 724-5422
FAX: 408 724-3188

115001-2-459

Maggiora Bros.
595 Airport Blvd.
Watsonville CA 95076

17 JUN 96

CERTIFIED ANALYTICAL REPORT

MATERIAL: Water sample received 06 June 1996
IDENTIFICATION: Job #60350-3, Kathleen McKenzie
Sampled 6/5/96, 7:00 p.m.
REPORT: Quantitative chemical analysis is as follows expressed as milligrams per liter (parts per million):

		PUBLIC HEALTH DRINKING WATER LIMITS[1]
pH value (units)	8.4	10.6
Conductivity (micromhos/cm)	1900	1600
Carbonate Alk. (as $CaCO_3$)	20	120
Bicarbonate Alk. (as $CaCO_3$)	425	-
Total Alkalinity (as $CaCO_3$)	445	-
Total Hardness (as $CaCO_3$)	50	-
Total Dissolved Solids	1200	1000
Nitrate (as NO_3)	1.1	45
Chloride (Cl)	410	250
Sulfate (SO_4)	15	250
Fluoride (F)	1.7	1.0
Calcium (Ca)	12	-
Magnesium (Mg)	4.9	-
Potassium (K)	5.2	-
Sodium (Na)	475	-
Total Iron(Fe)	0.53	0.3
Manganese (Mn)	0.03	0.05
Nitrite (as NO_2)	< 0.5	-

[1]California Administrative Code; Title 22

Attachment 1

The undersigned certifies that the above is a true and accurate report of the findings of this Laboratory.

Analyst

Exhibit R, p.2

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

Tel 408 724-5422
FAX 408 724-0161

SOIL CONTROL LAB

42 HANGAR WAY

A Division of Control Laboratories Inc.

115001-2-459

Maggiora Bros.
395 Airport Blvd.
Watsonville CA 95076

17 JUN 96

CERTIFIED ANALYTICAL REPORT

MATERIAL: Water sample received 06 June 1996
IDENTIFICATION: Job #60350-3, Kathleen McKenzie
Sampled 6/6/96, 10:30 a.m.
REPORT: Quantitative chemical analysis is as follows expressed as milligrams per liter (parts per million):

		PUBLIC HEALTH DRINKING WATER LIMITS[1]
pH value (units)	8.4	10.6
Conductivity (micromhos/cm)	2000	1600
Carbonate Alk. (as $CaCO_3$)	20	120
Bicarbonate Alk. (as $CaCO_3$)	430	-
Total Alkalinity (as $CaCO_3$)	450	-
Total Hardness (as $CaCO_3$)	40	-
Total Dissolved Solids	1300	1000
Nitrate (as NO_3)	< 1	45
Chloride (Cl)	445	250
Sulfate (SO_4)	14	250
Fluoride (F)	1.7	1.0
Calcium (Ca)	7.7	-
Magnesium (Mg)	5.0	-
Potassium (K)	6.2	-
Sodium (Na)	485	-
Total Iron(Fe)	0.12	0.3
Manganese (Mn)	< 0.03	0.05
Nitrite (as NO_2)	< 0.5	-

[1]California Administrative Code; Title 22

Attachment 1

The undersigned certifies that the above is a true and accurate report of the findings of this laboratory.

