Environmental Assessment
Johnson Oyster Company
Marin County, Point Reyes National Seashore

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Point Reyes National Seashore

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Purpose and Need

This *Environmental Assessment (EA)* has been prepared to assist National Park Service (NPS) planning and decision making, and to determine whether an Environmental Impact Statement (EIS) is required for the proposed new facilities at the Johnson Oyster Company (JOC) Point Reyes National Seashore (PRNS). JOC is proposing the construction of a new oyster processing plant and the replacement and rehabilitation of several existing accessory structures located on the JOC Reservation of Use and Occupancy at Point Reyes National Seashore. The facilities are located 17171 Sir Francis Drake, Inverness, California (AP #109-130-17).

As a federal facility, the PRNS is subject to the provisions of the National Environmental Policy Act (NEPA), the basic national charter for environmental protection. NEPA requires an interdisciplinary study of the impacts associated with federal actions. For the PRNS, these requirements were initially met with the preparation of the *PRNS/Golden Gate National Recreation Area General Management Plan and Environmental Analysis* (NPS 1980). Because the proposed rehabilitation of the JOC involves new construction, an EA has been prepared to address site-specific impacts to determine whether further environmental review is necessary.

The purpose and need for this proposed project is to bring the JOC into compliance with federal, state and Marin County regulations. Existing facilities do not currently meet federal, state, and county health and safety codes. Failure to perform the necessary improvement would result in Marin County and the NPS issuing cease and desist orders for operation of the facility.

Section 7 of the Endangered Species Act
Section 7 of the Endangered Species Act directs federal agencies to further the purposes of the Act. Under provisions of the Act, federal agencies are required to consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any action authorized, funded or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The NPS initiated informal consultation under Section 7 in May 1997 on this project. Based on informal consultation, the NPS has concluded that the proposed action would not adversely affect any federally listed species or critical habitat.

Section 106 of the National Historic Preservation Act
Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their actions on properties listed on the National Register of Historic Places. Because none of the buildings are listed on the List of Classified Structures, or determined eligible or listed for the National Register of Historic Places, the proposed action would not adversely affect an historic property.

Other Environmental Compliance Provisions
Because this project is being reviewed jointly by the County of Marin and the National Park Service, this document has been voluntarily prepared to meet the

requirements of the California Environmental Quality Act (CEQA), Sections 15063A2 and 15221. This EA is incorporated into the Initial Study Checklist in its entirety.

Other environmental provisions which may affect this project are the following:

Americans with Disabilities Act 1990
California Coastal Act
Archeological Resources Protection Act
Clean Water Act

Relationship to Other Plans and Projects
General Management Plan (GMP), Point Reyes National Seashore (NPS 1980) places JOC in a special use zone. These are lands on which the NPS does not have complete jurisdiction, or upon which activities are permitted other than preservation and visitor use. The GMP calls for the JOC to continue until the reservation of use and occupancy expires.

The Statement for Management for Point Reyes National Seashore (NPS 1993) discusses JOC Reservation of Use and Occupancy but does not discuss its long-term future.

Marin Countywide Plan (1994) identifies the project area as Coastal Recreational Zone. Within this zone, the county supports and encourages mariculture for the purposes of producing food, enhancing, and restoring fisheries stock, and contributing to the State of California's economy. The plan states that the need for mariculture sites must be balanced with protection of coastal wildlife, water, and visual resources.

Marin County Local Coastal Program, Unit 2 discusses agriculture and aquaculture and encourages the continuation of this industry in the coastal zone.

Marin County Code Title 22 (Zoning). The proposed project is consistent with the Coastal Open Space District (C-OA) zoning which allows appurtenant waterfront uses (Chapter 22.57.130). The project must prescribe conditions that will assure the promotion of agriculture, preserve scenic beauty, and maintain such land in a permanent open state.

Issues and Impact Topics
This document, prepared by the NPS and the County of Marin, in cooperation with JOC, evaluates three alternatives and the impacts associated with these actions. Evaluation of the project site has identified the following issues of potential concern and provides the basis for the analysis of alternatives: impacts on natural resources, such as soils, threatened and endangered species, water resources and wildlife; impacts on visual quality; impacts on noise; impacts on public health and safety; impacts to public services and utilities; and impacts on cultural resources.

These issues of concern were developed from public scoping and the CEQA Initial Study Checklist located in Appendix E. Those issues, from the Checklist, that were identified as potential concerns are evaluated in the Environmental Consequences section of the document. The Initial Study Checklist summarizes the EA and is adequate to meet the requirements of CEQA Section 15063A2.

Reports Filed

All reports regarding this project will be filed and available at the Headquarters, Point Reyes National Seashore. This includes the project's final monitoring plan, the JOC safety plan, the PRNS Hazardous Waste Plan, Marin County building permits and approvals, and the California Department of Health Services permits.

Alternatives, Including the Proposed Action

Alternative A: No Action

This alternative will leave the site in its present condition; no demolition of buildings would occur. New buildings and septic system would not be constructed. No site improvements would be constructed for parking or public interpretation. JOC would continue to haul sewage daily to a permitted disposal site. Under this alternative, the JOC would fail to comply with county, state, and federal regulations related to health, safety, and building codes.

Alternative B: The Proposed Action: Rehabilitation of Two Facilities and Construction of a New Processing Facility

This proposed alternative will remove the processing plant, seed plant, stringing plant, and garage and replace with new structures. The replacement structures with sizes are: garage, 900 square feet (sf); seed plant, 2,625 sf; stringing plant, 500 sf; and a two story processing plant, 7,600, sf. Total square footage for these new structures will be 11,625 sf. Existing sf is 8,327. No work is proposed for any of the residential structures located on the property. However, fencing will be placed adjacent to the residential structures to screen them from public facilities to provide privacy.

The new processing plant would be moved approximately 100 feet from its current location directly adjacent to the shoreline. Other structures would be located in existing sites. Appendix C provides detailed drawings of this option.

A new septic system, approximately 3000 feet east of the processing plant and two acres in size, would be constructed to accommodate the rehabilitated facilities (See Appendix D for detailed drawings). The NPS would issue a special use permit to accommodate this use. The proposed site was selected because of its acceptable percolation ability and because it is located outside the immediate watershed of the Estero. The new buildings would include a gray water drainage system: waste water would be pumped to the rehabilitated former leach field (.25 acre) field above and south of the JOC facility.

No major changes in the topography is necessary. The proposed site for all new, rehabilitated and replacements structures is relatively flat. All structures will be slab on grade and all drainage will be sloped away from building and use the natural drainage pattern where appropriate.

Gravel entry and parking areas will be developed on the northern extent of the property. Twenty-two parking spaces will be developed, including the appropriate number of handicap spaces. Picnic tables will be placed at the entrance to the facility adjacent to the parking area.

Once the site has been cleared of all debris, the site will be evenly graded and revegetated with native vegetation.

Alternative C: Rehabilitation of Existing Structures Only

This alternative is similar to alternative B, except the processing plant would be reconstructed/rehabilitated at its current location which is directly adjacent to the Estero. The new facility will be the same in terms of overall scale and types of materials.

All other site amenities such as parking and other facilities would be constructed as in Alternative B. The leach field and sewage system also would be constructed as in Alternative B.

Alternatives Considered but Rejected

The removal of the entire complex was rejected as an alternative. JOC has a Reservation of Use and Occupancy (lease-hold interest) until the year 2012. The existing *GMP (NPS 1980)* calls for the continuation of an oyster operation within the park. PRNS is currently in the process of updating and revising the existing GMP which will need to address the issue of JOC lease hold interest.

Affected Environment

Project Site Description
JOC, Drakes Estero, Marin County, California is located within the Point Reyes National Seashore, approximately 30 miles northwest of San Francisco. Drakes Estero, an estuary where freshwater runoff mixes with saltwater, encompasses approximately 2,380 acres and is about 3.5 miles in length from its mouth. JOC operates in the Estero on two state aquaculture leases having a combined area of 1,600 acres. The project area is approximately five acres in size and is located directly adjacent to Drakes Estero. See Appendix A for project location map.

Reservation of Use and Occupancy
JOC, and its successors and assigns, has a terminable right to use and occupy the five acres until the year 2012 "for the purpose of processing and selling wholesale and retail oysters, seafood and complimentary food items, the interpretation of oyster cultivation to the visiting public, and residential purposes reasonably incidental thereto." The PRNS GMP is currently is being revised. An issue to be addressed is the long-term status of the lease agreement past 2012.

History
The original allotment of which the subject operation now grows its oysters was recorded on January 18, 1934. It was recorded in the name of David C. Drier, for the purpose of growing oysters. The first transfer was to Drakes Bay Oyster Company on March 30, 1935 (Harding Appraisal 1972). Later transfers occurred in 1954 to the Van Camp Sea Food Company. In 1955, the Coast Oyster Company held the allotment which was a wholly-owned subsidiary of Van Camp Food Company. On November 18, 1960 Coast Oyster transferred the allotment to Charles Johnson, who assigned the allotment to JOC. When transferred from Coast Oyster to Charles Johnson, the price paid was $75,000 according to Charles Johnson, with an additional $35,000 being paid for the existing oysters and buildings.

Improvements
Except for the oyster racks in the bays, the majority of the improvements associated with JOC are located withinon the five acre reserved parcel. However, the seed plant and stringing plant are currently located outside the reserved area. Building improvements include the processing plant, a seeding building, office, main residence, four trailers, and cabin.

Processing Plant. This structure, constructed in 1948, contains a total of 3,600 sf and has a concrete and frame construction with a concrete foundation. The roof has hip construction and roll composition covering floors are concrete. An office complex was added at a later date on the second floor. In addition, the building contains another 400 sf of office and storage. A cold storage room (80 sf) is attached to the main processing plant. Two detached containers associated with the operation of the plant are approximately 560 sf. A lunch room and associated trailer (893 sf) were added to the site. These buildings do not currently meet health, safety, and building codes. In total, existing square footage in the processing plant and associated structures is 5,533 sf.

Main Residence. The main residence has a floor area of 1,385 sf and a covered porch area of 60 sf. This structure was constructed in 1956.

Cabin. The cabin is approximately 672 sf and is constructed of wood with a concrete pier foundation.

Seed Plant. The seed plant, for growing small larval oysters before placement in the estuary, is located on the south side of the project area. is 2,178 sf, and is currently in poor condition.

Stringing Plant. The stringing plant is used for preparing oysters for placement in the estuary. This 616 sf structure is constructed of sheet metal with a wood frame and is in poor condition.

Utilities

Pacific Gas & Electric Company (PG&E) provides electrical service in the project area. Pacific Bell provides telephone service to the project area. Both services are currently available to the JOC. No natural gas, municipal water or sewage service is available. JOC must maintain their own sewage and water systems. One potential source of pollution is the JOC sewage septic field which failed in early 1994. The original Marin County Septic Permit was for seven bedrooms. When the septic field failed, 12 trailers plus the two residences were on the site, clearly exceeding the capacity of the system. Since that time, all sewage has been pumped daily from the septic tank and transported to a waste disposal facility. In addition, eight trailers have been removed from the site.

The site also has a waiver from the Regional Water Quality Control Board to operate a leach pit for rinse water from the oyster processing plant.

Geology, Topography, Soils

Geologically, land at JOC is part of the Drakes Bay Formation the foundation is comprised of marine sediments that filled the basin between Inverness Ridge and the Point Reyes Headlands toward the end of the Tertiary age during the early Pliocene epoch (about eight million years ago). The site is relatively flat, with major portions of the site having been compacted due to road use. Road base material has been supplemented with crushed oyster shells. Tomales-Steinbeck soils exist at the JOC project site. These soils, derived from soft sandstone of the underlying Drakes Bay Formation, are deep (to about four feet) and moderately well drained.

Vegetation

The project area has vegetation typical of those plant communities found in northern coastal scrub characterized by densely packed shrubs less than 6 feet tall interspersed with scattered grassy openings. This scrub community is found on windy, exposed sites with shallow soils. Most flowering takes place in late spring and early summer. Typical species include California sagebrush, bush lupine, coyote bush, bush monkeyflower, and poison oak. Weedy exotic species, such as scotch broom and poison hemlock, are also present on the site. One intermittent drainage is fed by springs transecting the property. A large pond is located on the northern edge of the project area. Tidal salt marsh species, predominately pickleweed and saltgrass. are located on the northern edge of the project area.

Cultural Resources
The project area does not contain any structures that have been placed on the List of Classified Structures determined eligible for the National Register of Historic Places. An archeological site does exist at the southern edge of the project site. Marin 296 is a shell midden which has suffered extensive damage from cultural modifications over time. These include fencing, grazing, impoundments of stock, grading, gardening, and the dumping of oyster shells.

Wildlife
Drakes Estero provides approximately 2,380 acres of shallow estuary habitat for a variety of wildlife. A large number of shorebirds and migratory waterfowl species utilize the habitat, particularly during the winter months. The estuary also serves as an important pupping ground for harbor seals, whose population ranges between 700 to over 1,000 individuals year-round. Coyotes, gray fox, mountain lions, bobcat, black-tailed deer, striped skunk and other small mammals are known to occur in the area.

Invertebrates
Drakes Estero, an estuary where freshwater runoff mixes with saltwater, encompasses approximately 2,380 acres. The rich habitat of the estuary supports a variety of intertidal life such as various species of clam, ghost shrimp, phoronid worms, geoducks, moon snail, and hundreds of other invertebrate species. The estuary borders the western edge of the project area.

Special Status Species
No special status species, such as threatened or endangered plants or animals, are found in the project site area. Brown pelicans, brandt geese, and peregrine falcons are known to occur in the vicinity of the project area. See Appendix B for correspondence from the U.S. Fish and Wildlife Service identifying special status species in the vicinity of the project site.

Recreation
Drakes Estero is accessible to kayaks and canoes at the JOC Schooner Bay facility and via Drakes Bay. Access from Drakes Bay is possible only during high tides, and the shallow nature of the Estero, as well as the presence of a sand bar across the mouth of the Estero, discourages kayakers and canoeists. The only motorized watercraft allowed on the Estero are the JOC work boats and barges. The Estero has been designated "potential wilderness"; therefore, recreational motorboats are prohibited by regulation.

Environmental Consequences

Environmental impacts associated with each alternative are addressed below:

Alternative A: No Action (Continue to operate under current conditions)

Impacts on Natural Resources

Under the No Action alternative, impacts on natural resources would be limited to those associated with natural processes and human activities already occurring on site.

Vegetation. Under this alternative, impacts associated with vegetation would be limited to those associated with human activities already occurring at the site. Negative impacts would occur as non-native plants continue to flourish at JOC.

Water Resources. Some potential negative impacts could occur due to sewage spills if hauling continues off-site. Sewage could be spilled on the roadway and into the estuary if an accident occurred.

Air. Because the current facility does not emit pollutants, this alternative would not produce or adversely affect air quality.

Wildlife. Some potential negative impacts could occur if JOC continues hauling sewage off-site. Sewage could be spilled on roadway and into the estuary if an accident occurred. This could potentially damage wildlife species should the water become contaminated.

Threatened and Endangered Species. Since no federally listed or special status species have been detected on the project site, there will be no effect on threatened or endangered species.

Soils and Topography. No new ground disturbance or change to topography would occur under this alternative. Therefore, no new impacts would occur as a result of this alternative.

Conclusion. Although there would be no further ground disturbance, topography change, and no improvements to the area, non-native plants would continue to flourish if site restoration is not accomplished. In turn, negative impacts could occur to water quality and wildlife from improper sewage treatment and potential sewage spills due to current practices of off-site treatment of waste.

Impacts on Cultural Resources

There would be no direct impact on archeological or historic structures as a result of this alternative. However, disturbance to the archeological site that has occurred in the past may continue. This could result in a negative impact to the archeological site. No historic structures would be adversely affected.

Conclusion. Under this alternative, the NPS would continue to monitor and fence the archeological site in the area to deter any additional impacts. Therefore, no new impacts are anticipated.

Impacts on Visual Quality

Negative impacts would continue. Current structures were not designed to visually accommodate the landscape and are in serious need of repair. The site also has debris stored around the facilities that would continue to visually impair views toward the estuary.

Conclusion. No new impacts would occur. However, negative impacts from the dilapidated buildings would continue to impair scenic views of the estuary.

Impacts on Human Health and Safety

Under this alternative, the JOC would fail to comply with local, state, and federal regulations. This alternative would constitute an adverse impact on health and human safety. In addition, failure to comply with building codes for life and safety would pose a potential threat to anyone in or near the buildings.

Conclusion. Significant negative impacts to human health and safety would continue to occur due to noncompliance with health and safety codes.

Impacts on Noise

Noise levels would continue to be at the same levels; no positive or negative impacts anticipated. Limited noise is currently generated by worker activity, occasional use of heavy equipment, and motorboat use.

Conclusion. Since there will be no construction activities, there would be no new disturbance or inconvenience to park visitors as a result of this alternative.

Impacts on Public Facilities and Services

Water Supply. Under this alternative, water supply and amount of use would remain unchanged.

Roadways and Public Transportation. Under Alternative A, public roadways would remain unaffected.

Energy Consumption. Energy consumption, because of the potential closing of the facility, would be reduced. Changes are insignificant because of the small amount of electricity currently used by Johnson Oyster Company.

Fire Protection. No change to fire protection services would occur under this option.

Schools. No change to enrollment in local schools would occur under this alternative. Residences in area are expected to remain constant.

Other Government Services. Under this alternative, no new government services will be needed.

Conclusion. Because this option may result in the continuation of Johnson Oyster Company on the site without new construction or the closing of the facilities, public services and utilities are not expected to be adversely affected. Some reduction of services needed may occur if the facilities are closed but the effect will be less than significant.

Impacts on the Local Economy

Negative economic effects could occur because JOC would eventually be closed due to noncompliance with federal, state, and local codes and regulations.

Conclusion. This alternative may negatively affect the local economy. However, because Johnson Oyster Company is a very small percentage of the total economy of Marin, the effect will be less than significant to the regional economy.

Alternative B: The Proposal: Construction of New Facilities

Impacts on Natural Resources

Vegetation. On the main construction site the proposed action would result in approximately three (3) acres of ground disturbance on a developed site dominated by non-native vegetation. To mitigate any potential negative impacts, in accordance with NPS management policies and guidelines, disturbed areas would be revegetated with native plant materials (e.g., seeds, cuttings, transplants) that originated from the genetic stock on site or from other adjacent sources. Revegetation efforts would be concentrated in and around the pond and shoreline to establish native salt grass, grindelia, and coyote brush.

The development of the main leach field and the rehabilitation of the former leach field will disturb approximately 2.25 acres of native coastal scrub/grassland dominated by coyote brush. Any impacts are expected to be mitigated by rapid regrowth of native vegetation in the leach field area and full restoration of the site is anticipated in 1-2 years. If necessary, any impacts will be mitigated by planting native vegetation in accordance with NPS revegetation policies.

The proposed project will not result in negative impacts to native vegetation, wetlands, stream/riparian habitat, coastal dunes, or significant adverse impacts to other sensitive habitats.

Water Resources. Some short-term minor impacts could result due to ground disturbance and grading. However, actions such as installing protection fencing and strategically placing straw bale berms would be taken to ensure that sediment and runoff from the construction site does not enter Drakes Estero or the adjacent pond. To eliminate the possibility of water contamination of the Estero, buildings would be equipped with internal drains that empty into a holding tank and pumped to an approved septic system.

Because this project primarily involves the rehabilitation of existing structures, surface runoff and drainage patterns will not be altered significantly or increased substantially. No impervious surfaces such as asphalt will be installed within the parking area; the area will remain as a graveled surface. Minor drainage swales will be installed behind the main building to drain storm water runoff to the estuary. Another drainage swale will be installed along the eastern edge of the building to drain storm water away from the building. No significant impacts are therefore anticipated.

No changes to surface or ground waters will result from this project. Grading will be minimal and limited to the construction area and will not increase existing flow. Storm water runoff will continue towards the estuary and adjacent pond and remain as natural as possible. Drainage will be reviewed and approved by the Marin County Department of Public Works. Because the current flow and drainages are not be significantly altered, less than significant impacts are anticipated.

Air. Oyster processing in the new facilities will not release significant types or levels of air pollutants. Heating systems, the only source of exhaust, will meet current

standards and codes. Some dust will be generated from construction activities; however, these impacts will be mitigated to less than significant levels by implementing mitigation measures, including watering of disturbed areas and covering the beds of trucks hauling material from the project site.

Wildlife. Existing noise and human activity levels coupled with the disturbed nature of the site make it highly unlikely that wildlife would reside on the grounds of the JOC. Those that do fequent the site are accustomed to human disturbance. It is doubtful that construction activities would result in permanent displacement of wildlife in the immediate area.

Because the proposed action would result in only temporary and localized impacts on wildlife, these effects are considered insignificant since animals and shorebirds would be expected to return to the area once construction and restoration activities are completed.

Because of the abundance of coastal scrub/grassland habitat adjacent to the proposed leach field site, recolonization of the area by birds and other species will occur over the long-term. During construction, there will be some short-term insignificant impacts to resident avian species such as wrentits and scrub jays as well as small mammals such as the brush rabbit and white-footed mouse.

Threatened and Endangered Species. Since no federally protected species or their host plants have been detected at the site, there would be no advsere effect on threatened or endangered species.

Soils. In addition to ground disturbance and minor grading that would occur, the potentially liquefiable soils are anticipated to need stabilization. Based on site conditions, compaction could be used to stabilize the soil beneath buildings and structures. All work would be closely monitored to minimize soil disturbance and its potential impact on the adjacent estuary.

To minimize ground disturbance, equipment and materials would be stock-piled on existing disturbed areas. Pockets of native vegetation would be identified and a combination of fencing and signing would be installed to protect these areas from disturbance during construction activities.

Topography. The project will not substantially change the topography; surface grading will be limited to minor alterations required to provide a level parking area and for foundation construction for the new facilities. Fill area for foundation construction will be approximately 9,000 sf in size. The estimated quantity of fill material is 170 cubic yards. Therefore, because the grade change will be less than 12 inches and fill will be minimal, less than significant impacts are anticipated on the site. To mitigate any unforeseen impact, a qualified soil engineer will investigate soil conditions to ensure long-term stability of proposed structures. The proposed project will not alter any unique geologic or ground surface features.

Conclusion. Under this alternative, no special-status species would be adversely affected. Some short-term impacts may occur to wildlife but would be temporary in nature. Water resources will be protected from impacts by mitigation measures to reduce potential impacts to less than significant levels. Ground disturbance and

change to topography will be minimal and monitored to ensure soil erosion does not occur. Overall, this alternative is not anticipated to have any significant impacts to natural resources.

Impacts on Cultural Resources

The site does not contain historic structures or significant cultural landscape elements. No ethnic cultural values or religious or sacred uses currently occur within the project area.

One disturbed archeological site is known in the area. The archeological site will be fenced temporarily during construction activities to ensure disturbance does not occur. The NPS will also stabilize the site to protect it from further disturbance. If any archeological material is found during construction, construction will stop and a qualified archeologist will evaluate the situation to mitigate any impacts.

Conclusion. With mitigation measures in place, no adverse effects are anticipated to occur to cultural resources.

Impacts on Visual Quality

The project will enhance the site's overall visual quality and views of and from Drakes Estero. The current buildings are in a dilapidated condition and are primarily located along the edge of the estuary. Because the main building will be located over 100 feet away from the estuary, the view south along the estuary will be greatly enhanced. In turn, wood fencing\screening on the east side of the complex will enhance views in this direction from the proposed parking lot. Unsightly trailers and other storage areas will be screened from public view by wooden fencing and vegetation.

The project incorporates height, mass and bulk characteristics that are proportional to the site. The new structures would maintain adequate setbacks from other structures in the vicinity and would not adversely impact existing scenic vistas within the Point Reyes National Seashore.

The proposed design of the new structures would better blend with the surrounding natural environment. Proposed colors and construction materials would compliment the surrounding natural environment, as well as integrate well with the existing residential units located nearby. Each of the new structures would maintain adequate setbacks from other structures in the vicinity and, therefore, no impacts upon the light, air or privacy of people living or working in nearby structures would occur.

Conclusion. This alternative will enhance the visual quality of the site by removing dilapidated buildings, removing debris, screening buildings from public view, and relocation of the main facility away from the estuary edge.

Impacts on Human Health and Safety

By bringing the complex into compliance with health and safety codes, JOC will no longer pose a health risk In addition, by modifying existing buildings and constructing new facilities to comply with building codes for life and safety hazards (e.g., fire detection, handicap access, seismic stability) to the operating staff at the site would be minimized.

The former septic system at JOC has been abandoned because of overall general failure. Under Marin County supervision, sewage is now being stored on-site and hauled to approved disposal area. New water and septic systems will ensure that ground water and the estuary system are not contaminated by JOC operations. All surface drains in the facilities will be connected to the gray water leach field for proper disposal. This gray water and septic systems will meet Marin County and State of California requirements. Monitoring requirements for the septic systems will be established by Marin County and the State of California. The new sewage systems with appropriate monitoring will reduce any potential discharge of pollutants to a less than significant level.

JOC is approximately five miles west of the San Andreas Fault. Because of the geology, there is a potential for a moderate susceptibility to ground shaking intensity. Also, the maximum ground shaking intensity potential is considered strong. To mitigate any impacts to less than significant, the new facilities will be constructed in conformance with Uniform Building Code (UBC), Chapter 16, (Zone 4) and fully meet standards for wind and earthquakes.

Liquefaction susceptibility is considered low in the Drakes Bay Formation.

Tsunami risk is considered low; the site is located three miles inland from the Pacific Ocean within a shallow estuary. The tsunami warning system through the National Weather Service and the Marin County Office of Emergency Services will be utilized to evacuate the site if necessary.

Historical records indicate that drainage at this site has been a problem when extreme high tides and major storm events occur simultaneously. Because these two events are predictable, sand bags and other mitigation measures will be implemented to reduce/eliminate hazards to humans or property. To mitigate any impacts to property, the main processing building will have a cement wall perimeter to limit potential flood waters from entering and all electrical equipment will be raised off the floor area.

Based on site investigations and historical records, the area is not prone to mudslides or landslides. Because of past minor slope failure on the southern bluff area, a retaining wall is planned for construction, and adequate space (25 feet) between the bluff and the main building will be maintained. These two actions will mitigate any impact to less than significant.

The proposed project area is situated near coastal scrub/grassland vegetation. The proposed facilities will contain flammable materials such as cleaners, lubricants, solvents and other potential hazards. In consultation with Marin County Fire Department, mitigation measures have been adopted to ensure the project will not significantly increase fire hazards in the area. These include access enhancements along the main entrance road, proper storage of hazardous material and waste, fully automatic sprinkler systems in buildings, proper removal of vegetation around complex, and adequate space around buildings for emergency vehicle access. In addition, the main objective of the project is the rehabilitation of buildings to meet current health and safety codes and reduce potential fire hazards.

All hazardous materials and waste, such as paint and oil, will be properly stored in the new facility and be in accordance with federal/state standards and regulations and the *Point Reyes National Seashore Hazardous Waste Management Plan*. In addition, all hazardous waste such as paint and oil will be disposed of according to the *Hazardous Waste Management Plan*. No pesticides are used by JOC. As no major or unusual quantities of explosives or hazardous materials will be present on the project site during construction or when improvements are completed, the likelihood of an explosive hazard is extremely remote and deemed insignificant.

Conclusion. Code compliance upgrades will have a positive effect on human health and safety. Once the buildings and septic system meet current codes, they will no longer be a health and safety risk to park visitors and JOC staff. In addition, once hazardous material is properly stored and disposed of, potential impacts to visitors and JOC staff will be minimal and not significant. Building and site improvements will also improve fire safety.

Impacts on Noise

The proposed project will result in the periodic generation of noise associated with short-term construction activities. Vehicles traveling to and from the site will result in the generation of intermittent low levels of noise. Although ambient noise levels in the surrounding area are expected to increase during construction, the construction-related noise would represent a temporary increase of limited duration, and therefore, is not considered a significant impact. In addition, all construction activity will be regulated by the County's Design Review and building permit process, in compliance with standard regulations controlling permitted hours of activity and permitted noise levels.

Conclusion. Some short-term impacts to local residents related to noise will occur during construction. However, there will be no new long-term impacts.

Impacts on Public Facilities and Services

Water Supply. Johnson Oyster Company has a County regulated well water supply operated under a permit from the National Park Service. No other public or private entities utilize this water source. Therefore, no impacts to other public water sources will occur.

Roadways and Public Transportation. The buildings are replacement structures and not an expansion of the existing facilities. Therefore, no new transportation impacts are anticipated. Because overall traffic is generated primarily by recreational users, some increase in the use of Sir Francis Drakes may occur over the next 15 years, but the increase will be related to park visitation. Park visitation, however, peaked at 2.6 million in 1992 but has dropped over the last five years to 2.4 million in 1996. The NPS anticipates park visitation will slowly increase approximately 2-3% per year. The Point Reyes National Seashore GMP does not call for any additional facilities in the north district of the park which would have a cumulative impact with this proposed project on traffic. No public or NPS transportation facilities are available in the area. Therefore, this project will have a less than significant impact on traffic and public transportation facilities.

Energy Consumption. Energy use is anticipated to increase only slightly, approximately (10%), because of the small increase in square footage. Current energy use is estimated at 5,000 kilowatts per month.

Fire Protection. Increased square footage of replacement buildings will add minor impacts to Marin County Fire Department responsibilities. In addition, based on correspondence with Marin County Fire Department, improvements to street and site address labeling, road access, water storage, and facility automatic fire sprinkler systems will be needed. These improvements will be added to the overall JOC plan for the site to mitigate impacts as directed by the Marin County Fire Department and NPS. With these mitigation measures, the impact will be minimized and less than significant.

Police Protection. NPS is the primary law enforcement agency in the project area. No increase in service is anticipated. Marin County Sheriff's Department currently provides adequate back-up law enforcement protection to the subject property. No increase in this service is necessary. Therefore, less than significant impacts will occur.

Schools. The project will not increase housing or number of employees working at JOC. Because there will be no increase in housing or number of employees, school children attending local schools is not anticipated to change and will remain at current levels. Therefore, a less than significant impact will occur to the Shoreline School District.

Other Government Services. Because of the small scale nature of this project, no new governmental services will be needed. Current facilities are being upgrade to meet current codes and correct deficiencies.

Utilities. Pacific Gas and Electric Company has adequate facilities in the project area to provide service to the proposed project. Only a minor increase in power and propane is anticipated. No new phone or communication services will be required for the project.

Conclusion. Public facilities and services, such as fire, police, public services and utilities, and schools will not be significantly increased or adversely affected.

Impacts on the Local Economy

No positive or negative impacts are anticipated. Construction costs are estimated to exceed $500,000.

Conclusion. Under this alternative, JOC will continue to operate and contribute to the local economy. Since JOC produces 38% of the total harvest of oysters in California, they are a major contributor to the State's oyster supply.

Cumulative Impacts

Because the proposed improvements would bring JOC into compliance with local, state and federal regulations and laws, the project's overall impact on the environment and NPS operations would be beneficial.

Conclusion. The NPS concludes that this project, by itself and in conjunction with the long-range goal to provide the public with safe facilities, does not constitute a significant cumulative impact.

Alternative C: Rehabilitation of Existing Structures

Impacts on Natural Resources

Vegetation. Because the rehabilitated processing facilities would be located in the same location, this action would result in only approximately two (2) acres of ground disturbance. The ground disturbance would occur on a developed site dominated by non-native vegetation. In accordance with NPS management polices and guidelines, disturbed areas would be revegetated with native plant materials (e.g., seeds, cuttings, transplants) that originated from the genetic stock on site or from other adjacent sources. Efforts would concentrate in revegetation in and around the pond and shoreline to establish native salt grass, grindelia, and coyote brush.

In addition, this alternative would require 2.25 acres of native vegetation to be disturbed for the septic system. The area would be allowed to revegetate naturally and monitored for weed removal. If necessary, any impacts will be mitigated by planting native vegetation.

Water Resources. Some short-term minor impacts could result due to ground disturbance and grading. However, actions such as plastic protection fencing and soil/straw bale berms would be employed to ensure that sediments and runoff from the construction site do not enter Drakes Estero or the adjacent pond.

To eliminate the possibility of contamination of the Estero, buildings would be equipped with internal drains that would empty into a holding tank and them pumped to an approved septic system.

Because this project only involves the rehabilitation of existing structures, volume of surface runoff and drainage patterns will not be altered significantly or increased substantially. No impervious surfaces such as asphalt will be installed within the parking area; the area will remain gravel. Minor drainage swales will be installed behind the main building to drain storm water into the estuary. Another drainage swale will be installed along the eastern edge of the building to drain storm water away from the building. No significant impacts are therefore anticipated.

No changes to surface or ground water will result from this project. Grading will be minimal and limited to the construction area and will not increase flows. Rain water drainage will continue towards the estuary and adjacent pond and remain as natural as possible. Drainage will be reviewed and approved by the Marin County Department of Public Works. Because the current flows and drainages are not be significantly altered, less than significant impacts are anticipated.

Air. Oyster processing in the newly rehabilitated facilities will not result in the release of significant air pollutants. Heating systems, the only source of exhaust, will meet current standards and codes. Some dust will be generated from construction activities; however, it will be mitigated to a less than significant level by implementing mitigation measures, including watering disturbed areas and covering the beds of trucks hauling material from the project site.

Wildlife. Noise and human activity, coupled with the current disturbed nature of the site, make it highly unlikely that wildlife would reside on the grounds of the

JOC. Those species that do inhabit the site are accustomed to human activity. It is doubtful that construction activities would result in the permanent displacement of wildlife in the immediate area. Because the proposed action would result in only temporary and localized impacts on wildlife, these effects are considered less than significant since animals and shorebirds would be expected to return to the area once construction and restoration activities are completed.

Threatened and Endangered Species. Since no federally protected species or their host plants have been detected at the site, there would be no effect on threatened or endangered species.

Soils. In addition to ground disturbance and minor grading adjustments that would occur, the potentially liquefiable soils are anticipated to need stabilization. Based on the site conditions, compaction would be used to stabilize the soil beneath buildings and structures. All work would be closely monitored to minimize ground movement and its potential impact on buildings and structures.

To minimize ground disturbance, equipment and materials would be stock-piled on existing disturbed areas to be impacted by construction. Pockets of native vegetation would be identified and fenced or signed to protect these areas from disturbance.

Topography. This alternative will not substantially change the topography; surface grading will be limited to minor alterations for leveling the parking area and foundation construction for the new rehabilitated facilities. Therefore, because the change in topography will be minimal, less than significant impacts are anticipated on the site. To mitigate any unforeseen impacts, a qualified soil engineer will investigate soil conditions to ensure long-term stability of proposed rehabilitated structures. The proposed project will not alter any unique geologic or ground surface features.

Conclusion. Actions under this alternative would not adversely affect special-status species. Some short-term impacts may occur to wildlife but would be temporary in nature. Water resources will be protected from impacts by implementing mitigation measures to reduce adverse impact to less than significant levels. Ground disturbance would be less acreage than Alternative B. Ground and soil movement will be monitored to ensure soil erosion does not occur. Overall, this alternative is not anticipated to have any significant impacts to natural resources.

Impacts on Cultural Resources

The site does not contain historic structures or significant cultural landscape elements. One disturbed archeological site is known in the area. The archeological site will be fenced to ensure disturbance does not occur. If any archeological material is found during construction, the project will stop and a qualified archeologist will evaluate the situation to mitigate any impacts.

Conclusion. With mitigation measures in place, no adverse effects are anticipated to occur to cultural resources.

Impacts on Visual Quality

Same as Alternative B, except the main processing facility will remain on the western side of the project area adjacent to Drakes Estero. The building will be sided with wood and allowed to weather (gray) to blend in with the surroundings. The overall visual quality of the site will be enhanced by removing the dilapidated buildings and removing unwanted debris. The main building would, however, have a negative visual impact along the shoreline, restricting visitor views of the estuary.

Conclusion. This alternative will enhance the visual quality of the site by removing dilapidated buildings and removing debris. However, the main building would remain on the shoreline and have a negative visual impact on scenic views by park visitors.

Impacts on Human Health and Safety

Impacts to Human Health and Safety are the same as Alternative B. By bringing the complex into compliance with health and safety codes, JOC will no longer pose a health risk In addition, by modifying existing buildings and construction of new facilities to comply with building codes for life and safety (e.g., fire detection, handicap access, seismic stability) hazards to the operating staff at the site would be minimized.

The former septic system at JOC has been abandoned because of overall general failure. Under Marin County supervision, sewage is now being stored on-site and hauled to approved disposal area. New water and septic systems will ensure ground water and the estuary system are not contaminated by JOC operations. All surface drains in the facilities will be connected to the gray water leach field for proper disposal. This gray water and septic systems will meet Marin County and State of California requirements. Monitoring requirements for the septic systems will be established by Marin County and the State of California. The new sewage systems with appropriate monitoring will reduce any potential discharge of pollutants to a less than significant level.

JOC is approximately five miles west of the San Andreas Fault. Because of the geology, there is a potential for a moderate susceptibility to ground shaking intensity. Also, the maximum ground shaking intensity potential is considered strong. To mitigate any impacts to a less than significant level, the new facilities will be constructed in conformance with Uniform Building Code (UBC), Chapter 16, (Zone 4) and fully meet standards for wind and earthquakes.

Liquefaction susceptibility is considered low in the Drakes Bay Formation.

Tsunami risk is considered low; the site is located three miles inland from the Pacific Ocean within a shallow estuary. The tsunami warning system through the National Weather Service and the Marin County Office of Emergency Services will be utilized to evacuate the site if necessary.

Historical records indicate that drainage at the site has been a problem when extreme high tides and major storm events occur simultaneously. Because these two events are predictable, sand bags and other mitigation measures will be installed to reduce/eliminate hazards to humans or property. To mitigate any impacts to property, the main processing building will

have a cement wall perimeter to limit potential flood waters from entering and all electrical equipment will be raised off the floor area.

Based on site investigations and historical records, the area is also not prone to mudslides or landslides. Because of past minor slope failure on the southern bluff area, a retaining wall is planned for construction, and adequate space (25 feet) between the bluff and the main building will be maintained. These two actions will mitigate any impact to a less than significant level.

The proposed project area is situated near coastal scrub/grassland vegetation. The proposed facilities will contain flammable materials such as cleaners, lubricants, solvents and other potential hazards. In consultation with MCFD, mitigation measures have been adopted to ensure the project will not significantly increase fire hazards in the area. These mitigation measures include: access enhancements along the main entrance road; proper storage of hazardous material and waste; fully automatic sprinkler systems in buildings; proper removal of vegetation around complex; and adequate space around buildings for emergency vehicle access. In addition, the main objective of the project is to rehabilitate the buildings to meet current health and safety codes and reduce potential fire hazards.

All hazardous materials and waste, such as paint and oil, will be properly stored in the new facility and be in accordance with federal/state standards and regulations and the *Point Reyes National Seashore Hazardous Waste Management Plan*. In addition, hazardous wastes such as paint and oil will be disposed according to the *Hazardous Waste Management Plan*. No pesticides are used by JOC. As no major or unusual quantities of explosives or hazardous materials will be present on the project site during construction, or following the project completion, the likelihood of an explosive hazard is extremely remote and deemed insignificant.

Conclusion. Code compliance upgrades will have a positive effect on human health and safety. Once the buildings and septic system meet current codes, they will no longer be a health and safety risk to park visitors and JOC staff. In addition, once hazardous material is properly stored and disposed, potential impacts to visitors and JOC staff will be minimal and less than significant. Building and site improvements will also improve fire safety.

Impacts on Public Facilities and Services

These potential impacts are the same as Alternative B.

Water Supply. Johnson Oyster Company has an independent well water supply permitted to them from the National Park Service. No other public or private entities utilize this water source. Therefore, no impacts to other public sources will occur.

Roadways and Public Transportation. The buildings are replacement structures and not an expansion of the existing facilities. Therefore, no new transportation impacts are anticipated. Because overall traffic is generated primarily by recreational users, some increase in the use of Sir Francis Drake Blvd. may occur over the next 15 years, but the increase will be related to park visitation. Park visitation, however,

peaked at 2.6 million in 1992 but has dropped over the last five years to 2.4 million in 1996. The NPS anticipates park visitation will slowly increased approximately 2-3% per year. The Point Reyes National Seashore GMP does not call for any additional facilities in the north district of the park which would have a cumulative impact with this proposed project on traffic. No public or NPS transportation facilities are available in the area. Therefore, this project will have a less than significant impact on traffic and public transportation facilities.

Energy Consumption. Energy use is anticipated to only slightly increase, approximately (10%) because of the small increase in square footage. Current energy use is estimated at 5,000 kilowatts per month.

Fire Protection. Increased square footage of replacement buildings will add minor impact to Marin County Fire Department responsibilities. In addition, based on correspondence with MCFD, improvements to street and site address labeling, road access, water storage, and facility automatic fire sprinkler systems are needed. These improvements will be added to overall JOC plan for the site to mitigate impacts as directed by the MCFD and NPS. With these mitigation measures, the impact will be minimized and less than significant.

Police Protection. NPS is the primary law enforcement agency in the project area. No increase in service is anticipated. Marin County Sheriff's Department currently provides adequate back-up law enforcement protection to the subject property. No increase in this service is necessary. Therefore, less than significant impacts will occur.

Schools. The project will not increase housing or number of employees working at JOC. Because there will be no increase in housing or number of employees, school children attending local schools is not anticipated to change and will remain at current levels. Therefore, a less than significant impact will occur to the Shoreline School District.

Other Government Services. Because of the small scale nature of this project, no new governmental services will be needed. Current facilities are being upgrade to meet current codes and correct deficiencies.

Utilities. Pacific Gas and Electric Company has adequate facilities in the project area to provide service to the proposed project. Only minor insignificant increase in power and propane are anticipated. No new phone or communication services are required for the project.

Conclusion. Public facilities and services, such as fire, police, public services and utilities, and schools will not be significantly increased or adversely affected.

Impacts on Noise

There would be no long-term or significant impact on ambient noise levels. There will be some short-term impacts due to construction noise; however, restriction on noise levels and timing of construction activities will mitigate any short-term impacts.

Conclusion. Some short-term impacts to local residents related to noise will occur during construction. However, there will be no new long-term impacts.

Impacts on the Local Economy

Positive impacts would occur because the operation of JOC would continue. Construction cost, associated with this option, are estimated at over $450,000.

Conclusion. Under this alternative, JOC will continue to operate and contribute to the local economy. Since JOC produces 38% of the total harvest of oysters in California, they are a major contributor to the State's oyster supply.

Consultation and Coordination

The Golden Gate National Recreation Area/Point Reyes National Seashore Citizen's Advisory Commission, Point Reyes Committee, was consulted during the formulation of the draft environmental assessment.

The U. S. Fish and Wildlife Service was consulted regarding special status species, including threatened and endangered species.

The County of Marin, Community Development Agency, (MCCDA) has been consulted in the formulation of this environmental assessment. The MCCDA has conducted a design review of the project and prepared the visual quality section of the document. Environmental Health Services has evaluated the sewage waste disposal system.

The Marin County Fire Department was consulted regarding the formulation of fire protection needs.

California Regional Water Quality Control Board was consulted to provide guidance on facilities needed to treat drain water.

Others consulted on the project include:

Sarah Allen. Wildlife Biologist, Point Reyes National Seashore
Frank Dean. Assistant Superintendent, Point Reyes National Seashore
John Dell'Osso, Chief of Interpretation, Point Reyes National Seashore
Chuck Desler, Architect, Johnson Oyster Company
Rick Dorrance, Landscape Architect, Point Reyes National Seashore
Larry Harris, Chief of Maintenance, Point Reyes National Seashore
Dale Hopkins, California Regional Water Quality Control Board
Tom Johnson, Johnson Oyster Company
Roger Kelly, Archeologist, Pacific Great Basin Support Office, NPS
Rich Lincoln, Rich Lincoln & Sons, Waste Water Disposal Systems
Dewey Livingston, Historical Technician, Point Reyes National Seashore
Don Neubacher, Superintendent, Point Reyes National Seashore
Point Reyes National Seashore Citizen's Advisory Committee
Bill Shook, Chief, Resource Management, Point Reyes National Seashore
Robert Studdert, Attorney at Law, Johnson Oyster Company

Preparers

Don L. Neubacher, Superintendent, Point Reyes National Seashore

Anne Clemons, Assistant Planner, Point Reyes National Seashore

Tod Carr, Planner, Marin County Community Development Agency

References

California Division of Mines and Geology. 1977. *Geology of the Point Reyes Peninsula, Marin County, California.*

Evens, Jules G., 1988, 1993 (Revised). *The Natural History of the Point Reyes Peninsula.* Point Reyes National Seashore Association.

Marin County Comprehensive Planning Department, 1994. *Marin Countywide Plan.*

Marin County Comprehensive Planning Department, 1980. *Marin County Local Coastal Program, Unit 2.*/ As amended.

National Park Service, 1980. *General Management Plan, Point Reyes National Seashore.*

National Park Service, 1993. *Statement for Management, Point Reyes National Seashore.*

National Park Service, 1997. *Hazardous Waste Management Plan. Point Reyes National Seashore.*

Riley, Lynn M. Assessment of Endangered Archeological site at Point Reyes National Seashore. 1976.

U.S. Fish and Wildlife Service, Letter March 21, 1997. Species Lists for Proposed Construction of a New Oyster Processing Plant and the Rehabilitation of several accessory Structures located on the Johnson Oyster Company.