Analyst

Exhibit B, p.3

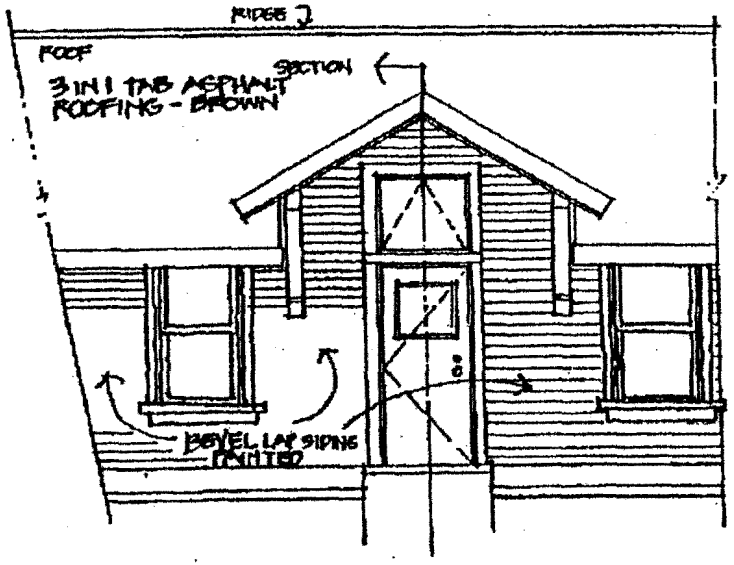
Attachment 1

EXHIBIT NO. 5

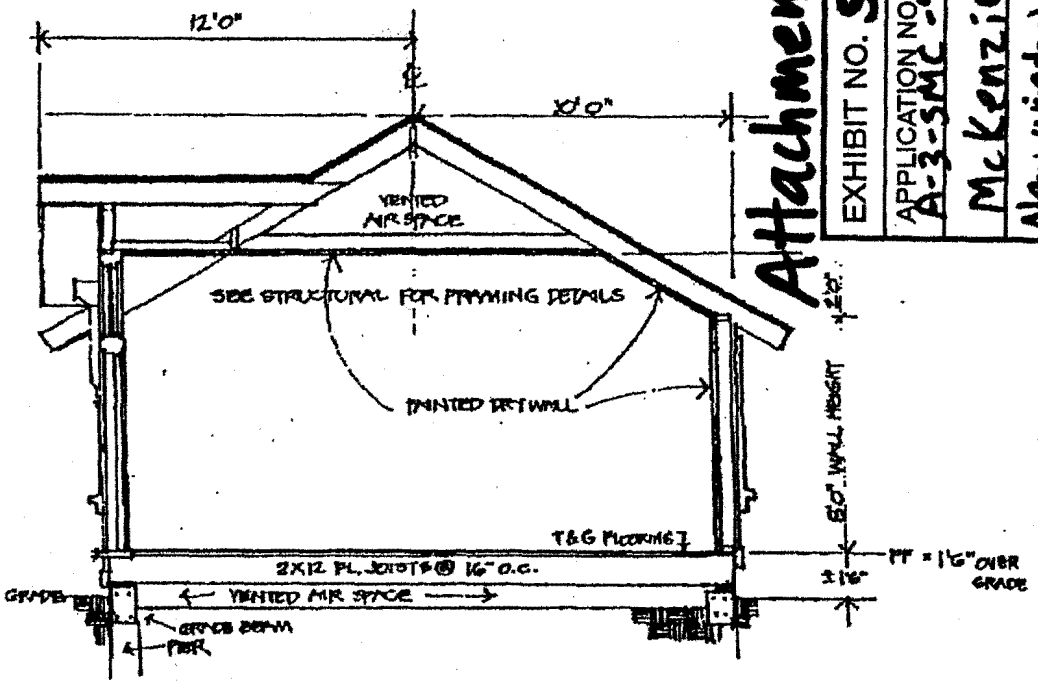
APPLICATION NO. A-3-SMC-96-08

McKenzie

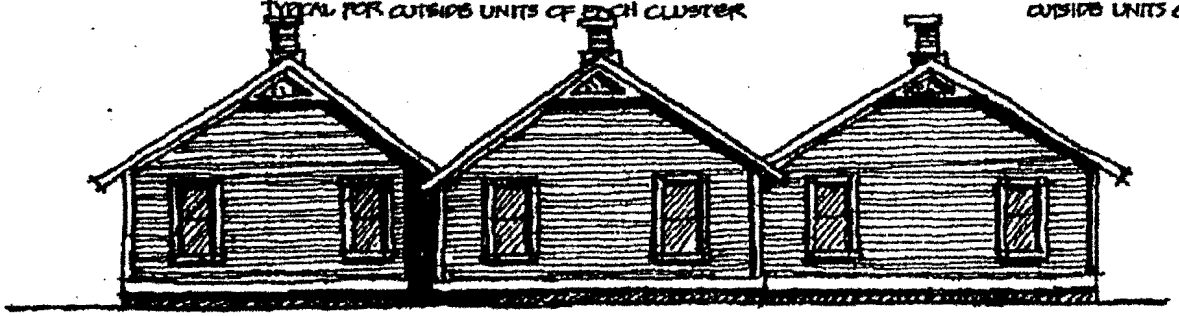
New window design



ELEVATION OF SIDE ENTRY DOOR
TYPICAL FOR OUTSIDE UNITS OF EACH CLUSTER



CROSS SECTION THROUGH ℄ OF UNIT - TYPICAL FOR OUTSIDE UNITS OF EACH CLUSTER



TYPICAL ELEVATION OF CLUSTER

SCALE: 1/4" = 1'0"

PIGEON POINT BED & BREAKFAST
921 PIGEON POINT ROAD, SAN MATEO COUNTY

SECTION

7

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