Uniform Building Code. Chapter 16. 1994.

Summary Impact/Mitigation Matrix

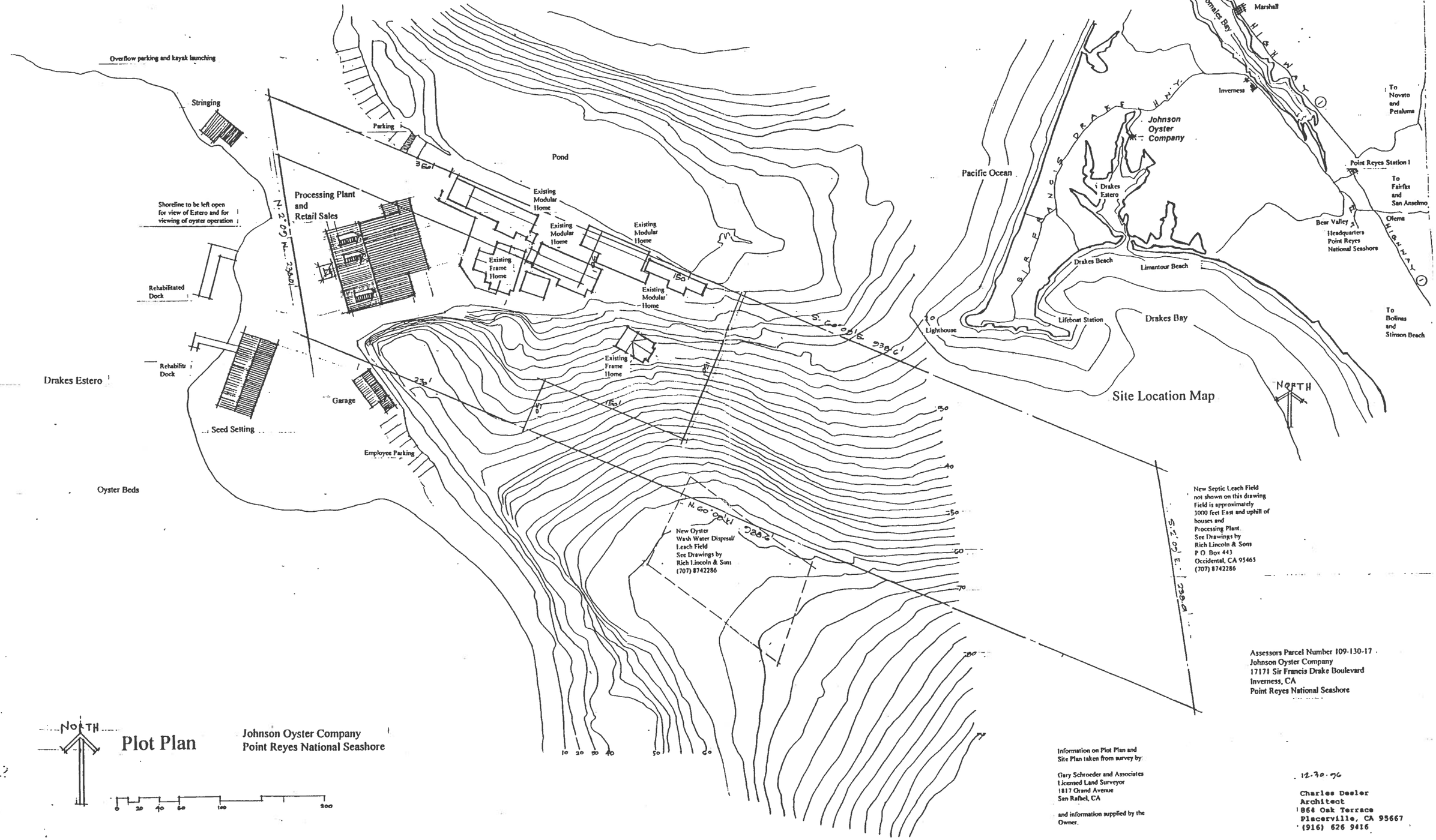
Park: Point Reyes National Seashore

Project: Construction/rehabilitation of Johnson Oyster Company and Development of Parking and Other Site Amenities.

IMPACT	PRESCRIBED MITIGATION AND RESPONSIBILITY
1. Natural Resources	
Vegetation	To mitigate the invasion of non-native vegetation, the main disturbed building site will be monitored and non-native plants removed after construction from disturbed areas. Areas will be replanted with natives where needed. At the leach field area, the site will be monitored to ensure rapid regrowth by surrounding native vegetation. All weed species will be removed. If necessary, planting with natives will occur. (PRNS Resource Management)
Water Resources	The site will be monitored during construction and appropriate measures taken to ensure Drakes Estero and adjacent pond are not contaminated with sediments and construction debris. Soil and straw bale berms and plastic fencing will be established, as necessary, to protect the estuary from sediments and construction debris. (Johnson Oyster Company)
Air	Some dust will be generated from construction activities. Dust will be monitored and mitigated by watering of area and covering truck leaving area with debris. (Johnson Oyster Company)
Wildlife	PRNS Resources Management Staff will monitor species before, during, and after the proposed project to insure disturbance is minimal. Resident bird nesting season will be avoided.
T/E Species	NA

	Soils	Some short-term impacts due to heavy equipment on-site will occur. These impacts can be mitigated by JOC by regrading and restoring the site quickly to allow regrowth of vegetation. To minimize any soil loss during construction, the area will be sprayed with water regularly to reduce dust and soil erosion. In addition, ground disturbance will be kept to a minimum(less than three acres on the main construction area and 2.25 acres on the leach field site) to ensure soil erosion is minimal. Any materials stockpiled will be on previously disturbed sites away from the estuary. (Johnson Oyster Company)
	Topography	To mitigate any potential impact to new structures, a qualified soil engineer will investigate soil conditions to ensure long-term stability of proposed structures. (Johnson Oyster Company)
2.	**Cultural Resources**	Archeological site will be fenced to protect from any impacts and monitored throughout the construction period. If any archeological material is located during construction, the project will be stopped and the area evaluated by the NPS Regional Archeologist.
3.	**Visual Quality**	NA
4.	**Health and Safety**	NA
5.	**Noise**	Short-term impacts only during normal business hours on weekdays as demolition crews remove the structures and debris. Residents will be notified of construction activity and hours of all construction activity will be regulated. No construction can occur before 7:00 am and after 7:00 pm. (Johnson Oyster Company)
6.	**Public Services**	NA
7.	**Economic**	NA

Appendix A: Location Map and Plot Plan


Overflow parking and kayak launching
Stringing
Parking
Pond
Processing Plant and Retail Sales
Shoreline to be left open for view of Estero and for viewing of oyster operation
Existing Modular Home
Existing Modular Home
Existing Modular Home
Existing Frame Home
Existing Modular Home
Existing Frame Home
Rehabilitated Dock
Rehabilitated Dock
Drakes Estero
Garage
Seed Setting
Employee Parking
Oyster Beds
N. 20° W. 238.0'
S. 20° E. 238.0'
N. 60° 00' E. 238.0'
New Oyster Wash Water Disposal/ Leach Field See Drawings by Rich Lincoln & Sons (707) 8742286
New Septic Leach Field not shown on this drawing. Field is approximately 3000 feet East and uphill of houses and Processing Plant. See Drawings by Rich Lincoln & Sons P O Box 443 Occidental, CA 95465 (707) 8742286
Pacific Ocean
Lighthouse
Lifeboat Station
Drakes Beach
Limantour Beach
Drakes Bay
Drakes Estero
Johnson Oyster Company
Inverness
Tomales Bay
Marshall
Point Reyes Station
Bear Valley
Headquarters Point Reyes National Seashore
To Novato and Petaluma
To Fairfax and San Anselmo
Olema
To Bolinas and Stinson Beach
Site Location Map
NORTH
Assessors Parcel Number 109-130-17
Johnson Oyster Company
17171 Sir Francis Drake Boulevard
Inverness, CA
Point Reyes National Seashore
NORTH
Plot Plan
Johnson Oyster Company
Point Reyes National Seashore
0 20 40 60 100 200
Information on Plot Plan and Site Plan taken from survey by:
Gary Schroeder and Associates
Licensed Land Surveyor
1817 Grand Avenue
San Rafael, CA
and information supplied by the Owner.
12-30-96
Charles Desler
Architect
864 Oak Terrace
Placerville, CA 95667
(916) 626 9416

Appendix B: Special Status Species in Vicinity

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO

Ecological Services
Sacramento Field Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

1-1-97-SP-950

March 21, 1997

Mr. Tod Carr
Planner
Marin County Community Development Agency
3501 Civic Center Drive #308
San Rafael, California 94903-4157

Subject: Species Lists for Proposed Construction of a New Oyster Processing Plant and the Rehabilitation of several accessory structures located on the Johnson Oyster Company, Point Reyes National Seashore, Marin County, CA

Dear Mr. Carr:

The enclosed lists are in reply to your letter of January 23, 1997 requesting information about the endangered and threatened species that may be present in your project area (see Enclosure A). Information concerning the life history, distribution, and habitat requirements for the listed species is available upon request.

The Fish and Wildlife Service (Service) used your map and/or other information to locate the proposed project on a U.S. Geological Survey (USGS) 7.5 minute quadrangle map. The animal species listed in Enclosure A are those species we believe may occur within, *or be affected by projects within*, the USGS Tomales Quad, where your project is planned.

The plants listed in Enclosure A are those *that have actually been observed* in the project quad. Plants on the enclosed county list may also occur in the quad where your project is located.

Some of the species listed in Enclosure A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for these species may be affected by the proposed action. For plant surveys, the Service recommends using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species.

Information and maps concerning candidate species in California are available from the California Natural Diversity Data Base, a program of the California Department of Fish and Game. Address your request to: Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814 (916) 322-2493.

All listed species identified in Enclosure A are fully protected under the mandates of the Endangered Species Act of 1973, as amended (Act). Section 9 of the Act and its implementing regulations prohibit the "take" of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such wildlife species. Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of this project, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required if it is determined that the proposed project may affect a federally listed species. Such consultation would result in a biological opinion that addresses anticipated effects of the project to listed and proposed species and may authorize a limited level of incidental take. If a Federal agency is not involved with the project, and federally listed species may be taken as part of the project, then an "incidental take" permit pursuant to section 10(a) of the Act should be obtained. The Service may issue such a permit upon completion by the permit applicant of a satisfactory conservation plan for the listed species that would be affected by the project.

If suitable habitat for federally listed species exists in the project area, we recommend that surveys for them be undertaken by qualified biologists during or prior to the environmental review process. We also recommend that surveys be undertaken for the proposed and candidate species included in Enclosure A if suitable habitat exists on site. The results of these surveys should be published in any environmental documents prepared for this project.

Should these surveys determine that federally listed or proposed species occur in the area and are likely to be affected by the proposed project, the Service recommends that the project proponent, in consultation with this office and the California Department of Fish and Game, develop a plan that mitigates for the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. The mitigation plan also should be included in the environmental document.

We also recommend addressing adverse impacts to candidate species. One of the benefits of considering these species early in the planning process is that by exploring alternatives, it may be possible to avoid conflicts that could develop, should a candidate species become listed before the project is complete.

In the Federal Register of February 28, 1996, the Service changed its policy on candidate species. The term *candidate* now strictly refers to species for which the Service has on file enough information to propose listing as endangered or threatened. Former *category 2* candidate species - species for which listing is possibly appropriate but for which the Service lacks sufficient information to support a listing proposal - are now called *species of concern*. They are no longer monitored by the Service. However we have retained them on the enclosed list for general information. We encourage consideration of them in project planning, as they may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, pursuant to section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 979-2113.

We appreciate your concern for endangered species. If you have further questions, please call Michael Thabault of this office at (916) 979-2725. For the fastest response to species list requests, address them to the attention of the section 7 office assistant at this address.

Sincerely,

Wayne S. White
Field Supervisor

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Following Selected Quads
March 20, 1997

QUAD : 485B TOMALES

Listed Species

Mammals

Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

Birds

American peregrine falcon, *Falco peregrinus anatum* (E)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

marbled murrelet, *Brachyramphus marmoratus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

Leatherback sea turtle, *Dermochelys coriacea* (E)

Loggerhead sea turtle, *Caretta caretta* (T)

Green Sea turtle, *Chelonia mydas (incl. agassizi)* (T)

Olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

Coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Invertebrates

Myrtle's silverspot butterfly, *Speyeria zerene myrtleae* (E)

California freshwater shrimp, *Syncaris pacifica* (E)

Plants

beach layia, *Layia carnosa* (E)

Proposed Species

Fish

Central California steelhead, *Oncorhynchus mykiss* (PE)

QUAD : 485B TOMALES

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

Baker's larkspur, *Delphinium bakeri* (C)

Species of Concern

Mammals

Point Reyes mountain beaver, *Aplodontia rufa phaea* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Pacific western big-eared bat, *Plecotus townsendii townsendii* (SC)

Point Reyes jumping mouse, *Zapus trinotatus orarius* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

black rail, *Laterallus jamaicensis* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

northern red-legged frog, *Rana aurora aurora* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

QUAD : 485B TOMALES

Species of Concern

Fish

Pacific lamprey, *Lampetra tridentata* (SC)

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp* (SC)

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

globose dune beetle, *Coelus globosus* (SC)

William's bronze shoulderband snail, *Helminthoglypta arrosa williamsi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara ricksecker*i (SC)

Point Reyes blue butterfly, *Icaricia icarioides ssp* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

Plants

Blasdale's bentgrass, *Agrostis blasdalei var. blasdalei* (SC)

Point Reyes stickyseed, *Blennosperma nanum var. robustum* (SC)

swamp harebell, *Campanula californica* (SC)

Mt. Vision ceanothus, *Ceanothus gloriosus var. porrectus* (SC)

Tomales clarkia, *Clarkia concinna ssp. raichei* (SC)

northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC)

fragrant fritillary, *Fritillaria liliacea* (SC)

San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

San Francisco owl's-clover, *Triphysaria floribunda* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(*)		Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by Projects in the Area of the Following California County or Counties

March 20, 1997

MARIN COUNTY

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

Birds

American peregrine falcon, *Falco peregrinus anatum* (E)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

marbled murrelet, *Brachyramphus marmoratus* (T)

marbled murrelet critical habitat, *Brachyramphus marmoratus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

Leatherback sea turtle, *Dermochelys coriacea* (E)

Loggerhead sea turtle, *Caretta caretta* (T)

Green Sea turtle, *Chelonia mydas (incl. agassizi)* (T)

Olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon crit. habitat, *Oncorhynchus tshawytscha* (E)

delta smelt, *Hypomesus transpacificus* (T)

Coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Invertebrates

mission blue butterfly, *Icaricia icarioides missionensis* (E)

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

MARIN COUNTY

Listed Species

Invertebrates

Myrtle's silverspot butterfly, *Speyeria zerene myrtleae* (E)

California freshwater shrimp, *Syncaris pacifica* (E)

Plants

Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)

Sonoma spineflower, *Chorizanthe valida* (E)

beach layia, *Layia carnosa* (E)

Pt. Reyes clover lupine, *Lupinus tidestromii var. layneae* (E)

Tidestrom's clover lupine, *Lupinus tidestromii var. tidestromii* (E)

Tiburon jewelflower, *Streptanthus niger* (E)

Tiburon mariposa lily, *Calochortus tiburonensis* (T)

Marin dwarf-flax, *Hesperolinon congestum* (T)

white-rayed pentachaeta, *Pentachaeta bellidiflora* (E)

Proposed Species

Fish

Central California steelhead, *Oncorhynchus mykiss* (PE)

Sacramento splittail, *Pogonichthys macrolepidotus* (PT)

Plants

Sonoma alopecurus, *Alopecurus aequalis var. sonomensis* (PE)

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (PE)

showy Indian clover, *Trifolium amoenum* (PE)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

Baker's larkspur, *Delphinium bakeri* (C)

Santa Cruz tarweed, *Holocarpha macradenia* (C)

MARIN COUNTY

Species of Concern

Mammals

Point Reyes mountain beaver, *Aplodontia rufa phaea* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
Pacific western big-eared bat, *Plecotus townsendii townsendii* (SC)
Point Reyes jumping mouse, *Zapus trinotatus orarius* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
ferruginous hawk, *Buteo regalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
black rail, *Laterallus jamaicensis* (SC)
San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

northern red-legged frog, *Rana aurora aurora* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

MARIN COUNTY

Species of Concern

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp* (SC)
sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)
globose dune beetle, *Coelus globosus* (SC)
William's bronze shoulderband snail, *Helminthoglypta arrosa williamsi* (SC)
Nicklin's Peninsula Coast Range ....., *Helminthoglypta nickliniana awania* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
Point Reyes blue butterfly, *Icaricia icarioides ssp* (SC)
Marin elfin butterfly, *Incisalia mossii* (SC)
bumblebee scarab beetle, *Lichnanthe ursina* (SC)

Plants

Blasdale's bentgrass, *Agrostis blasdalei var. blasdalei* (SC)
Tamalpais manzanita, *Arctostaphylos hookeri ssp. montana* (SC)
Point Reyes stickyseed, *Blennosperma nanum var. robustum* (SC)
Thurber's reedgrass, *Calamagrostis crassiglumis* (SC)
swamp harebell, *Campanula californica* (SC)
Humboldt Bay owl's-clover, *Castilleja ambigua ssp. humboldtiensis* (SC)
Mt. Vision ceanothus, *Ceanothus gloriosus var. porrectus* (SC)
Mason's ceanothus, *Ceanothus masonii* (SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
Mt. Tamalpais thistle, *Cirsium hydrophilum var. vaseyi* (SC)
Tomales clarkia, *Clarkia concinna ssp. raichei* (SC)
northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC)
San Francisco wallflower, *Erysimum franciscanum* (SC)
fragrant fritillary, *Fritillaria liliacea* (SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)
seaside tarweed, *Hemizonia multicaulis ssp. multicaulis* (SC)
Tiburon tarweed, *Hemizonia multicaulis ssp. vernalis* (SC)
Point Reyes horkelia, *Horkelia marinensis* (SC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
Tamalpais lessingia, *Lessingia micradenia var. micradenia* (SC)
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)
Point Reyes meadowfoam, *Limnanthes douglasii ssp. sulphurea* (SC)
Santa Cruz microseris, *Microseris decipiens* (SC)

MARIN COUNTY

Species of Concern

Plants

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)
northcoast phacelia, *Phacelia insularis var. continentis* (SC)
northcoast semaphore grass, *Pleuropogon hooverianus* (SC)
Marin knotweed, *Polygonum marinense* (SC)
California beaked-rush, *Rhynchospora californica* (SC)
valley sagittaria, *Sagittaria sanfordii* (SC)
Marin checkermallow, *Sidalcea hickmanii ssp. viridis* (SC)
Tamalpais streptanthus, *Streptanthus batrachopus* (SC)
San Francisco owl's-clover, *Triphysaria floribunda* (SC)
supple daisy, *Erigeron supplex* (SC)
Diablo rock-rose, *Helianthella castanea* (SC)
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC)
coast lily, *Lilium maritimum* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	*Candidate*	Candidate to become a *proposed* species.
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(*)	Possibly extinct.	
	Critical Habitat	Area essential to the conservation of a species.

Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed. or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name

   c. survey dates and survey methodology(ies)

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type

   f. current and historic land uses of the habitat(s) and degree of site alteration

   g. presence of target species off-site on adjacent parcels, if known

   h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

Appendix C: Site Plan, Building Perspectives and Elevations

Information on Plot Plan and Site Plan taken from survey by:

Gary Schmeder and Associates
Licensed Land Surveyor
1817 Grand Avenue
San Rafael, CA

and information supplied by the Owner.

Grading:
No major changes in any grades are anticipated. The Site for all new, rehabilitated and replaced Structures is flat. All Structures will be slab on grade and all drainage will be sloped away from buildings and use the natural drainage pattern where appropriate. Entry and Parking will be gravel surfaces and will be kept to a minimum.

Overflow parking and kayak launching

Rebuilt and Rehabilitated Stringing Building

Parking

Parking

Handicap Parking

Pond

Shoreline to be left open for view of Estero and for viewing of oyster operation

Settling and Sump Tanks for Oyster Wash Water

New Oyster Processing Plant and Retail Sales

Remove existing Processing Plant

FLOOR ELEVATION 7.0'

DRAINAGE

New Fence

Existing Modular Home

Septic and Sump Tanks

All Septic, Sump and Settling Tanks are in ground

Existing Frame Home

Existing Modular Home

Existing Modular Home

Existing Modular Home

Rehabilitated Dock

SLOPE AWAY FROM BUILDING 1/4"/1'-0" TYPICAL

Existing above ground gas tank

DRAINAGE

New low wood retaining walls

Existing Water Tank

Existing Frame Home

Existing Unused Well

Rehabilitated Dock

Drakes Estero

SLOPE AWAY FROM BUILDING 1/4"/1'-0" TYPICAL

New Garage

DRAINAGE

New Septic Leach Field not shown on this drawing Field is approximately 3000 feet East and uphill o houses and Processing Plant. See Drawings by Rich Lincoln & Sons P.O. Box 443 Occidental, CA 95465 (707) 8742286

Oyster Beds

New Seed Setting Building to replace existing structure of same size

Employee Parking

NORTH

Assessors Parcel Number 109-130-
Johnson Oyster Company
17171 Sir Francis Drake Boulevard
Inverness, CA
Point Reyes National Seashore

Site Boundaries taken from information supplied by the owner

3-3-97
12-30-96

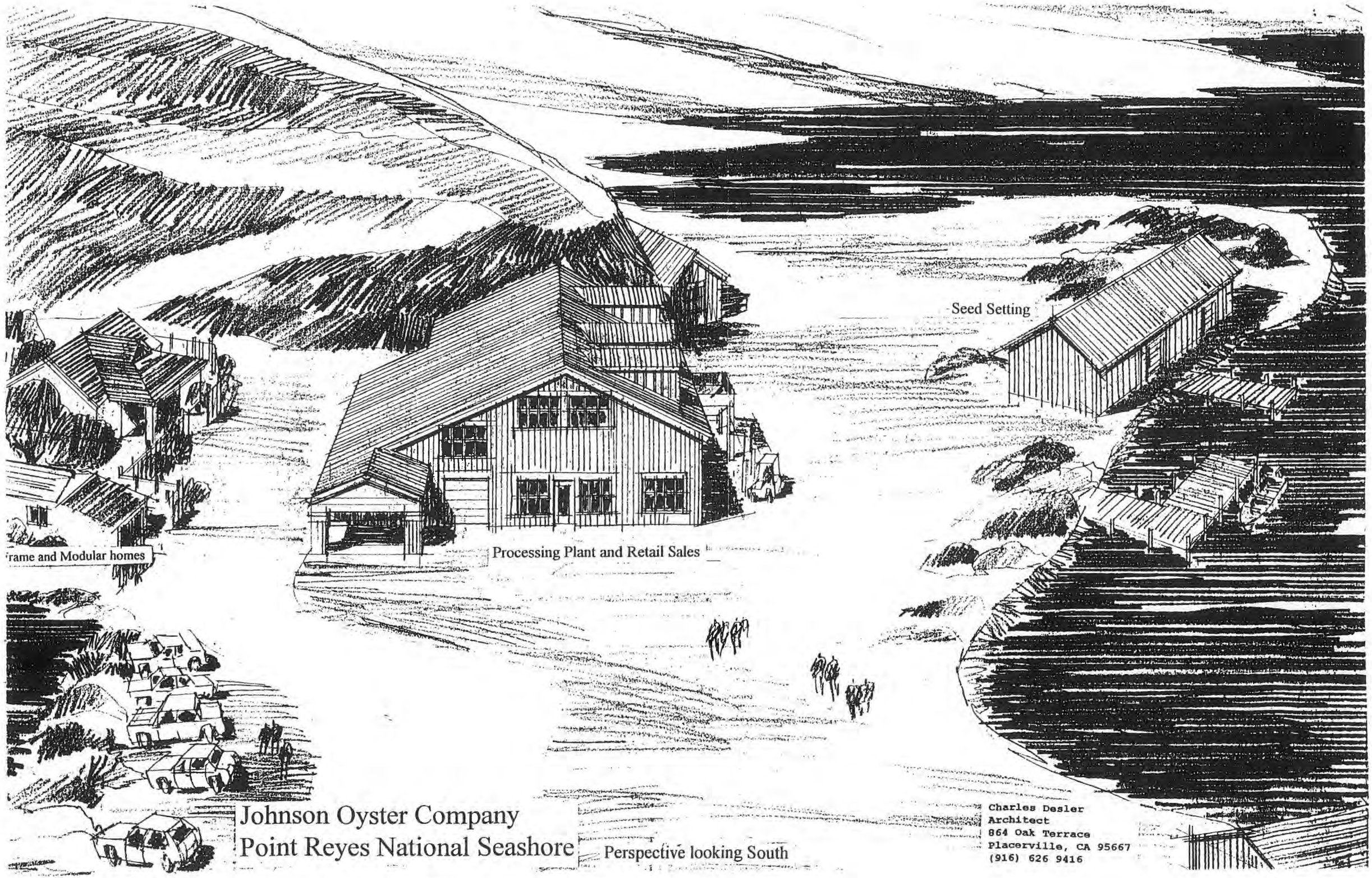
New Oyster Wash Water Disposal/ Leach Field.

See Drawings by Rich Lincoln & Sons (707) 8742286 Field only partially shown on this Drawing

Charles Desler
Architect
864 Oak Terrace
Placerville, CA 9560
(916) 626 9416

Site Plan

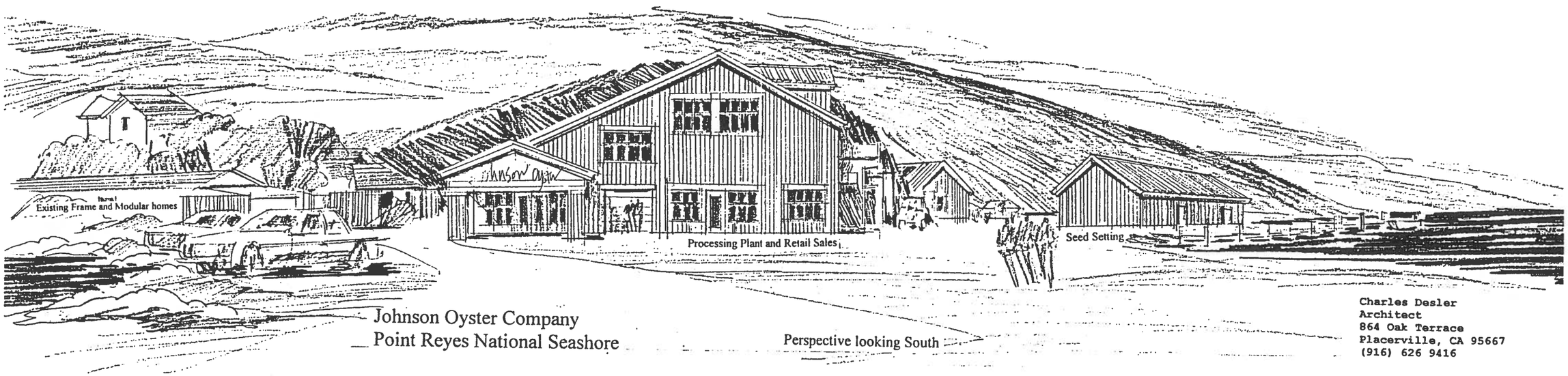
Johnson Oyster Company
Point Reyes National Seashore



Johnson Oyster Company
Point Reyes National Seashore

Perspective looking South

Charles Desler
Architect
864 Oak Terrace
Placerville, CA 95667
(916) 626 9416



Johnson Oyster Company
Point Reyes National Seashore

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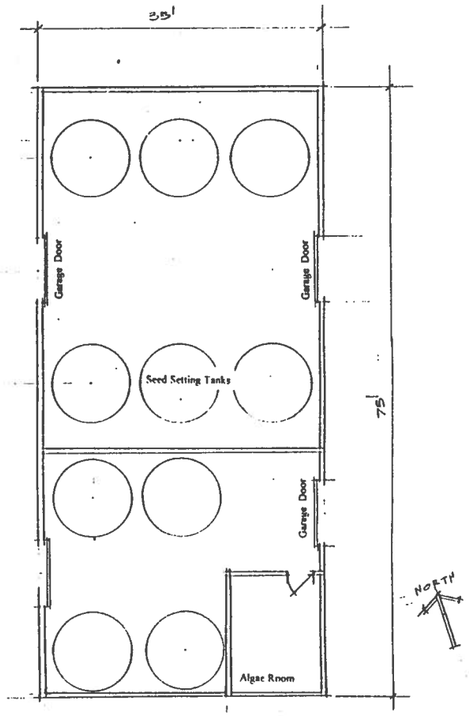
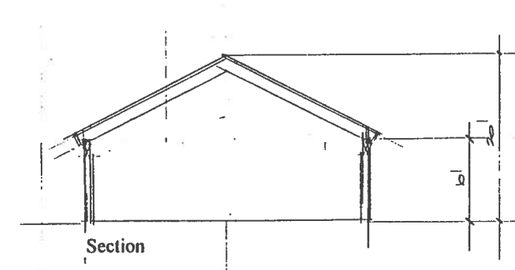


Floor Plan 2625 SQUARE FEET
Seed Setting



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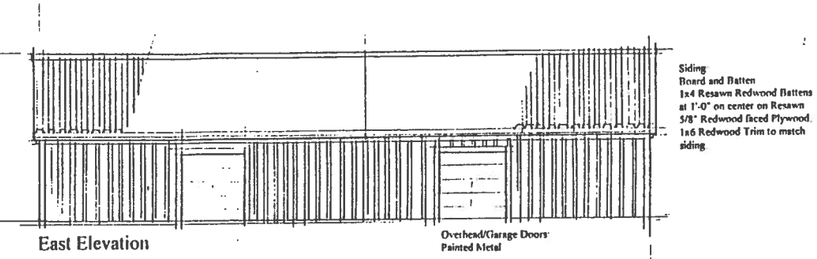
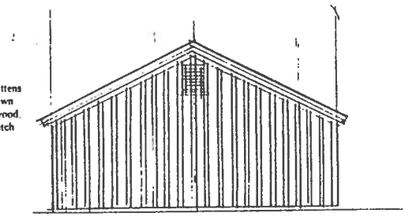


East Elevation



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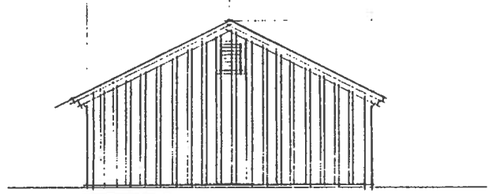

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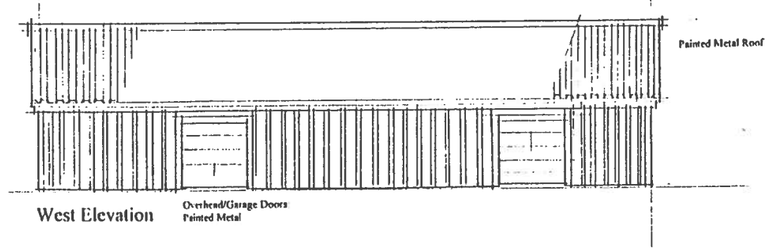

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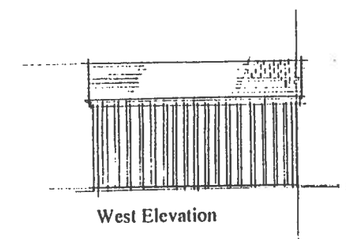

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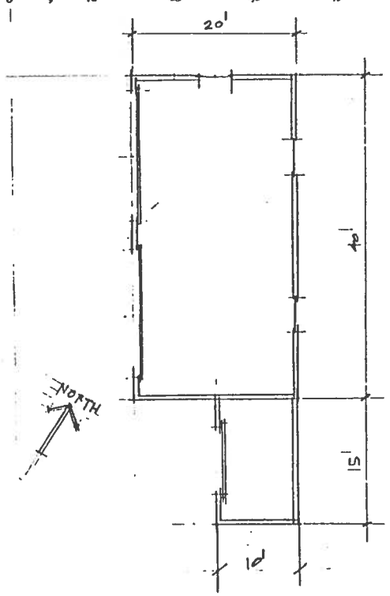
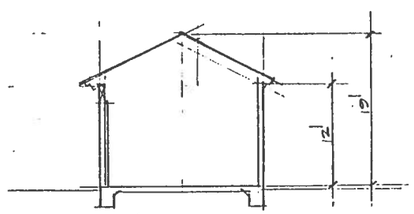


Floor Plan
Garage 900 SQUARE FEET

Johnson Oyster Company
Point Reyes National Seashore



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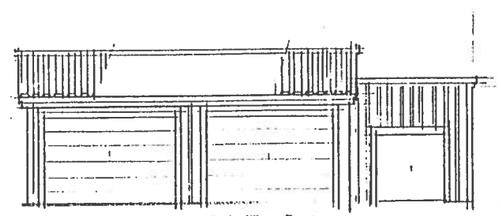

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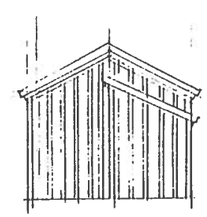

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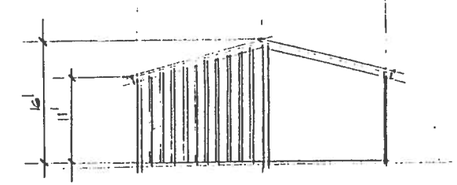

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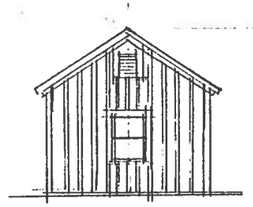
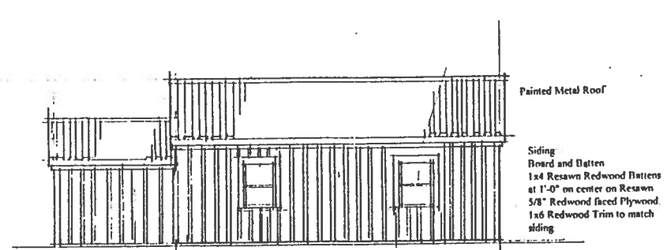
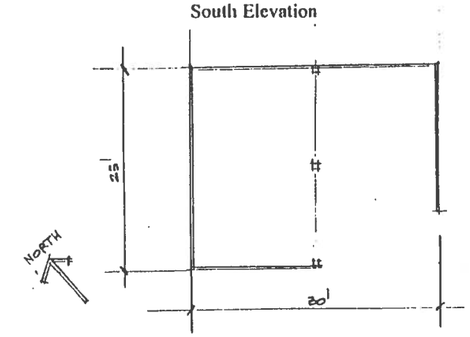


North Elevation



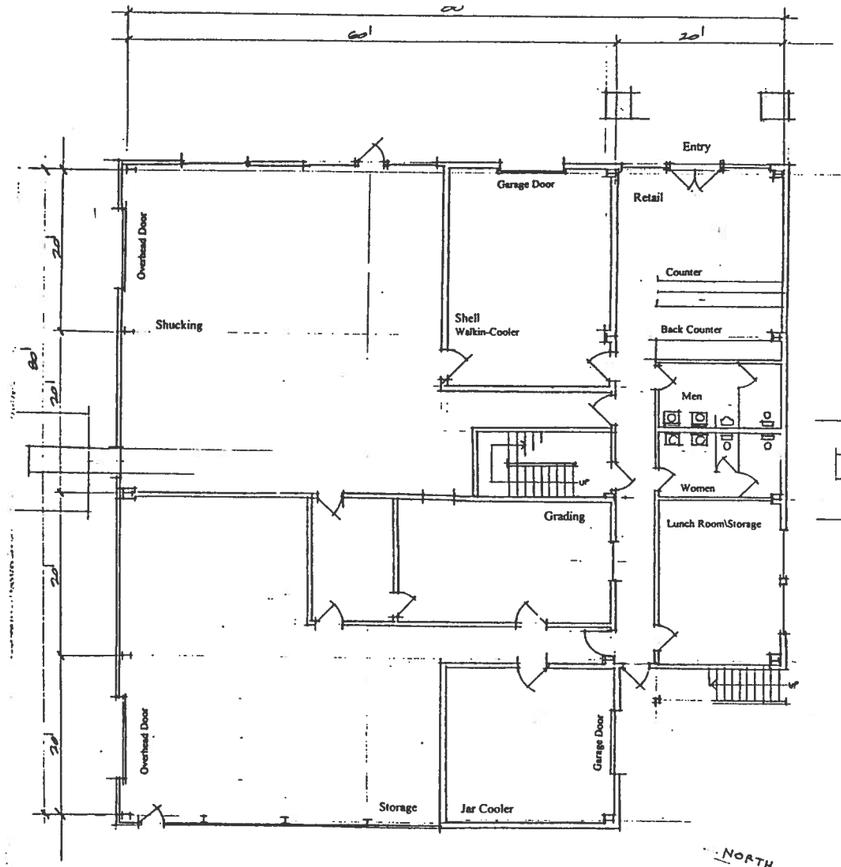
East Elevation



Floor Plan
Stringing

12-30-96

Charles Desler
Architect
864 Oak Terrace
Placerville, CA 95667
(916) 626 9416

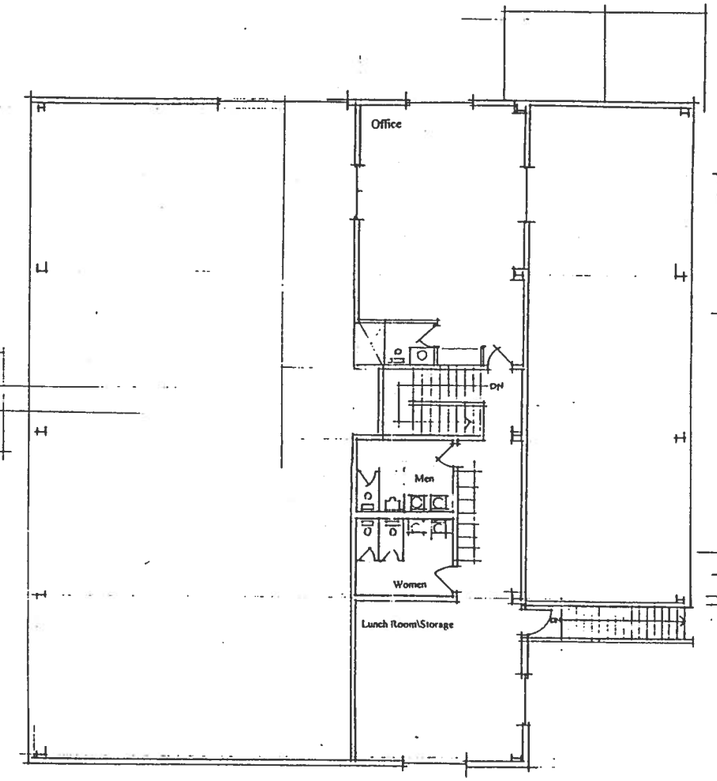


Ground Floor Plan

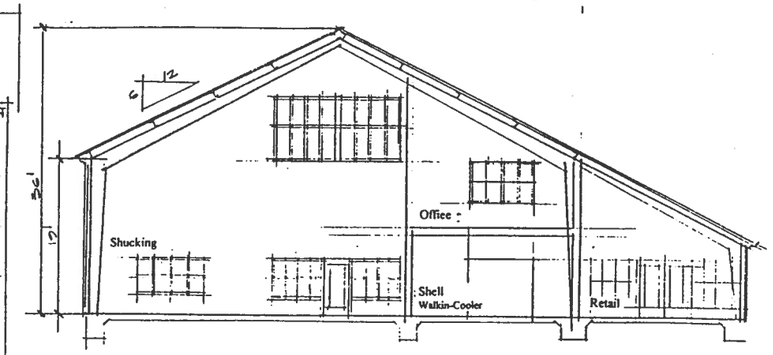
New Processing Plant and Retail Sales

6000 square feet ground floor
1600 square feet second floor
7600 square feet Total

Johnson Oyster Company
Point Reyes National Seashore



Second Floor Plan



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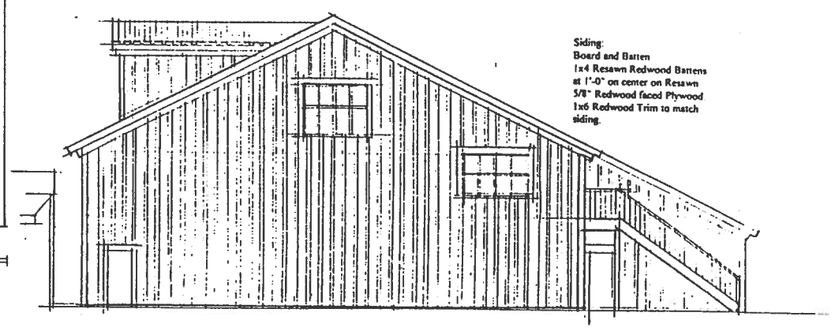

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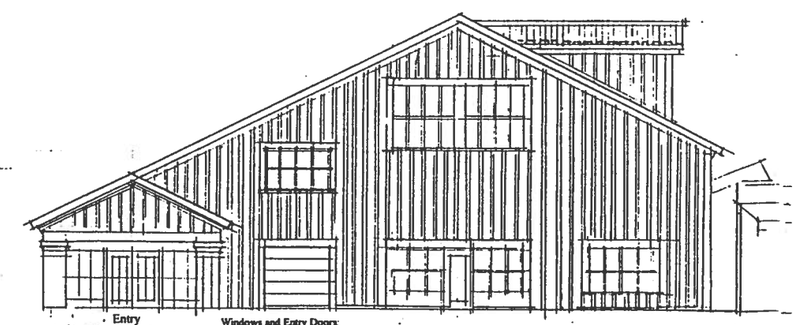
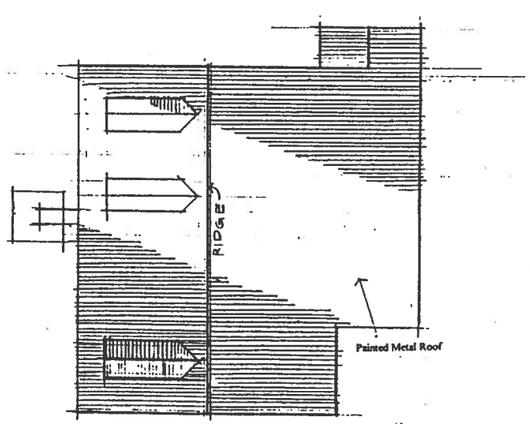
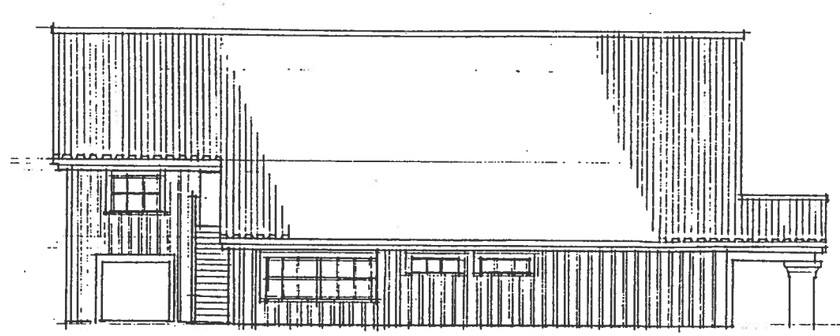


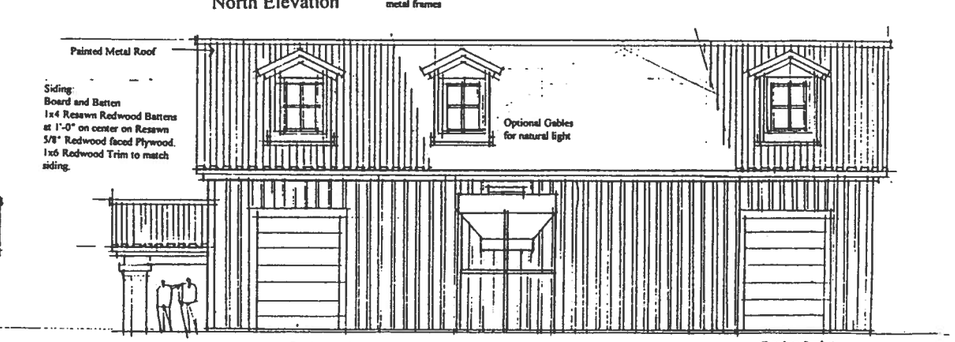
North Elevation



Roof Plan



East Elevation



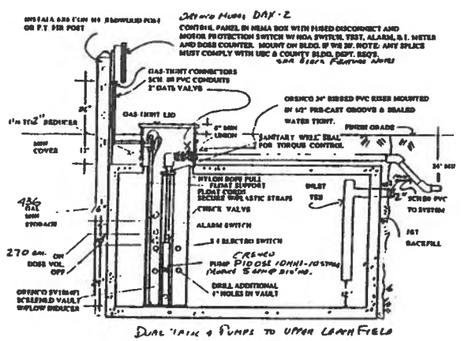
West Elevation

Overhead/Garage Doors:
Painted Metal

12·30·96

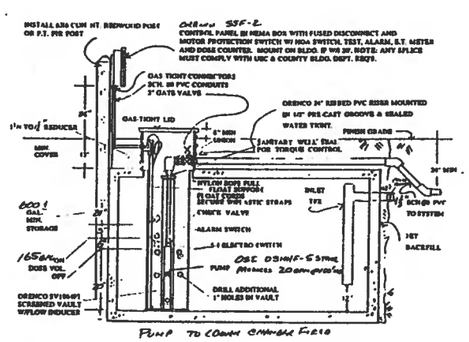
Charles Dealer
Architect
888 Oak Terrace
Pleasanville, CA 95667
(916) 428 9614

Appendix D: Waste Water Disposal System Design



DUAL 'TANK & PUMPS TO UPPER LEACH FIELD

SUMP AND PUMP DETAILS NTS



PUMP TO LOWER SUPPLIER FIELD

SUMP AND PUMP DETAILS NTS

PRESSURE DISTRIBUTION CALCULATIONS

Ocean View Subdivision
Discharge Network
Use: 1" PVC HOLES SPACED 2.5' O.C.

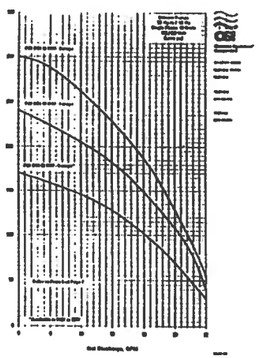
Total Discharge Rate
Ref. Disch. Rate = Q = 12.4 (3/8" / 1/8") @ 4' D-TIME MO
= 0.61 GPM/HOLE
X 64 HOLES/LINE = 39.03
DOSE WITH 1 SINGLE PUMP TO LOWER EXPANDED FIELD

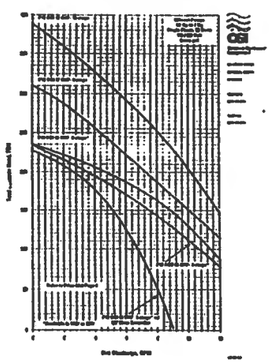
Pressure Losses & Pump Hd. 1" GLEPH 1.5" SCH 80 PVC & FITTINGS
H_f = 13.9'
H_{dis} = 5.0'
$H_{elev(max)}$ = 2.77'
$H_{f(minimum)}$ = 0.5'
(4 GPM)
H_{dyn} = 67'±
TDH = 89.67'

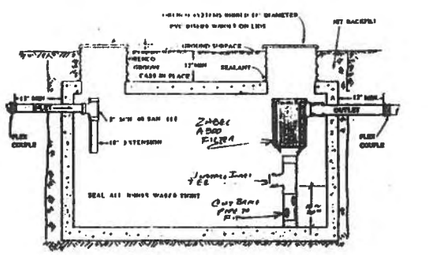
Use ORENCO OSF 25 HHF 5 STAGE.
PRODUCES 20 GPM @ 100' HD.

MAIN PUMP TO UPPER LEACH FIELD
Pressure Losses & Pump Hd. 2" SCH 80 PVC & FITTINGS @ 12 GPM.
H_f = 14.0'
H_{dis} = 5.0'
$H_{elev(max)}$ = 0
$H_{f(minimum)}$ = 0
H_{dyn} = 258'±
TDH = 275'±

Use ORENCO OSF PIDOSE 10HHF-10
PRODUCES 6 GPM @ 282' HD.
(PRODUCES 5 GPM @ 310' HD

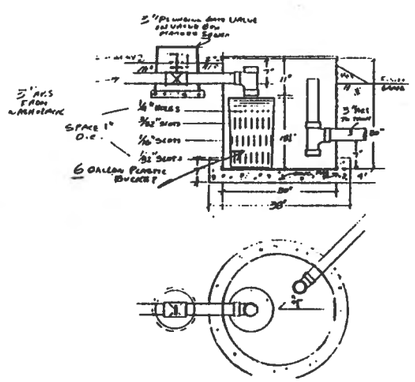






1500 GALLON ONE COMPARTMENT CONCRETE SEPTIC TANK DETAILS NTS

SETTLING TANK MAY SHOW CONFIGURATION



OYSTER WASH SCREENING CHAMBER DTLS. NTS

REQUIRED ELECTRICAL FEATURES

A. ALL MATERIALS, CONNECTIONS, AND SYSTEMS SHALL MEET THE MARIN COUNTY NATIONAL ELECTRICAL CODE.
1. IN ALL CASES IN WHICH A SUMP WITH A PUMP IS REQUIRED IN A SEWAGE DISPOSAL SYSTEM, THE CONTRACTOR/OWNER SHALL OBTAIN AN ELECTRICAL PERMIT FROM THE MARIN COUNTY BLDG DEPT.
2. THE ELECTRICAL SHALL BE RESPONSIBLE FOR INSPECTION AND APPROVAL OF ALL ELECTRICAL FEATURES OF ALL PUMP AND ELECTRICAL PARTS.
3. A DISCONNECTING MEANS SHALL BE LOCATED IN SIGHT FROM THE PUMP LOCATION PER THE COUNTY ADOPTED ELECTRICAL CODE.

B. THE ALARM CONTROL BOX SHALL BE REQUIRED WITH
1. A LIGHTED DIFFUSER AT A 90° MIN HORIZONTAL INSTANCE FROM THE ALARM LOCATION AUDIO ALARM AND NECESSARY FLOAT TO INDICATE A "HIGH WATER" CONDITION
2. A MIN. SIZED 90° DIA. RED LIGHT SHALL BE MOUNTED ON THE FACE OF THE PANEL, WHICH SHALL GLOW AS LONG AS THE "HIGH WATER" CONDITION EXISTS.
3. A MOMENTARY "ALARM TEST/ALARM SILENCE" SWITCH TO TEST THE ALARM LIGHT AND HORN AND TO SILENCE THE AUDIO ALARM IS REQUIRED IN THE "HIGH WATER" CONDITION.

C. A "WHEN ALARMED" MONITOR (MECHANICAL, CSM ONE OR SIMILAR) TO SYSTEMS SUPERVISE FOR EQUAL. FLOAT SWITCH SHALL BE USED TO ACTIVATE THE PUMP. MARROW AND REFLOAT SWITCHES ARE INACCEPTABLE. THE ALARM CONTROL BOX SHALL BE EQUIPPED WITH A MOTOR CONTACTOR FOR THE PUMP AND A MOMENTARY CONTACT "PUMP TEST" SWITCH TO MANUALLY RUN THE PUMP BYPASSING THE CONTROL PANEL AUTOMATIC MODE.

D. ELECTRICAL SERVICE TO THE ALARM CONTROL PANEL SHALL BE EQUIPPED WITH A BREAKER OR FUSE AT THE POWER SOURCE WHICH IS LARGER THAN THE CIRCUIT BREAKER FOR THE PUMP IN THE ALARM CONTROL PANEL.
1. THE ALARM CONTROL PANEL SHALL BE EQUIPPED INTERNALLY WITH SEPARATE CIRCUIT PROTECTION FOR THE CONTROL AND PUMP CIRCUITRY.
2. PUMP PROTECTION SHALL BE PROVIDED BY A THERMAL MAGNETIC CIRCUIT BREAKER FOR OVERLOAD AND SHORT CIRCUIT PROTECTION
   a. IF THE PUMP IS SINGLE PHASE, THE MOTOR WINDINGS SHALL HAVE INTERNAL THERMAL OVERLOAD PROTECTION
   b. IF THIS 3 PHASE, THE CONTACTOR IN THE ALARM CONTROL BOX SHALL BE EQUIPPED WITH AN ADJUSTABLE THERMAL OVERLOAD PROTECTION
3. AN INTERNAL JUNCTION BOX SHALL BE PLACED INSIDE (ON GROUNDED) LEVEL OR WITHIN THE SUMP CHAMBER.
4. THE PUMP POWER LEAD AND THE FLOAT SWITCH CONTROL WIRES SHALL NOT BE RUN IN A COMMON CONDUIT.
   a. ALL WIRES CONNECTED THE SUMP SHALL BE HERMETICALLY SEALED WITH PVC GAS TIGHT FITTINGS IN EITHER THE JUNCTION BOX OR ALARM CONTROL PANEL AS APPROPRIATE.
   b. METAL JACKETS ARE NOT ALLOWED

E. A NON RESETTABLE ENERGY METER SHALL BE INSTALLED IN CONTROL BOXES WITH LEXAN FOR MOUNTING, SHALLOW TRENCH PRESSURE DISTRIBUTION, AND OTHER NON STANDARD SYSTEMS. NOTE: CONTROL BOXES THAT MUST BE OPENED TO VIEW THE DOSE COUNTER SHALL BE SEALED WITH A CLEAR PLASTIC OR PYREX SAFETY SEAL D INSIDE THE CONTROL BOX. THE CONTROL BOX SHALL HAVE A LABEL PLACED OUT STATING "CAUTION - ELECTRICAL HAZARD"

F. ALARM CONTROL PANEL ENCLOSURE SHALL BE NEMA TYPE 4 IF MOUNTED A GREATER DISTANCE THAN 25 FEET FROM THE HOUSE, A REMOTE ALARM WITH AN AUDIO VISUAL LIGHT AND HORN SHALL BE PROVIDED.
1. ENCLOSURE FOR THE REMOTE AND AUDIO VISUAL ALARM SHALL BE NEMA TYPE 4 IF MOUNTED OUTDOORS.
2. ENCLOSURE FOR THE REMOTE AND AUDIO VISUAL ALARM SHALL BE NEMA TYPE 1 IF MOUNTED INDOORS.
3. EMERGENCY DISCONNECT FOR THE ALARM CONTROL PANEL IS PROVIDED FOR BY THE INTERNAL FUSED DISCONNECT AND PUMP CIRCUIT BREAKER.

NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE COUNTY HEALTH DEPT AND UNIFORM PLUMBING CODE
2. NOTIFY ENVIRONMENTAL HEALTH AND DESIGNER A MINIMUM OF 48 HRS PRIOR TO CONSTRUCTION, AND PRIOR TO COVERING
3. ANY ALTERATION TO THE APPROVED DESIGN MUST BE APPROVED PRIOR TO INSTALLATION

CONTINGENCY PLAN FOR REPAIR OR REPLACEMENT OF SYSTEM

(1) IN CASE OF PUMP FAILURE, CONTACT THE CONTRACTOR OR INSTALLER OF THE PUMP FOR REPAIR OR REPLACEMENT AND TO DETERMINE CAUSE OF FAILURE

(2) IN CASE OF SURFACING SEWAGE CONTACT THE INSTALLER AND DESIGNER, AS WELL AS THE DIVISION OF ENVIRONMENTAL HEALTH, FOR EVALUATION AND RECOMMENDED CORRECTIVE ACTION, WHICH MAY INCLUDE EXPANSION OF THE SYSTEM, INSTALLING ANOTHER TYPE OF SYSTEM, SUCH AS AN INTERMITTENT OR RECIRCULATING SAND FILTER FOR POLISHING THE EFFLUENT PRIOR TO DISPOSAL INTO THE TRENCHES, OR, IF ALL ELSE FAILS, CONVERSION TO A HOLDING TANK-PUMPING AND HAULING SYSTEM.

OPERATION AND MAINTENANCE

THIS PRESSURE DISTRIBUTION SYSTEM IS DESIGNED TO BE AS MAINTENANCE-FREE AS POSSIBLE. HOWEVER, THE FOLLOWING SHOULD BE NOTED BY THE HOMEOWNER

(1) NEVER FLUSH LARGE OBJECTS LIKE SANITARY NAPKINS OR DISPOSABLE DIAPERS DOWN THE TOILET

(3) BE CONSERVATIVE USING WATER. THE LESS WATER USED, THE EASIER IT IS FOR THE DISPOSAL SYSTEM TO OPERATE.

(2) BE AWARE OF THE LOCATION OF ALL THE COMPONENTS OF THE SYSTEM. THEY ARE MARKED BY PLASTIC OR CONCRETE RISERS. INSPECTION WELLS ARE SELF EVIDENT.

(4) ABOUT EVERY 3 YEARS, DEPENDING ON VOLUME OF USE, THE SEPTIC TANK SHOULD BE PUMPED AND CLEANED TO REMOVE SOLIDS BUILD-UP, AND THE EFFLUENT SCREEN BACK-WASHED CLEAN

(2) MONITORING THE WATER LEVEL IN THE INSPECTION WELLS WILL GIVE A CLUE THAT SOMETHING MAY BE WRONG BEFORE IT BECOMES A MAJOR PROBLEM. MAKE THIS A ROUTINE.

(6) THE ENDS OF THE TRENCHES ARE FITTED WITH PURGE BOXES. BY REMOVING THE LIDS AND ADJUSTING THE VALVES, EACH LINE CAN BE SEPARATELY PURGED TO REMOVE ANY SOLIDS BUILD UP. THIS SHOULD BE DONE ONCE AFTER THE FIRST YEAR OF USE AND THEN AT TWO YEAR INTERVALS. CARE MUST BE TAKEN TO RETURN THE VALVES TO THE SAME POSITION THEY WERE IN BEFORE PURGING.

(7) THE PUMP IS EQUIPPED WITH AN AUDIO AND VISUAL ALARM SYSTEM WHICH WILL INDICATE THE NEED TO CHECK THE PUMP.

CONSTRUCTION INSPECTION SCHEDULE & DETAILS

1 RICH LINCOLN, R&S & SONS OR HIS AUTHORIZED REPRESENTATIVE SHALL INSPECT THE SITE AND WEATHER CONDITIONS PRIOR TO CONSTRUCTION OF THE SYSTEM. HE MUST VERIFY DRY AND ACCEPTABLE SOIL AND WEATHER CONDITIONS FOR CONSTRUCTION, AND DECIDE IF CONDITIONS ARE SUITABLE TO BEGIN CONSTRUCTION

2 HE SHALL VERIFY (WITH THE CONTRACTOR) THE PROPER STAKING OF THE SYSTEM PRIOR TO ANY CONSTRUCTION. THE SYSTEM DETAILS, CONFIGURATION, LOCATION, CONTOUR, PERCOLATION AREA, EXPANSION AREA, ETC. SHALL BE VERIFIED

3 HE OR THE CONTRACTOR SHALL NOTIFY THE MARIN COUNTY HEALTH DEPT A MINIMUM OF 48 HRS IN ADVANCE OF WHEN CONSTRUCTION IS TO TAKE PLACE AND CERTIFY THAT THE SOIL CONDITIONS ARE ACCEPTABLE FOR CONSTRUCTION PURPOSES AND THAT THE STAKING OF THE SYSTEM HAS BEEN ACCOMPLISHED AND CERTIFIED.

ALL MEETINGS AND INSPECTIONS SHALL BE SCHEDULED WITH RICH LINCOLN & SONS A MINIMUM OF 48 HRS IN ADVANCE. THESE SHALL INCLUDE AS A MINIMUM:
(A) PRE-CONSTRUCTION CONFERENCE
(B) INTERIM INSPECTION, PERFORMED PRIOR TO COVERING ANY ELEMENTS OF THE SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE MARIN COUNTY ENVIRONMENTAL HEALTH SPECIALIST A MIN OF 48 HRS. IN ADVANCE, AND NO LATER THAN 9 A.M. OF THE PRIOR WORKING DAY
(C) FINAL INSPECTION OF COMPLETED SYSTEM AND ALL RELATED ITEMS PER THE CONSTRUCTION DOCUMENTS.

4. AT THE PRE-CONSTRUCTION CONFERENCE THE FOLLOWING ITEMS SHALL BE REVIEWED
(A) SOIL MOISTURE AT THE APPROPRIATE DEPTHS ARE NOT SO HIGH AS TO HAVE THE SOIL SMEAR OR COMPACT DUE TO CONSTRUCTION ACTIVITIES
(B) IMMINENT WEATHER CONDITIONS APPEAR THAT THEY WILL NOT CREATE UNSUITABLE SOIL MOISTURE CONDITIONS DURING THE COURSE OF CONSTRUCTION
(C) LAYOUT AND STAKING OF THE SYSTEM THAT SUBSTANTIALLY CONFORMS TO THE APPROVED CONSTRUCTION DOCUMENTS HAS BEEN ACCOMPLISHED
(D) THE SOURCE OF THE SOIL COVER MATERIAL SHALL BE DESIGNATED, AND A SAMPLE SHALL BE MADE AVAILABLE AND APPROVED BY THE DESIGN CONSULTANT PRIOR TO PLACEMENT.

5. AT THE INTERIM INSPECTION THE FOLLOWING ELEMENTS, (WHEN REQUIRED), SHALL BE VERIFIED BY VISUAL INSPECTION AND OPERATION OF THE SYSTEM. WHEN ALL REQUIRED ITEMS ARE COMPLETED AND APPROVED, THE DISPOSAL FIELD, TRENCHES AND TANKS MAY BE COVERED OR BACKFILLED.
(A) LINE AND GRADE OF ALL EXCAVATIONS AND FILLS AS APPLICABLE
(B) FUNCTION AND SETTING OF ANY CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO VALVES, SWITCHES, AND ALARMS
(C) HYDRAULIC TESTING OF ANY PUMP AND DISTRIBUTION SYSTEM TO ASSURE THAT THE PUMP IS ADEQUATE FOR DESIGN FLOWS
(D) ALL THE REMAINING ELEMENTS REQUIRED TO COMPLETE THE SYSTEM SHALL BE ON SITE AT THE TIME FOR VERIFICATION AND APPROVAL BY THE DESIGNER FOR CONFORMANCE WITH THE PLANS AND SPECIFICATIONS.

6 AT THE FINAL INSPECTION THE DESIGNER SHALL VERIFY THAT ALL CONSTRUCTION IS IN GENERAL CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. A FINAL LETTER FROM THE DESIGNER TO THE MCEHD SHALL STATE THAT ALL CONSTRUCTION HAS BEEN COMPLETED, APPROVED, AND IS IN CONFORMANCE WITH ALL SPECIFICATIONS

MONITORING & MAINTENANCE:

MONITORING REQUIREMENTS WILL BE ESTABLISHED BY THE REGULATING AGENCIES. AT A MINIMUM, THE CONDITION OF THE ZABEL FILTERS AND SEPTIC TANKS SHOULD BE CHECKED QUARTERLY AND PUMPED AND CLEANED AS NEEDED. DOSE COUNTER AND E.T. METERS SHOULD BE READ MONTHLY TO DETERMINE WATER USE AND POSSIBLE LEAKS IN THE SYSTEMS. MONITORING WELL LIQUID LEVELS SHOULD BE CHECKED AND RECORDED QUARTERLY. THE MAIN DIVERSION VALVE IN THE UPPER LEACH FIELD SHOULD BE CHANGED AT FOUR MONTH INTERVALS. THE ADDITIONAL DIVERSION VALVES SHOULD BE LEFT IN THE UPPER OPEN POSITION UNLESS A CHANGE IS CONCURRED WITH THE DESIGNER.

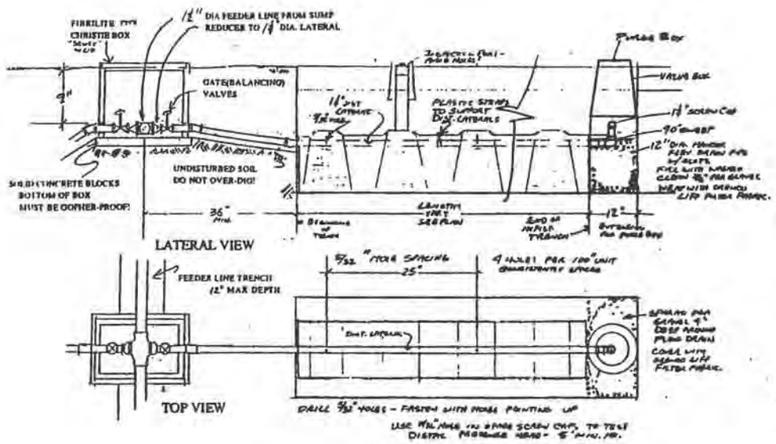
Wastewater Disposal System Design

for
Johnson Oyster Farm
17171 Sir Francis Drake Blvd.
Inverness

by
Rich Lincoln & Sons
P O Box 443
Occidental, CA 95465 707 874-2286

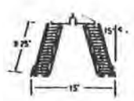
Date: 3/13/97
Drawn By: RJL
Design By:
Revisions:
1
2
3

Sht. 5
Construction Inspection Schedule Details, Guidelines, Monitoring Maintenance & Operation



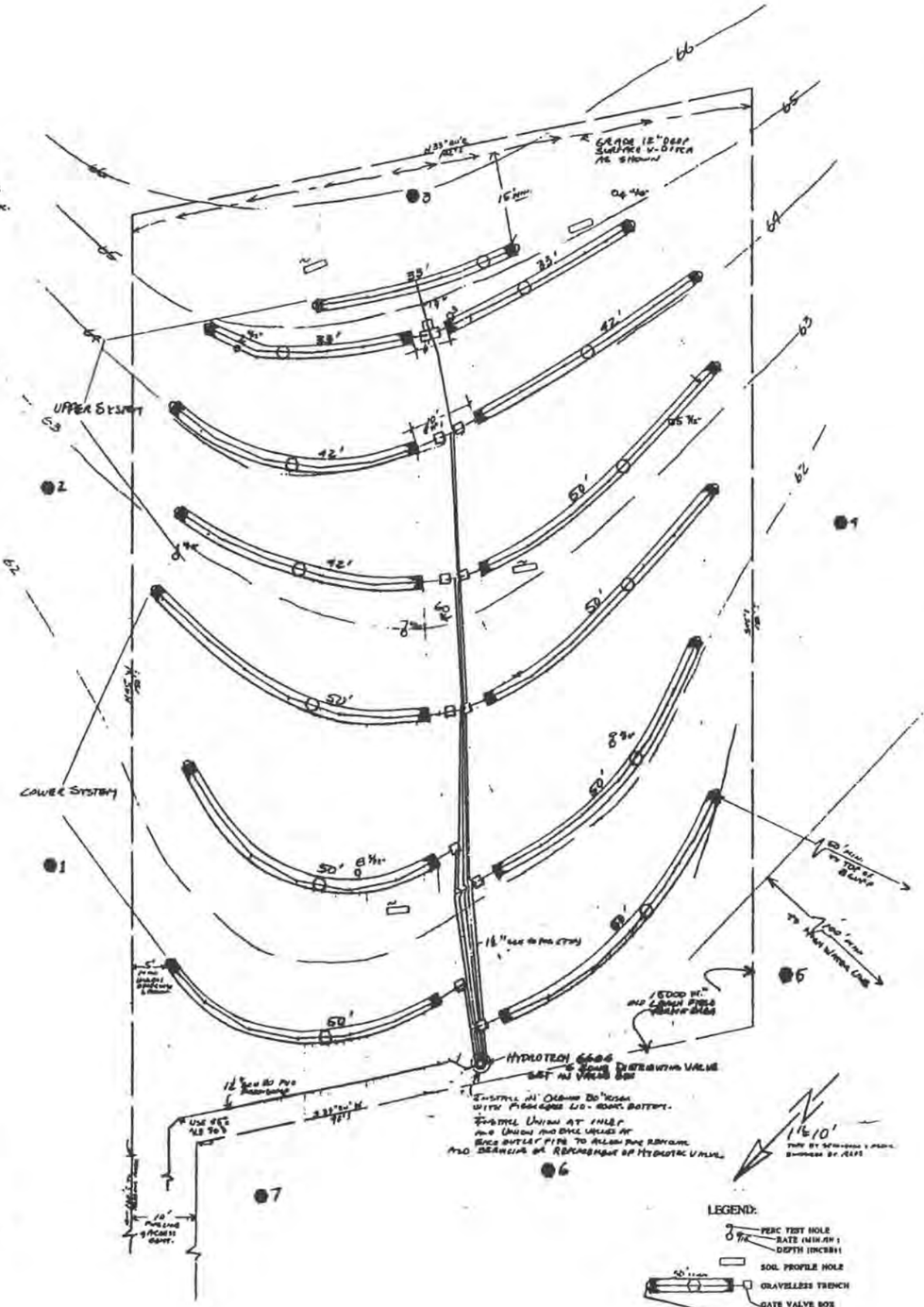
VALVED DISTRIBUTION DETAILS NTS

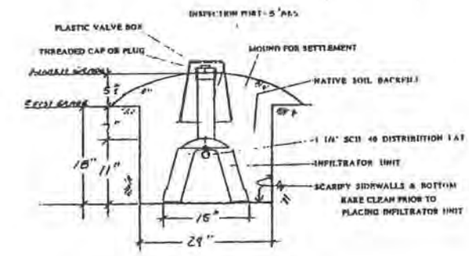
THE
EQUALIZER™24



DIMENSIONS:	1.25 feet (15 in.) wide 8.33* feet (100 in.) long * connected 0.92 feet (11 in.) tall
MATERIAL:	High Density Poly-ethylene
STRENGTH:	H-10 Loading (16,000 lbs./axle) with 9" of compacted backfill
STORAGE:	4 gallons / foot or 33.3 gal. / unit

INFILTRATOR SYSTEMS INC.





TYPICAL TRENCH X-SECT. NTS

GRAVELLESS TRENCH INSTALLATION GUIDELINES

(1) INSTALLATION ONLY WHEN THE SOIL IS DRY.
(2) AFTER LAYOUT HAS BEEN APPROVED BY DESIGNER, EXCAVATE TRENCHES TO THE AVERAGE DEPTH OF 18", MAKING SURE BOTTOM OF TRENCHES ARE LEVEL.
(3) SCARIFY SIDEWALLS OF TRENCHES WITH A PICK OR BAR, CHIPPING AWAY ANY GLAZED PORTIONS OF THE SIDEWALLS AND RAKING AND SHOVELING THE LOOSE MATERIAL OUT OF THE TRENCHES. TRENCHES SHOULD BE 12" TO 18" LONGER THAN SHOWN TO ALLOW FOR THE PUROS BOX INSTALLATION.
(4) TEMPORARILY INSTALL EQUALIZER UNITS TO DETERMINE IF ADDITIONAL COVERS ARE NEEDED TO MAKE THE NECESSARY CONTOUR BENDS. THIS IS ALSO THE TIME TO MAKE-UP THE DIST. LATERALS AND SPACERS AND BENDS AND TO MARK HOLE SPACING. HOLES MUST BE LAID OUT DIRECTLY UNDER THE DOMED PART OF THE UNITS TO BE MOST EFFECTIVE AND REDUCE THE POSSIBILITY OF WASHOUT FROM A MISDIRECTED ORIFICE.
(5) LAY THE EQUALIZER UNITS AND DIST. PIPES SIMULTANEOUSLY, SNAPPING ENDS AND GLUING AND SECURING THE DIST. PIPE AS SHOWN ON THE PLAN. MAKE EVERY EFFORT TO COMPLETE THIS PHASE PERFECTLY. INSTALL INSPECTION PORTS ALSO AT THIS TIME.
(6) BACKFILL AROUND THE EQUALIZER UNITS BY HAND AND COMPACT WITH FEET UNTIL THE SIDES OF THE UNITS ARE COVERED. FINAL BACKFILLING AND LEVELING MUST BE DONE WITH A TRACK LAYER TO ASSURE EVEN COMPACTION.
(7) EXCAVATE THE SUPPLY LINE TRENCH NO DEEPER THAN 9". MAKE CONNECTOR TRENCHES FROM BALANCING VALVES TO BEGINNING OF TRENCHES BY HAND. DO NOT OVER-DIG.
(8) PUROS BOXES AND GRAVEL CAN BE INSTALLED AND THEN PRESSURE TESTED WHILE BALANCING VALVES ARE STILL UNCOVERED.
(9) ONCE THE PRESSURE TEST IS APPROVED, FINAL COVERING OF ALL COMPONENTS CAN BE DONE AND THE SURFACE DRAIN EXCAVATED. SEED WITH ANNUAL RYE GRASS AND HAND RAKE AND COVER WITH LOCAL HAY TO PREVENT EROSION.
(10) INSTALL MONITORING WELLS AND MARK EACH WELL AND THE DIVERSION VALVE AND EACH HYDROTECH VALVE WITH A T-BAR FENCE POST AT COMPLETION.

DESIGN ANALYSIS:

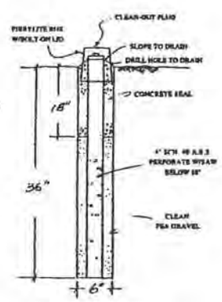
AVG. PERC RATE = 18.6 MIN/INCH

APPLICATION RATE = 0.786 GAL/FT²/DAY

EQUIVALENT SIDEWALL AND BOTTOM ALLOWANCE = 2 FT²/LIN FT

MAX. USE = 900 GAL/DAY
900 ÷ 2.786 = 372.5

PROVIDE 375' TRENCH IN ALTERNATING SIX ZONE FIELD



MONITORING WELL (TYP) NTS

Wastewater Disposal System Design

for
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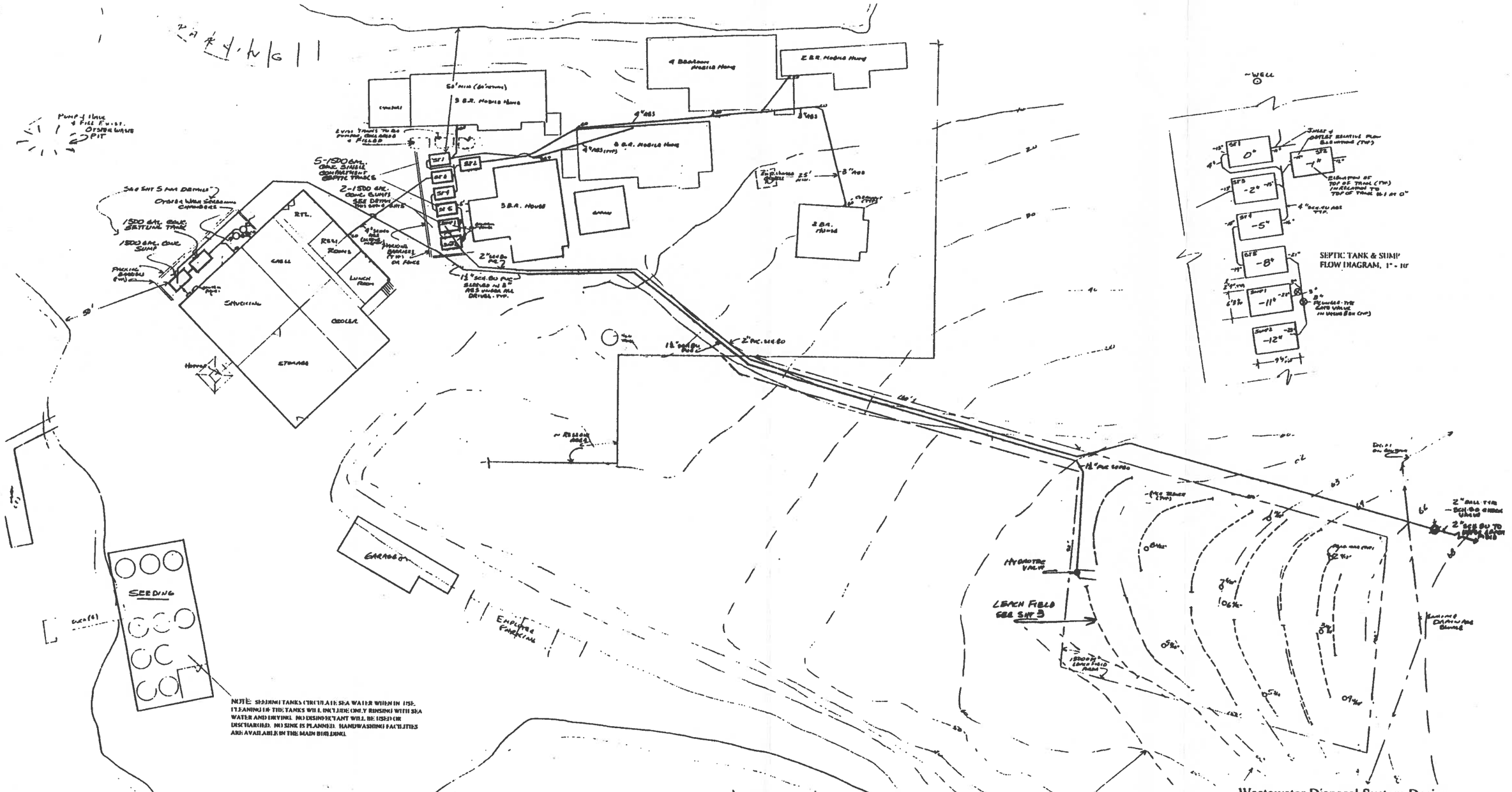
17171 Sir Francis Drake Blvd.
Inverness

by
Rich Lincoln & Sons
P O Box 443
Occidental, CA 95465 707 874-2286

Date: 3/11/97
Drawn By: ROL
Design By: ROL
Revisions:
1
2
3

Slu. 3
Oyster Wash Water Disposal Field



Wastewater Disposal System Design

for

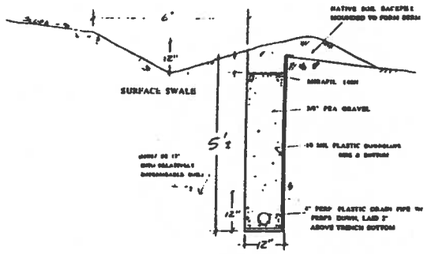
Johnson Oyster Farm
17171 Sir Francis Drake Blvd.
Inverness

by

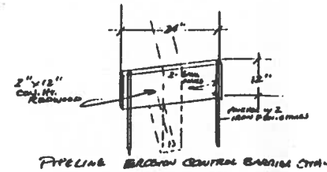
Rich Lincoln & Sons
P O Box 443
Occidental, CA 95465 707 874-2286

Date: 3/14/97
Drawn By: RDL
Design By: RDL
Revisions:
1
2
3

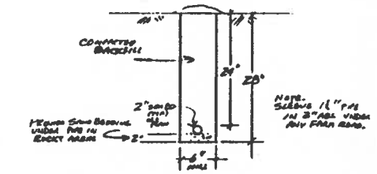
Sht. 2
Collection, Treatment and Pumping Plan



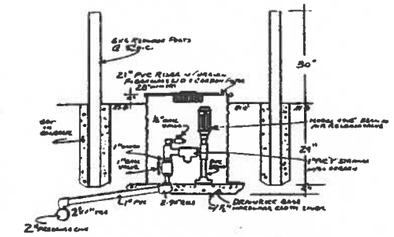
INTERCEPT DRAIN DTLS. NTS



PIPELINE BROKEN CONTROL BARRIER STRUTS
PLACE AT 100' INTERVALS WHERE PIPELINE SLOPE EXCEEDS 10% - AFTER TRENCH IS COMPACTED.



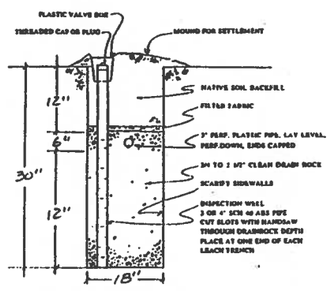
PIPELINE DETAIL TYP.



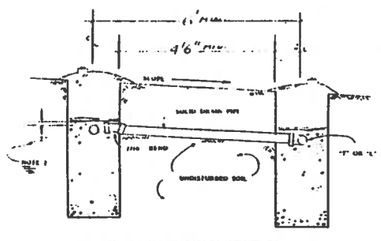
LEACH LOCATION SHT 1

ORENCO AR-21-4405 AIR RELEASE ASSEMBLY DTL. (NTS)

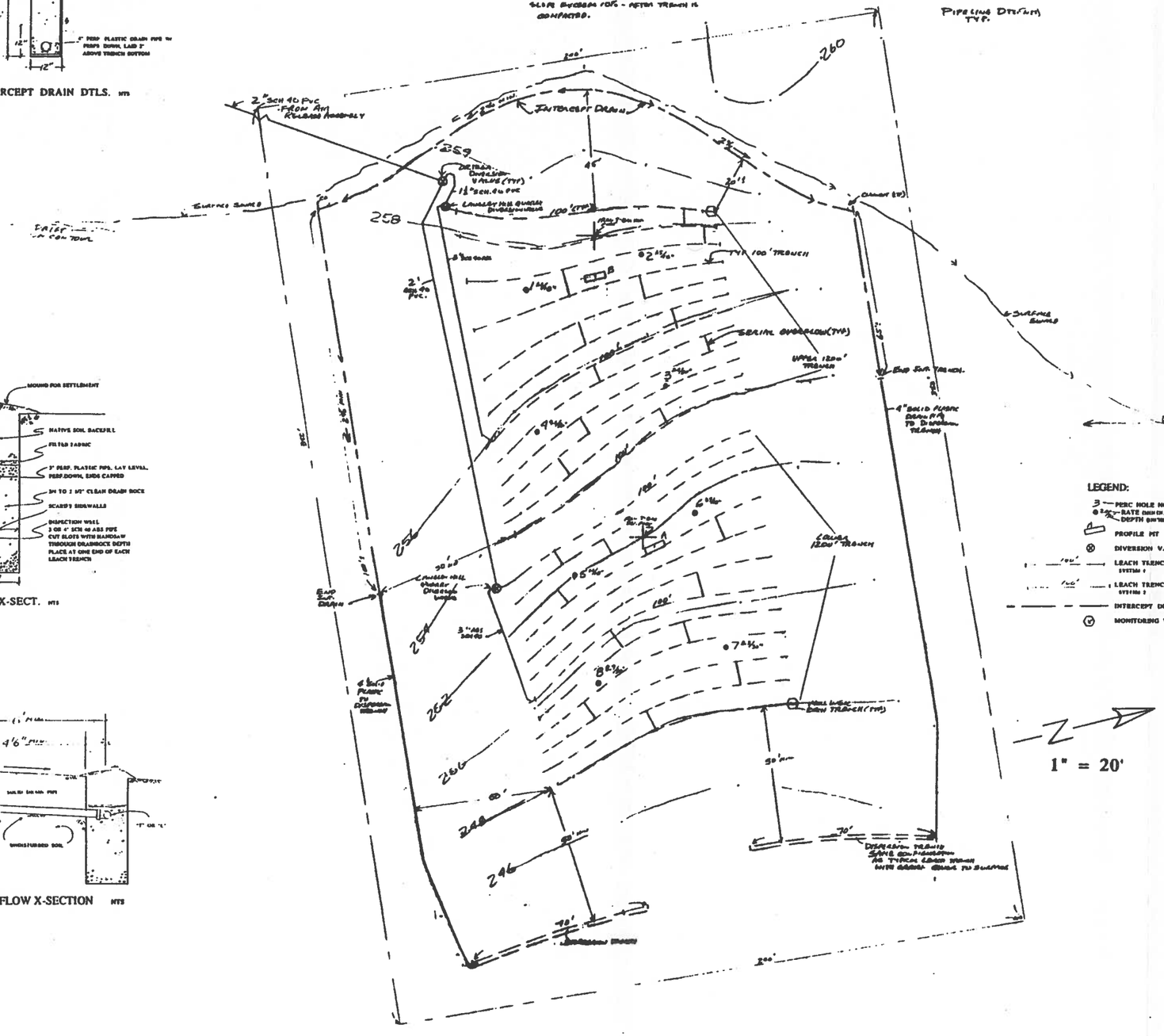
THE 1/2 INCH BALL VALVE IS USED BY MAINTENANCE PERSONNEL TO VERIFY THAT THE AUTOMATIC AIR RELEASE VALVE IS OPERATIONAL. IF THE 1/2 INCH BALL VALVE IS OPENED DURING SYSTEM OPERATION AND A LARGE VOLUME OF AIR IS RELEASED, THEN THE AIR RELEASE VALVE AND STRAINER SHOULD BE REMOVED AND CLEANED. THE FREQUENCY OF INSPECTION REQUIRED MAY VARY FROM ONE TO TWELVE MONTHS DEPENDING ON THE SYSTEM.



TYPICAL TRENCH X-SECT. NTS



SERIAL OVERFLOW X-SECTION NTS



ADDITIONAL LEACH FIELD NOTES:

THIS LEACH FIELD AS WELL AS THE PIPELINE IS ON NATIONAL SEASHORE LANDS. EVERY ATTEMPT MUST BE MADE DURING CONSTRUCTION TO RESTRICT THE IMPACT ON THE ACCESS ROUTE, PIPELINE AND CONSTRUCTION STAGING AND LEACH FIELD AREAS. FINAL GRADING AND CLEAN UP MUST BE APPROVED BY THE PARK SERVICE AND DESIGNER PRIOR TO THE CONTRACTOR VACATING THE SITE.

TEMPORARY ELECTRICAL FENCE OR STOCK FENCE TO BE ERECTED TO PROTECT THIS AREA THE FIRST YEAR AFTER INSTALLATION. IT MAY THEN BE REMOVED WITH CONCURRENCE OF DESIGNER AND PARK SERVICE.

RE-SEED WITH ANNUAL RYE OR OTHER SEED RECOMMENDED BY PARK SERVICE. SEED AND RAKE JUST PRIOR TO FALL RAINS. REPEAT IF LESS THAN 2/3 COVERAGE.

LEGEND:

- 3 — PERC HOLE NO.
- 2 — RATE (min/in)
- 3 — DEPTH (min/in)
- PROFILE PIT
- DIVERSION VALVE
- 100' — LEACH TRENCH SYSTEM 1
- 100' — LEACH TRENCH SYSTEM 2
- INTERCEPT DRAIN
- MONITORING WELLS

DESIGN ANALYSIS:

AVG. PERC RATE = 6.4 MIN/IN'H

LOADING RATE = 1.1 GAL/FT²

SIDEWALL USED = 2 FT²/LIN FT

LOADING /LIN FT = 2.2 GAL/FT/DAY

MAX. USE

17 BEDROOMS X 150 GPD = 2550 GPD
50 EMPLOYEES X 15 GPD = 750 GPD
50 VISITORS X 5 GPD = 250 GPD
TOTAL = 3550 GPD
LESS 30% FOR LOW FLOW = 2485 GPD

2485 ÷ 2.2 = 1130 FT. REQUIRED

PROVIDE 1200 LIN. FT. OF TRENCH IN EACH 1/2 OF A DUAL SYSTEM

Wastewater Disposal System Design

for
Johnson Oyster Farm
17171 Sir Francis Drake Blvd.
Inverness

by
Rich Lincoln & Sons
P O Box 443
Occidental, CA 95465 707 874-2286

Date: 3/12/97
Drawn By: RGL
Design By: RGL
Revisions:
1
2
3

Sht. 4
Upper Leach Field Details

Appendix E: Initial Study Checklist

MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DIVISION

JOINT ENVIRONMENTAL ASSESSMENT/INITIAL STUDY
(The EA is incorporated into the Initial Study)

Replacement and Rehabilitation of Johnson Oyster Company Facilities

I. BACKGROUND

A. Project Sponsor's Name and Address: Johnson Oyster Company

B. Lead Agencies Name and Address: National Park Service
Point Reyes National Seashore
Point Reyes, CA 94956

Marin County Community Development Agency,
Planning Division, 3501 Civic Center Dr., Room 308
San Rafael, CA 94903

C. Contact Person and Phone Number: Charles Desler, Architect, 916-626-9416

II. PROJECT DESCRIPTION

A. Project Title: Replacement and Rehabilitation of Johnson Oyster Company Facilities

B. Type of Application(s): Design Review

C. Project Location: APN #109-130-17
17171 Sir Francis Drake Boulevard
Inverness, CA 94937

D. General Plan Designation: Coastal Open Space (C-OS)

E. Zoning: Coastal, Open Area (C-O-A)

F. Description of Project:

Environmental Setting and Existing Conditions

Located on the northern shore of Drakes Estero within Point Reyes National Seashore, Johnson Oyster Company (JOC) has been in existence under various owners since June 1934. JOC utilizes two state aquaculture leases covering approximately 1060 acres of Drakes Estero for their oyster production. This project is limited to the onshore facilities which occupy a five acre parcel that is under a reservation of possession from the National Park Service, which purchased the land from the Johnson family in 1972. This reservation provides JOC with the right to use the five acres until the year 2012 for the purpose of processing and selling oysters. The oyster operation on Drakes Estero is consistent with the *Point Reyes National Seashore General Management Plan* (GMP).

The existing oyster processing facilities and office are located at sea level along the shore line and occupy approximately three acres of land. An existing leach field, located approximately 100 yards to the south, was formerly authorized under a separate permit from the National Park Service (NPS).

The site is accessible by vehicle from Sir Francis Drake Blvd. and then by a one half mile one lane dirt road.

The existing processing facilities are as follows:

1. 3,600 square foot (sf) oyster processing plant of concrete and wood frame construction.
2. 400 sf business office and storage addition to structure #1.
3. 80 sf cold storage room addition to structure #1.
4. Two detached shipping storage containers totaling 560 sf.
5. 893 sf lunch room and trailer.
6. 2,178 sf seed plant for growing small oysters prior to placement in the Estero.
7. 616 sf stringing plant for assembling oyster growing equipment.

Proposal and Project History

In the spring of 1996, a failing leach field prompted JOC to approach the NPS for permission to develop a new wastewater system in a more favorable soil area. The NPS agreed to consider the replacement leach field if JOC would look at the condition of all the developed facilities and bring them up to existing Health and Safety codes. With the cooperation of various state and county agencies, the JOC facilities were inspected on May 7, 1996.

The inspection revealed that many of the facilities did not meet code and were in a deteriorated state. It was then determined that the most prudent action would be to replace, rather than repair, the existing buildings and waste water system.

This proposed alternative will remove the oyster processing plant, seed plant, stringing plant, and garage and replace with new structures. The replacement structures with sizes are:

1. garage, 900 square feet (sf),
2. seed plant, 2,625 sf,
3. stringing plant, 500 sf, and
4. a two story processing plant, 7,600 sf.

Total size for these structures will be 11,625 sf. No work is proposed for any of the residential structures located on the property.

The new processing plant would be moved from directly adjacent to the shoreline to approximately 100 feet from Drakes Estero. Other structures would be located in existing sites. Appendix C provides detailed drawings of this option. A new septic system, approximately 3000 feet east from the processing plant, would be constructed to accommodate the rehabilitated facilities (See Appendix D for detailed drawings). The new leach field will disturb approximately two acres of area currently grazed by a special use permittee. The NPS plans to issue a special use permit to accommodate this use. The site was selected because of its acceptable percolation ability and its location outside the immediate watershed of the Estero. A new gray water drainage system from floor drains would be constructed and pumped to the rehabilitated former leach field above and south of the JOC facility. This rehabilitated leach field is

approximately .25 acre in size. Both areas temporarily disturbed by the construction of the two new septic facilities will be replanted with native vegetation.

No major change in the topography is necessary. The projected site for all new, rehabilitated and replacements structures is relatively flat. All structures will be slab on grade and all drainage will be sloped away from building and use the natural drainage pattern where appropriate. Drainage from processing operation will be collected and treated with the approved wastewater facility.

Gravel entry and parking areas will be developed on the northern extent of the property. Twenty-two parking spaces will be developed, with appropriate handicap spaces. Picnic tables will be placed at the entrance to the facility adjacent to the parking area.

Once the site has been cleared of all debris, the site will be evenly graded and the area restored with native vegetation.

III. CIRCULATION AND REVIEW

This Initial Study is being circulated to all agencies which have jurisdiction over the subject property or natural resources affected by the project to attest to the completeness and adequacy of the information contained in the Initial Study as it relates to the concerns which are germane to the agency's jurisdictional authority.

(The agencies listed in the section include County departments or divisions which have jurisdictional authority and/or oversight over the project, as well as State, Federal or other jurisdiction-by law agencies which may use this document in executing their respective permit authority over the project.)

a) Marin County Agencies:

The following signature of the agency reviewing officer attests to the completeness and adequacy of the information contained in the Initial Study as it relates to the concerns which are germane to the agency's jurisdictional authority.

Marin County Community Development Agency (CDA), Planning Division

Signature of Reviewing Officer — Date 4/1/98

Marin County Community Development Agency, Environmental Health Services Division

Signature of Reviewing Officer — Date 4/8/98

Marin County Department of Public Works, Land Use and Water Resources Division

Signature of Reviewing Officer — Date 4/1/98

b) Responsible Agencies: *(agencies whose approval is required and permits needed)*

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

National Park Service
Point Reyes National Seashore
Point Reyes, CA 94956

c) Trustee Agencies: *(State agencies who have jurisdiction by law over natural resources affected by project)*

California Dept. of Fish and Game
P. O. Box 47
Yountville, CA 94599

d) Other Jurisdiction-By-Law Agencies: *(other agencies which have permit authority over the project)*

California Dept. of Health Services
Don Gomsi, Public Health Biologist
Pre-Hervoit Shellfish Sanitation Unit
2151 Berkeley Way, #118
Berkeley, CA 94704

Calif. State Food & Drug
Mike Hernandez
185 Berry Street, #260
San Francisco, CA 94107

e) Other Interested Parties:

Army Corps of Engineers
33 Market St.
San Francisco, CA 94105

California Reg. Water Quality, Control Brd.
2101 Webster Street, Suite 500
Oakland, CA 94612

Gulf of the Farallones Nat. Marine Sanctuary
Fort Mason, Bldg. 201
San Francisco, CA 94123

California State Lands Commission
Betty Eubanks
100 Howe Avenue, Suite #188
Berkeley, CA 94704

Sierra Club, Marin Group
Chair
934 Bel Marin Keys Blvd.
Novato, CA 94949

Marin Conservation League
President
55 Mitchell Blvd., #21
San Rafael, CA 94903

EAC of West Marin
John Grissim
Box 609
Point Reyes Station, CA 94956

Env. Forum of Marin
P.O. Box 74
Larkspur, CA 94977

Marin Audubon
Barbara Salzman
48 Ardmore Road
Larkspur, CA 94977

Johnson Oyster Company
c/o Charles Desler Architect
864 Oak Terrace
Placerville, CA 95667

Robert Studdert, Attorney
P .O. Box 6
Inverness, CA 94937

IV. EVALUATION OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to Section 15063 of the State CEQA Guidelines, and the County EIR Guidelines, Marin County will prepare an Initial Study for all projects not categorically exempt from the requirements of CEQA. The Initial Study evaluation is a preliminary analysis of a project which provides the County with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration. The points enumerated below describe the primary procedural steps undertaken by the County in completing an Initial Study checklist evaluation and, in particular, the manner in which significant environmental effects of the project are made and recorded.

A. The determination of significant environmental effect is to be based on substantial evidence contained in the administrative record and the County's environmental data base consisting of factual information regarding environmental resources and environmental goals and policies relevant to Marin County. As a procedural device for reducing the size of the Initial Study document, relevant information sources cited and discussed in topical sections of the checklist evaluation are incorporated by reference into the checklist (e.g. general plans, zoning ordinances). Each of these information sources has been assigned a number which is shown in parenthesis following each topical question and which corresponds to a number on the data base source list provided herein as Attachment 1. See the sample question below. Other sources used or individuals contacted may also be cited in the discussion of topical issues where appropriate.

B. In general, a Negative Declaration shall be prepared for a project subject to CEQA when either the Initial Study demonstrates that there is no substantial evidence that the project may have one or more significant effects on the environment. A Negative Declaration shall also be prepared if the Initial Study identifies potentially significant effects, but revisions to the project made by or agreed to by the applicant prior to release of the Negative Declaration for public review would avoid or reduce such effects to a level of less than significance, and there is no substantial evidence before the Lead County Department that the project as revised will have a significant effect on the environment. A signature block is provided in Section VII of this Initial Study to verify that the project sponsor has agreed to incorporate mitigation measures into the project in conformance with this requirement.

C. All answers to the topical questions must take into account the whole of the action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Significant unavoidable cumulative impacts shall be identified in Section VI of this Initial Study (Mandatory Findings of Significance).

D. A brief explanation shall be given for all answers except "Not Applicable" answers that are adequately supported by the information sources the Lead County Department cites in the parenthesis following each question. A "Not Applicable" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "Not Applicable" answer shall be discussed where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

E. "Less Than Significant Impact" is appropriate if an effect is found to be less than significant based on the project as proposed and without the incorporation of mitigation measures recommended in the Initial Study.

F. "Potentially Significant Unless Mitigated" applies where the incorporation of recommended mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead County Department must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section V, "Earlier Analyses", may be cross-referenced).

G. "Significant Impact" is appropriate if an effect is significant or potentially significant, or if the Lead County Department lacks information to make a finding that the effect is less than significant. If there are one or more effects which have been determined to be significant and unavoidable, an EIR shall be required for the project.

V. **ISSUES (and Supporting Information Sources):**

1. **LAND USE AND PLANNING.** ***Would the proposal:***

a) **Conflict with applicable Countywide Plan designation or zoning standards? (source #(s): 1, 2, 3, 15, 22)**	**Significant Impact**	**Potentially Significant Unless Mitigated**	**Less Than Significant Impact**	**Not Applicable**
	[ ]	[X]	[ ]	[ ]

Project is governed by the *Marin Countywide Plan (MCP), Reyes National Seashore GMP,* Title 22 (Zoning) of the Marin County Code, and Local Coastal Plan, Unit II (LCP).

The Marin Countywide Plan

The subject property is located on the northern edge of Drakes Estero within Point Reyes National Seashore. The site is designated Coastal Open Space. The continuation operation of JOC would be consistent with the intent of the Coastal Recreation Corridor (Policy EQ-1.3). As stated in MCP, open space, recreational, and agricultural land uses will be emphasized in the Coastal Recreation Corridor along with the preservation of existing communities. Specific policies contained in the Environmental Quality Element pertain to the proposed project: 1. Conservation of Coastal Resources; 2. Species Preservation; 3. Prevention of Air, Water, and Noise pollution; 4. Wildlife, Vegetation and Habitat Preservation; 5. Visual Qualities and Views Conservation; 6. Public Open Space; and 7. Preserve and Promote Agriculture.

1. Policy EQ-2.41. Conservation of Coastal Resources. The conservation of coastal resources shall be maintained following detailed policies in the Local Coastal Plan I and II adopted by the County and the Coastal Commission.

The proposed project will not result in significant adverse impacts to native vegetation, aquatic resources, wetlands, streams and riparian habitat, coastal dunes and other coastal resources. The replacement and rehabilitation of JOC facilities will be constructed on a already disturbed site (approximately 3 acres in size). No dune, wetland, steam/riparian habitat will be lost as a result of this project. Because the main facility will be located over 100 feet from the estuary and because new sewage facilities will be constructed, the project will have a positive impact on water quality. The project also reduces the potential for accidental spills of hazardous material from entering Drakes Estuary. The new septic facilities will temporarily disturb 2.25 acres of coastal scrub/grassland, but the impacts will be short-term in nature. These impacts are expected to be mitigated by rapid regrowth of native vegetation in the leach field area is expected and full restoration of the site is anticipated in 1-2 years. If necessary, any impacts will be mitigated by planting native vegetation.

2. Policy EQ-2.87. Species Preservation in the Environmental Review Process. Environmental review of development applications shall consider the impact of the proposed development on species and habitat diversity. Environmental review documents should propose mitigation measures for ensuring the protection of the habitat and species therein.

As stated above under the discussion regarding Policy EQ-2.41, the proposed project will not result in significant adverse impacts to native vegetation, wetlands, stream/riparian habitat, coastal dunes, and other sensitive habitats. The development of the main leach field will disturb approximately 2.25 acres of native coastal scrub/grassland dominated by coyote brush. However, because native vegetation will be planted in the disturbed area to mitigate any temporary loss of native vegetation, the long-term

impacts will not be significant. Because of the abundance of coastal scrub/grassland habitat adjacent to the Drakes Estero, recolonization of the area by birds and other species will occur in the long-term. During construction, there will be some short-term impact to resident avian species such as wrentits and scrub jays and small mammals such as the brush rabbit and white-footed mouse. These impacts will be less than significant because the recolonization of the area is expected to be rapid, only 1-2 years.

3. Policy EQ-3-2. Air, Water, and Noise Pollution. Air, water, and noise pollution shall be prevented or minimized.

Oyster processing in the new facilities will not release significant air pollutants. Heating systems, the only source of exhaust, will meet current standards and codes. Some dust will be generated from construction activities; however, these will be mitigated to less than significant by mitigation measures, including watering of disturbed areas and covering the beds of trucks hauling material from the project site.

Because the main facility will be located over 100 feet from the estuary and because new sewage facilities will be constructed, the project will have a positive impact on water quality. The project also reduces the potential for accidental spills of hazardous material from entering Drakes Estuary. Currently, sewage is being hauled from the site for disposal.

To reduce any short-term minor impacts related to nearby residential use due to any construction noise, construction will be limited to between 7:00 am to 7:00 pm.

4. Policy EQ-3.6 Wildlife, Vegetation, and Habitats. A diversity and abundance of wildlife and marine life shall be maintained. Vegetation and animal habitats shall be preserved wherever possible.

See comments under Policy EQ-2.87.

5. Policy EQ-3.11. Visual Qualities and Views. Visual qualities and the view potential of the natural and built environment shall be considered in any project or operation review. Tree-cutting and damage shall be avoided wherever possible.

The project will enhance the site's overall visual quality and views of and from Drakes Estero. The current buildings are in a dilapidated condition and are primarily located along the edge of the estuary. Because the main building will be located over 100 feet away from the estuary, the view south along the estuary will be greatly enhanced. In turn, wood fencing\screening on the east side of the complex will enhance views in this direction from the proposed parking lot. Unsightly trailers and other storage areas will be screened from public view by wooden fencing and vegetation.

6. Policy EQ-4.7a. Public Open Space. The Countywide Plan recommends that the National Seashore be retained in its natural condition to the greatest extent possible, and that it provide primarily low-intensity recreational uses such as hiking and wilderness education.

This project will not enhance open space; however, it does not impact any additional open space preserved within Point Reyes National Seashore. The project will be constructed primarily on disturbed areas already utilized by JOC.

7. Policy A-1.11. Preserve and Promote Mariculture. The County shall seek to preserve and promote maricultural usage of tidelands and on-shore production areas. The need for mariculture sites in coastal water should be balanced with the need to provide for other uses, such as commercial fishing, recreation calming and boating, and the need to protect coastal wildlife, water and visual resources.

Because the oyster operation will be allowed to continued, the proposed project will preserve aquaculture, specifically oyster processing and harvesting, at Drakes Estero. In turn, the project will not displace any other potential recreational activity. As stated under various other sections above, the project will have a direct positive impact on water quality and will not significantly affect coastal wildlife or visual resources.

Point Reyes National Seashore General Management Plan

The proposed replacement of structures and rehabilitation of JOC would be consistent with the special use zone of the Point Reyes National Seashore GMP Plan which specifically allows the JOC to operate until its reservation of use and occupancy expires (2012).

Marin County Code Title 22 (Zoning)

The proposed project is consistent with the Coastal Open Space District (C-OA) zoning which allows appurtenant waterfront uses (Chapter 22.57.130). The project must prescribe conditions that will assure the promotion of agriculture, preserve scenic beauty, and maintain such land in a permanent open state. This project promotes the continuation of aquaculture within the Drakes Estero area.

Local Coastal Plan (LCP), Unit II

The LCP concurs "that mariculture operations be considered in park waters, provided that they are compatible with other park uses and that they are subject to consistency review by the Coastal Commission." The project is also consistent with the natural resource concerns/policies in the document as stated in the above sections.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Conflict with applicable environmental plans or policies adopted by Marin County? (source #(s): 1, 2, 15)	[ ]	[ ]	[X]	[ ]

Please refer to Section 1(a) of this initial study for a discussion of the project's conformance with pertinent section of the Environmental Quality Section of the MCP and applicable environmental plans.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) Affect agricultural resources, operations, or contracts (e.g. impacts to soils or farmlands, impacts from incompatible land uses, or conflicts with Williamson Act contracts)? (source #(s): 1, 3)	[ ]	[ ]	[X]	[ ]

The proposed project will allow the continuation of an aquaculture operation in Drakes Estero of approximately 1060 acres and will not affect upland agricultural operations currently operating under lease and permit agreements within Point Reyes National Seashore.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
d) Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)? (source #(s): 1, 3)	[ ]	[ ]	[X]	[ ]

The project area is not within an established community plan area; the project site is in rural Marin. JOC is the only facility of this kind at this location within Point Reyes National Seashore.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
e) Result in substantial alteration of the character or functioning of the community, or present or planned use of an area? (source #(s): 1, 3, 15)	[ ]	[ ]	[X]	[ ]

The project site is not an established community and will not alter present or planned use of area. As described in Section 1a, the project is also consistent with the *Marin Countywide Plan, Point Reyes National Seashore GMP* and the *LCP*. Oyster harvesting at the project site was first established in 1934 and has been continuously used for oyster production since this first allotment by the State of California.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
f) Substantially increase the demand for neighborhood or regional parks or other recreational facilities, or affect existing recreational opportunities? (source #(s): 3)	[ ]	[ ]	[X]	[ ]

The existing facilities are being replaced and rehabilitated, including the septic system and gray water system; its main purpose is to bring all facilities into code compliance. No impacts to Point Reyes National Seashore will occur. The project will provide the public better access to the shoreline; therefore, some increase in recreational use such as scenic viewing and hiking/walking can be anticipated. In addition, the area will be cleared of debris and therefore kayak and canoe access to the estuary will be enhanced and could increase public use of the estuary system. However, because boating access is limited by the National Park Service and the shoreline access to the estuary is less than 200 yards, no significant impact to estuary resources are anticipated.

2. POPULATION AND HOUSING. *Would the proposal:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Increase density that would exceed official population projections for the planning area within which the project site is located as set forth in the Countywide Plan and/or community plan? (source #(s): 1, 3, 15)	[ ]	[ ]	[ ]	[X]

No increase in population density will occur from this project. Main objective of this project is to bring current buildings and septic system into compliance with state, federal, and county codes. In addition,

the project areas is not located within an adopted Community Plan Area. According to the LCP, mariculture operations should be considered in park waters, provided that they are compatible with other park uses. The LCP also calls for existing facilities to be used for any development; however, in the project area, no existing facilities such as historic structures are available, adjacent to the estuary, for a processing plant and support facilities.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)? (source #(s): 1, 3, 15)	[ ]	[ ]	[ ]	[X]

The project will not induce growth in the area. The *Point Reyes National Seashore GMP* does not allow any additional growth in adjacent areas; the plan also does not allow oyster operations in other areas of the park. The septic system has been sized to only accommodate the current operation and residential level and not for any future growth. In addition, the water system will not be increased by this proposed project and therefore will not induce any additional growth. This project does not entail the extension of electric and phone systems with capacity to service additional development.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) Displace existing housing, especially affordable housing? (source #(s): 1, 3, 15)	[ ]	[ ]	[ ]	[X]

Project does not increase or decrease housing units. Affordable housing is currently at the facility. Two houses and four trailers will continue to be available for JOC staff. In addition, the *Point Reyes GMP* and *LCP*, do not call for additional housing in the area. The *LCP* expressly states that Point Reyes National Seashore minimize development and use existing structures when possible.

3. GEOPHYSICAL. ***Would the proposal result in or expose people to potential impacts involving:***

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Location in an area of geologic hazards, including but not necessarily limited to: 1) active or potentially active fault zones; 2) landslides or mudslides; 3) slope instability or ground failure; 4) subsidence; 5) expansive soils; 6) liquefaction; 7) tsunami ; or 8) similar hazards? (source #(s): 1, 4, 16, 18)	[ ]	[X]	[ ]	[ ]

JOC is approximately five miles west of the San Andreas Fault. Because of the geology, there is a potential for a moderate susceptibility to ground shaking intensity. Also, the maximum ground shaking intensity potential is considered strong. To mitigate any impacts to less than significant, the new facilities will be constructed in conformance with Uniform Building Code (UBC), Chapter 16, (Zone 4) and fully meet standards for wind and earthquakes.

Liquefaction susceptibility is considered low in the Drakes Bay Formation.

Tsunami risk is considered low; the site is located three miles inland from the Pacific Ocean within a shallow estuary. The tsunami warning system through the National Weather Service and the Marin County Office of Emergency Services will be utilized to evacuate site if necessary.

Based on site investigations and historical records, the area is also not prone to mudslides or landslides. Because of past minor slope failure on the southern bluff area, a retaining wall is planned for construction, and adequate space (25 feet) between the bluff and the main building will be maintained. These two actions will mitigate any impact to less than significant.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Substantial erosion of soils due to wind or water forces and attendant siltation from excavation, grading, or fill? (source #(s): 6, 17)	[ ]	[X]	[ ]	[ ]

Project area is relatively (grade change is less than one foot in construction area) flat and highly disturbed by existing JOC activities. Grading to be conducted is minimal and limited to approximately .25 acres for foundation grading. Fill needed is estimated at 170 cubic yards. For the septic field areas, site work will be limited to 2.25 acres.

During construction, mitigation measures will be implemented to reduce any soil loss. These measures include: temporary berms and hay bale dikes to reduce any sediments into Drakes Estero and spraying the area with water to reduce wind generated dust. In turn, the landscape plan for the revised project specifies plants to stabilize soils and reduce any potential soil erosion. NPS resource management staff will regularly monitor site work.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) Substantial changes in topography from excavation, grading or fill, including but not necessarily limited to: 1) ground surface relief features; 2) geologic substructures or unstable soil conditions; and 3) unique geologic or physical features? (source #(s): 4, 6, 17)	[ ]	[X]	[ ]	[ ]

The project will not substantially change the topography; surface grading will be limited to minor alterations for leveling parking area and foundation construction for the new facilities. Fill area for foundation construction will be approximately 9,000 sf in size. The estimated quantity of fill material is 170 cubic yards. Therefore, because the grade change will be less than 12 inches and fill will be minimal, less than significant impacts are anticipated on the site. To mitigate any unknown impact, a qualified soil engineer will investigate soil conditions to ensure long-term stability of proposed structures. The proposed project will not alter any unique geologic or ground surface features.

4. WATER. *Would the proposal result in*:

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Substantial changes in absorption rates, drainage patterns, or the rate and amount of surface runoff? (source #(s): 6, 17)	[ ]	[X]	[ ]	[ ]

Because this project primarily involves the rehabilitation of existing structures, surface runoff and drainage patterns will not be altered significantly or increased substantially. No impervious surfaces

such as asphalt will be installed within the parking area; the area will remain gravel. Minor drainage swales will be installed behind the main building to drain rain water to the estuary. Another drainage swale will be installed along the eastern edge of the building to drain rain water away from the building. No significant impacts are therefore anticipated.

Because all washing and processing drains will be directly linked to a septic system, water quality of the estuary and pond area will be enhanced. Currently, drains flow to a sump area and then seep into Drakes Estero, the pond area, and surrounding soils.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) **Exposure of people or property to water related hazards, including, but not necessarily limited to: 1) flooding; 2) debris deposition; or 3) similar hazards ?** **(source #(s): 16)**	[ ]	[X]	[ ]	[ ]

Historical records indicate that drainage at this site can be problem when extreme high tides and major storm events occur simultaneously. Because these two events are predictable, sand bags and other mitigation measures will be installed to reduce/eliminate hazards to humans or property. To mitigate any impacts to property, the main processing building will have a cement wall perimeter to limit potential flood waters from entering and all electrical equipment will be raised off the floor area.

Debris deposition historically has not occurred; the watershed adjacent to the project site is relatively small and free from debris. Surface grading will ensure proper drainage of site during normal storm events.

With adequate mitigation measures in place, the proposed project will not expose people or property to significant water related hazards.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) **Discharge of pollutants into surface or ground waters or other alteration of surface or ground water quality (e.g. temperature, dissolved oxygen or turgidity)?** **(source #(s): 6, 17)**	[ ]	[X]	[ ]	[ ]

The former septic system at JOC has been abandoned because of overall general failure. Under Marin County supervision, sewage is now being stored on-site and hauled to approved disposal area. New gray water and septic systems will ensure ground water and the estuary system are not contaminated by JOC operations. All surface drains in the facilities will be connected to the gray water leach field for proper disposal. This gray water and septic systems will meet Marin County and State of California requirements. Monitoring requirements for the septic systems will be established by Marin County and the State of California. The new sewage systems with appropriate monitoring will reduce any potential discharge of pollutants to a less than significant level.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
d) Substantial change in the amount of surface water in any water body or ground water either through direct additions or withdrawals, or through intersection of an aquifer by cuts or excavations? (source #(s): 6, 19)	[ ]	[ ]	[X]	[ ]

No substantial change in the amount of surface water will occur as a result of this project. No aquifer will be excavated. Water use, provided on site by a well system which produces 20 gal/min, will not be altered to increase capacity. Water system will be approved by the State of California and Marin County. Monitoring of water system will be by the appropriate agency.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
e) Substantial changes in the flow of surface or ground waters, including, but not necessarily limited to: 1) currents; 2) rate of flow; or 3) the course or direction of water movements? (source #(s): 6, 17)	[ ]	[ ]	[X]	[ ]

No changes to surface or ground waters will result from this project. Grading will be minimal and limited to the construction area and will not increase flows. Water direction will continue towards the estuary and adjacent pond and remain as natural as possible. Drainage will be reviewed and approved by the Marin County Department of Public Works. Because the current flows and drainages are not be significantly altered, less than significant impacts are anticipated.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
f) Substantial reduction in the amount of water otherwise available for public water supplies? (source #(s): 10, 19, 20)	[ ]	[ ]	[X]	[ ]

Johnson Oyster Company has an independent water supply. The well produces 20 gal/min of exceptionally good water. The water supply is on NPS land and used only by JOC and is authorized by a Special Use Permit from the Superintendent, PRNS. No other public or private entities utilize this water source.

5. AIR QUALITY. *Would the proposal:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Generate substantial air emissions that could violate official air quality standards or contribute substantially to an existing or projected air quality violation? (source #(s): 6, 8)	[ ]	[X]	[ ]	[ ]

The rehabilitated facility will not generate substantial air emissions that could violate air quality standards. Processing oysters does not generate regulated air emissions. During construction, some

short-term impacts will result from dust becoming airborne. To reduce impacts to a less than significant level, construction areas will be watered regularly and beds of trucks will be covered during hauling. NPS resource management staff will regularly monitor the production of dust during construction and ensure compliance

b) **Expose sensitive receptors to pollutants, such as noxious fumes or fugitive dust? (source #(s): 6, 8)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[X]	[ ]	[]

Some construction dust is expected during construction; this will be a insignificant short-term impact and will be mitigated as described in the mitigation matrix and in Section 3b.

c) **Alter air movement, moisture, or temperature, or cause any change in climate? (source #(s): 17)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[ ]	[X]

The project, because of its small size, will not alter moisture, temperature, or air movement in the area.

d) **Create objectionable odors? (source #(s): 6, 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

There are three possible receptors for objectionable odors: the general public; employees; and adjacent housing residents. No other sensitive receptor is within .5 miles of the site. Historically, processing of oysters has not created objectionable odors; Point Reyes National Seashore has not received any complaints over the last ten years regarding odors related to the current facilities.

If not properly collected weekly, garbage may create objectionable odors to the visiting public, residents and employees. Therefore, proper storage and collection of garbage is a current enforceable condition of the use and occupancy agreement for the site. Monitoring will occur by NPS staff to ensure any potential odors and impacts to possible receptors are less than significant level.

6. TRANSPORTATION/CIRCULATION. *Would the proposal result in:*

a) **Substantial increase in vehicle trips or traffic congestion such that existing levels of service on affected roadways will deteriorate below acceptable County standards? (source #(s): 3, 6, 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

The buildings are replacement structures and not an expansion of the existing facilities. Therefore, no new transportation impacts are anticipated. Because overall traffic is generated primarily by recreational users, some increase in the use of Sir Francis Drakes may occur over the next 15 years, but the increase will be related to park visitation. Park visitation, however, peaked at 2.6 million in 1992 but has dropped over the last five years to 2.4 million in 1996. The NPS anticipates park visitation will slowly increased approximately 2-3% per year. The Point Reyes National Seashore GMP does not call

for any additional facilities in the north district of the park which would have a cumulative impact with this proposed project on traffic. Therefore, this project will have a less than significant impact on traffic.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) **Traffic hazards related to: 1) safety from design features (e.g. sharp curves or dangerous intersections); 2) barriers to pedestrians or bicyclists; or 3) incompatible uses (e.g. farm equipment)? (source #(s): 6, 10, 14)**	[ ]	[ ]	[X]	[ ]

Project does not involve creating new access roads or new intersections. No barriers to pedestrians are to be constructed. Enhanced public access will be provided to the estuary shoreline by the project. Current equipment will be used and limited primarily to a forklift. To ensure access for emergency equipment, road will be improved as directed by the Marin County Fire Department.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) **Inadequate emergency access or access to nearby uses? (source #(s): 14)**	[ ]	[X]	[ ]	[ ]

Road access will be improved as directed by Marin County Fire Department (MCFD) to ensure access will be adequate for emergency services. The actions proposed by MCFD as described in Section 9e related to road improvement will mitigate any impacts to less than significant level.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
d) **Insufficient parking capacity on-site or off-site? (source #(s): 6)**	[ ]	[ ]	[X]	[ ]

Parking will meet Marin County and NPS standards; current level of 22 parking spaces will meet projected demand as verified by Marin County Department of Public Works and the NPS.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
e) **Substantial impacts upon existing transportation systems, including rail, waterborne or air traffic systems? (source #(s): 10)**	[ ]	[ ]	[ ]	[X]

No public or NPS transportation facilities are available in area.

7. BIOLOGICAL RESOURCES. *Would the proposal result in:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Reduction in the number of endangered, threatened or rare species, or substantial alteration of their habitats including, but not necessarily limited to: 1) plants; 2) fish; 3) insects; 4) animals; and 5) birds listed as special-status species by State or Federal Resource Agencies? (sources #(s): 5, 11)	[ ]	[X]	[ ]	[ ]

In consultation with the Fish and Wildlife Service and NPS biologists, this project has been determined to not adversely affect any special status species or alter any critical habitat.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Substantial change in the diversity, number, or habitat of any species of plants or animals currently present or likely to occur at any time throughout the year? (source #(s): 5, 11)	[ ]	[X]	[ ]	[ ]

The proposed project will not result in significant adverse impacts to native vegetation, wetlands, stream/riparian habitat, coastal dunes, and other sensitive habitats. The development of the main leach field will disturb approximately 2.25 acres of native coastal scrub/grassland dominated by coyote brush. However, because native vegetation will be planted in the disturbed area to mitigate the any loss of native vegetation, the long-term impacts will not be significant. Because of the abundance of coastal scrub/grassland habitat adjacent to the Drakes Estero, recolonization of the area by birds and other species will occur in the long-term. During construction, there will be some short-term insignificant impacts to resident avian species such as wrentits and scrub jays and small mammals such as the brush rabbit and white-footed mouse.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) Introduction of new species of plants or animals into an area, or improvements or alterations that would result in a barrier to the migration, dispersal or movement of animals? (source #(s): 8)	[ ]	[X]	[ ]	[ ]

Project will be monitored by NPS Vegetation Management staff to ensure the invasion of non-native vegetation will not occur. As a mitigation measure, any non-native species found at the site will be removed after construction and the site would be monitored each year.

8. ENERGY AND NATURAL RESOURCES. *Would the proposal result in:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Substantial increase in demand for existing energy sources, or conflict with adopted policies or standards for energy use? (source #(s): 6)	[ ]	[ ]	[X]	[ ]

Energy use is anticipated to only slightly increase, approximately (10%) because of the small increase in square footage. Current energy use is estimated at 5,000 kilowatts per month.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Use of non-renewable resources in a wasteful and inefficient manner? (source #(s): 6)	[ ]	[ ]	[X]	[ ]

This project will not use non-renewable resources in an inefficient manner. Buildings are primarily metal with exterior wood siding; concrete will be used for the foundation. Cedar wood siding (not redwood), a renewable resource, will be used because it is regionally abundant.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
c) Loss of significant mineral resource sites designated in the Countywide Plan from premature development or other land uses which are incompatible with mineral extraction? (source #(s): 1)	[ ]	[ ]	[ ]	[X]

The JOC is not an area designated as a mineral extraction site. This area is part of Point Reyes National Seashore and mineral extraction is prohibited.

9. HAZARDS. *Would the proposal involve:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) A risk of accidental explosion or release of hazardous substances including, but not necessarily limited to: 1) oil, pesticides; 2) chemicals; or 3) radiation)? (source #(s): 6, 21)	[ ]	[ ]	[X]	[ ]

All hazardous materials and waste, such as paint and oil, will be properly stored in the new facility and be in accordance with federal/state standards and regulations and the *Point Reyes National Seashore Hazardous Waste Management Plan* In addition, all hazardous waste such as paint and oil will be disposed of according to the *Hazardous Waste Management Plan*. No pesticides are used by JOC. As no major or unusual quantities of explosive or hazardous materials will be present on the project site during construction or when improvements are completed, the likelihood of a explosive hazard is extremely remote and deemed insignificant.

b) **Possible interference with an emergency response plan or emergency evacuation plan? (source #(s): 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

The project does not interfere with the NPS service or county emergency response or evacuation plan.

c) **The creation of any health hazard or potential health hazard? (source #(s): 6. 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[X]	[ ]	[ ]

The proposed project under consideration is to improve public health and safety. This construction will bring facilities and processing operations into compliance with state, federal, and Marin County building and health/safety codes. Mitigation measures as described in Section 5a will eliminate some short-term potential health hazards related to airborne dust and water contamination. With these mitigation measures in place, less than significant impacts are anticipated.

d) **Exposure of people to existing sources of potential health hazards? (source #(s): 6. 16)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[X]	[ ]	[ ]

No existing sources of potential health hazards will be exposed to the public or employees. Current health hazards have been documented by Marin County, NPS, and State of California agencies. These deficiencies are related to building code violations, food processing violations, and health and safety code violations. Existing health hazards will be eliminated by the construction of the new processing facilities and septic systems.

e) **Increased fire hazard in areas with flammable brush, grass, or trees? (source #(s): 7. 14)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

The proposed project area is situated near coastal scrub/grassland vegetation. The proposed facilities will contain flammable materials such as cleaners, lubricants, solvents and other potential hazards. In consultation with MCFD, mitigation measures have been adopted to ensure the project will not significantly increase fire hazards in the area. These include access enhancements along the main entrance road, proper storage of hazardous material and waste, fully automatic sprinkler systems in buildings, proper removal of vegetation around complex, and adequate space around buildings for emergency vehicle access. In addition, the main objective of the project is the rehabilitation of buildings to meet current health and safety codes and reduce potential fire hazards.

All hazardous materials and waste, such as paint and oil, will be properly stored in the new facility and be in accordance with federal/state standards and regulations and the *Point Reyes National Seashore Hazardous Waste Management Plan* In addition, all hazardous waste such as paint and oil will be disposed of according to the *Hazardous Waste Management Plan*. No pesticides are used by JOC. As no major or

unusual quantities of explosive or hazardous materials will be present on the project site during construction or when improvements are completed, the likelihood of a explosive hazard is extremely remote and deemed insignificant.

10. NOISE. ***Would the proposal result in:***

a) **Substantial increases in existing ambient noise levels? (source #(s): 1, 6)**	**Significant Impact**	**Potentially Significant Unless Mitigated**	**Less Than Significant Impact**	**Not Applicable**
	[ ]	[ ]	[X]	[ ]

The proposed project will result in the periodic generation of noise associated with short-term construction activities. Vehicles traveling to and from the site will result in the generation of intermittent low levels of noise. Although ambient noise levels in the surrounding area are expected to increase during construction, the construction-related noise would represent a temporary increase of limited duration, and therefore, is not considered a significant impact. In addition, all construction activity will be regulated by the County's Design Review and building permit process, in compliance with standard regulations controlling permitted hours of activity and permitted noise levels.

b) **Exposure of people to significant noise levels, or conflicts with adopted noise policies or standards? (source #(s): 1, 6)**	**Significant Impact**	**Potentially Significant Unless Mitigated**	**Less Than Significant Impact**	**Not Applicable**
	[ ]	[ ]	[X]	[ ]

See Section 10a above. To ensure the public is not allowed to enter the construction site, appropriate barriers will be installed to keep individuals at least 100 feet from noise sources. Therefore, they will not be exposed to significant noise levels during construction.

11. PUBLIC SERVICES. ***Would the proposal have an effect upon, or result in a need for new or altered government service in any of the following areas:***

a) **Fire protection? (source #(s): 14)**	**Significant Impact**	**Potentially Significant Unless Mitigated**	**Less Than Significant Impact**	**Not Applicable**
	[ ]	[X]	[ ]	[ ]

Increased square footage of replacement buildings will add minor impact to Marin County Fire Department responsibilities. In addition, based on correspondence with Marin County Fire Department, improvements to street and site address labeling, road access, water storage, and facility automatic fire sprinkler systems are needed. These improvements will be added to overall JOC plan for the site to mitigate impacts as directed by the Marin County Fire Department and NPS. With these mitigation measures, the impact will be minimized.

b) **Police protection? (source #(s): 7)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

NPS is the primary law enforcement agency in the project area. No increase in service is anticipated. Marin County Sheriff's Department currently provides adequate back-up law enforcement protection to the subject property. No increase in this service is necessary. Therefore, less than significant impacts will occur.

c) **Schools? (source #(s): 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

The project will not increase housing or number of employees working at JOC. Because there will be no increase in housing or number of employees, school children attending local schools is not anticipated to change and will remain at current levels. Therefore, a less than significant impact will occur to the Shoreline School District.

d) **Maintenance of public facilities, including roads? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

Vehicle use on park and county roadways is not anticipated to change. The facilities are being replaced to accommodate current codes and correct deficiencies, not for increased capacity. Therefore, a less than significant impact will occur.

e) **Other governmental services? (source #(s): 10)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[ ]	[X]

Because this is a small scale project, no new governmental services will be needed. Current facilities are being upgraded to meet current codes and correct deficiencies.

12. UTILITIES AND SERVICE SYSTEMS. ***Would the proposal result in a need for new systems, or substantial alterations to the following utilities:***

a) **Power or natural gas? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

Pacific Gas and Electric Company has adequate facilities in the project vicinity to provide service to the propose project. Only minor increases in power and propane are anticipated. No new services are required for this project.

b) **Communications systems? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

Normal communication systems are available to serve the proposed project. No new phones lines or connections are needed at the project site.

c) **Local or regional water treatment or distribution facilities? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[ ]	[X]

Septic system is being upgraded on NPS lands adjacent to JOC facilities. A regional system is not available in the area.

d) **Sewer or septic tanks? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

The former septic system at JOC has been abandoned because of overall failure. Under Marin County supervision, sewage is now being storage on-site and hauled to approved disposal area. New gray water and septic systems will ensure ground water and the estuary system are not contaminated by JOC operations. All surface drains in the facilities will be connected to the gray water leach field for proper disposal. These new gray water and septic systems have been designed to meet Marin County and State of California requirements and are being reviewed by Marin County Environmental Health Service staff. Monitoring requirements for the septic systems will be established by Marin County and the State of California. The new sewage systems, with appropriate monitoring, will reduce any potential discharge of pollutants to a less than significant level.

e) **Storm water drainage? (source #(s): 6)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

Because this project is focused on the rehabilitation of existing structures, surface runoff and drainage patterns will not be altered significantly or increased substantially. No impervious surfaces such as asphalt will be installed within the parking area; the area will remain gravel. Minor drainage swales will be installed behind the main building to drain rain water to the estuary. Another drainage swale will be installed along the eastern edge of the building to drain rain water away from the building. No significant impacts are therefore anticipated.

Because all washing and processing drains will be directly linked to a septic system, water quality of the estuary and pond area will be enhanced. Currently, drains flow to a sump area and then seep into Drakes Estero, the pond area, and surrounding soils.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
f) Solid waste disposal? (source #(s): 6)	[ ]	[ ]	[X]	[ ]

The current JOC facility solid waste disposal is performed by the NPS on a fee basis. Because the primary purpose of the project is to rehabilitate existing operational facilities, the new complex will not significantly increase current levels of solid waste disposal. Therefore, no significant impact to NPS solid waste garbage service is not anticipated.

13. AESTHETICS/VISUAL RESOURCES. *Would the proposal:*

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
a) Substantially reduce, obstruct, or degrade a scenic vista open to the public or scenic highway, or conflict with adopted aesthetic or visual policies or standards? (source #(s): 3, 22)	[ ]	[ ]	[X]	[ ]

The project proposes to remove all existing on-shore processing facilities and construct a new processing facility and accessory structures appurtenant thereto. The existing processing facility and accessory structures do not meet Uniform Building Code and are in a deteriorated condition. Their removal and the construction of new structures would result in a positive visual improvement of the immediate area. The project incorporates height, mass and bulk characteristics that are proportional to the site. The new structures would maintain adequate setbacks from other structures in the vicinity and would not adversely impact existing scenic vistas within the Point Reyes National Seashore.

	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
b) Have a demonstrable negative aesthetic effect by causing a substantial alteration of the existing visual resources including, but not necessarily limited to: 1) an abrupt transition in land use; 2) disharmony with adjacent uses because of height, bulk or massing of structures; or 3) cast of a substantial amount of light, glare, or shadow? (source #(s): 3,22)	[ ]	[ ]	[X]	[ ]

The proposed project would not have negative aesthetic effect upon existing visual resources in the area. The removal of the existing deteriorated processing facility and dilapidated accessory buildings and the construction of new structures which meet Uniform Building Code would result in a beneficial visual improvement of the area. The proposed design of the new structures would better blend with the surrounding natural environment. Proposed colors and construction materials would compliment the surrounding natural environment, as well as integrate well with the existing residential units located nearby. Each of the new structures would maintain adequate setbacks from other structures in the vicinity and, therefore, no impacts upon the light, air or privacy of people living or working in nearby structures would occur.

14. CULTURAL RESOURCES. *Would the proposal:*

a) **Disturb paleontological, archaeological, or historical sites, objects, or structures? (source #(s): 9, 12)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[X]	[ ]	[ ]

No historic structures or sites are known in the project area. One archeological site is located next to and on the bluff at the southern edge of the project area. The site is highly disturbed. To mitigate any impacts, the site will be fenced off during construction and monitored weekly by NPS staff. Archeological clearance, including an additional site survey, will be conducted by the NPS Regional Archeologist before the project begins If any artifacts are located during construction, all work will cease and a NPS archeologist team will provide consultation of how to proceed and/or what additional mitigation measures are needed.

b) **Have the potential to cause a physical change which would adversely affect unique ethnic cultural values, or religious or sacred uses within the project area? (source #(s): 9)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[ ]	[X]

No ethnic cultural values or religious or sacred uses currently occur within the project area.

15. SOCIAL AND ECONOMIC EFFECTS. *Would the proposal result in:*

a) **Any physical changes which can be traced through a chain of cause and effect to social or economic impacts. (source #(s): 13)**	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
	[ ]	[ ]	[X]	[ ]

Project will positively impact the local economy. JOC accounts for 39% of the State of California's commercial oyster harvest. Tomales Bay and Drakes Estero oysters operations are estimated to contribute $2,500,000 to the local economy.

VI. MANDATORY FINDINGS OF SIGNIFICANCE. Pursuant to Section 15065 of the State EIR Guidelines, a project shall be found to have a significant effect on the environment if any of the following are true:
(Please explain your answer after each question)

		Yes	No	Maybe
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? *As described in Section V of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.*	[ ]	[X]	[ ]
b)	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? *As described in Section V of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.*	[ ]	[X]	[ ]
c)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects). *As described in Section V of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.*	[ ]	[X]	[ ]
d)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? *As described in Section V of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.*	[ ]	[X]	[ ]

VII. PROJECT SPONSOR'S INCORPORATION OF MITIGATION MEASURES:

Acting on behalf of the project sponsor or the authorized agent of the project sponsor, I (undersigned) have reviewed the Initial Study for the Johnson Oyster Company and have particularly reviewed the mitigation measures and monitoring programs identified herein. I accept the findings of the Initial Study, including the recommended mitigation measures, and hereby agree to modify the proposed project applications now on file with Marin County to include and incorporate all mitigation measures and monitoring programs set out in this Initial Study.

Superintendent, Point Reyes National Seashore — Date 3/30/98

VIII. DETERMINATION: (Completed by Marin County Environmental Coordinator).

Pursuant to Sections 15081 and 15070 of the State Guidelines, the forgoing Initial Study evaluation, and the entire administrative record for the project:

[ ] I find that the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

[X] I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

[ ] I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Signature — Date 3/30/98

Tim Haddad

Printed Name — For

ATTACHMENT 1
INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM
DOCUMENTS INCORPORATED BY REFERENCE

The following is a list of relevant information sources which have been incorporated by reference into the foregoing Initial Study pursuant to Section 15150 of the State Guidelines. The number assigned to each information sources corresponds to the number listed in parenthesis following the incorporating topical questions of the Initial Study Checklist. These documents are both a matter of public record and available for public inspection. The information incorporated from these documents shall be considered to be set forth fully in the Initial Study.

1. *Marin Countywide Plan*, CDA - Planning Division, 1994.

2. *Marin County Zoning Ordinance*, Title 22, CDA - Planning Division.

3. *Point Reyes National Seashore, General Management Plan*, National Park Service, 1980.

4. Geology of Point Reyes Peninsula, Marin County, California. California Division of Mines and Geology. 1977.

5. Fellers, Dr. Gary, U.S.G.S. Biological Resource Division. Personal Communication. May 1997.

6. Desler, Chuck. Personal Communication. June 1997

7. Dean, Frank, Chief Ranger, Point Reyes National Seashore. Personal Communication. June 1997.

8. Koenig, Sara, Vegetation Management Specialist, Point Reyes National Seashore. Personal Communication.1997.

9. Kelly, Roger, Regional Archeologist, National Park Service Pacific Great Basin Support Office. May 9, 1997.

10. Neubacher, Don L., Superintendent, Point Reyes National Seashore. Personal Communication. June 1997.

11. Allen, Dr. Sarah, Research Biologist, Point Reyes National Seashore. Personal Communication. May 1997.

12. Riley, Lynn M. Assessment of Endangered Archeological Sites at Point Reyes National Seashore. 1976.

13. Moore, Tom. California Department of Fish and Game. Files. 1994.

14. Parker, Keith. Marin County Fire Department. Letter. May 1997.

15. Marin County Local Coastal Program, Unit II. Adopted by Marin County Board of Supervisors, 1980.

16. Johnson, Tom. Personal Communication. September 1997.

17. Smith, Frank. Civil Engineer, Point Reyes National Seashore. Personal Communication September 1997.

18. Uniform Building Code. Chapter 16. 1994.

19. State of California, Department of Water Resources. Water Well Drillers Report. February 22, 1989.

20. Gannon, Tom. Consulting Sanitary Engineer. Water Supply Sanitary Survey, Johnson Oyster Farm. April 1994.

21. Hazardous Waste Management Plan. Point Reyes National Seashore. June 1997.

22. Marin County Community Development Agency. Staff 1998.

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