

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET • SUITE 200
EUREKA, CA 95501-1865
VOICE (707) 445-7833
FACSIMILE (707) 445-7877

MAILING ADDRESS:
P. O. BOX 4908
EUREKA, CA 95502-4908

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Staff:	Robert S. Merrill
Staff Report:	July 29, 2005
Hearing Date:	August 12, 2005
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	1-04-073
APPLICANT:	SIERRA PACIFIC INDUSTRIES
PROJECT LOCATION:	At the Sierra Pacific Industries mill facility northwest of Humboldt Bay at 2293 Samoa Boulevard, west of Arcata, Humboldt County (APNs 506-180-02, 506-061-09; -10; -28)
PROJECT DESCRIPTION:	Construction of new drainage improvements to treat log deck sprinkle water and storm water runoff including retention basins, water collection swales, outfall, and creation of 5,360 square feet of vegetated wetland for mitigation.
GENERAL PLAN DESIGNATION:	Industrial General (MG)
ZONING DESIGNATION:	Industrial General (MG)

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LOCAL APPROVALS RECEIVED: None Required

OTHER APPROVALS RECEIVED: U.S. Army Corps of Engineers Approval

OTHER APPROVALS REQUIRED: Modification to Regional Water Quality Control Board NPDES Permit (No. CA0024520)

SUBSTANTIVE FILE DOCUMENTS: (1) Humboldt County Local Coastal Program

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve with conditions the coastal development permit application.

Sierra Pacific Industries proposes to install drainage improvements that would treat both log deck sprinkle water and storm water runoff from the Sierra Pacific Industries (SPI) sawmill facilities site located approximately two miles west of Arcata on the north side of Highway 255 (Samoa Boulevard). The site is located at the northwest edge of Humboldt Bay adjacent to the Mad River Slough.

The site is used for lumber mill operations, truck repair operations, and log and lumber storage and has been in operation since the 1950's. A freshwater pond is located north of the area of the site used for log storage and receives storm water runoff from the site. The freshwater pond is densely vegetated with cattails and flows through an underground seep that discharges into the Mad River Slough, a tributary of Humboldt Bay. Several drainage ditches bisect the site and support wetland vegetation. While the drainage ditches exhibit wetland characteristics, the ditches do not provide complex wetland habitat.

The logs stored on the northern portion of the site are watered with sprinklers from an on-site well prior to milling to control damage to the wood caused by fungal growth. The sprinkler operation in the log storage area is a potential pollutant source for log bark, dust, and wood particulate from log handling and storage activities. These pollutants have the potential to become entrained in log deck sprinkler water runoff and storm water runoff that is directed to the freshwater pond and the Mad River Slough and Humboldt Bay. The drainage of the sprinkler water runoff into the freshwater pond is considered to be a wastewater discharge by the Regional Water Quality Control Board (RWQCB). As a result, SPI was directed by the RWQCB to obtain a National Pollution Discharge Elimination System (NPDES) permit to authorize the discharge of the sprinkler water

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into the freshwater pond. The purpose of the proposed development is to contain and treat log deck sprinkler water runoff from log deck sprinkler operations as well as storm water runoff from the surrounding area. The proposed drainage improvements are designed to reduce the total suspended and volatile solids content of the influent water to meet the effluent limitations of the NPDES Permit.

The specific proposed drainage improvements include the following:

- Two new retention basins would be constructed at the north end of the site just to the south of the vegetated pond. These basins would be designed to accept both log deck sprinkle water and storm water runoff from the northern portion of the mill grounds and remove floating material, larger particulate matter, and suspended sediments.
- Water would flow from this second basin to the vegetated pond via a rock-lined channel with channel end protection at the downstream end of the discharge channel to prevent erosion of the soil.
- An asphalt berm would be constructed near the center of the sawmill site that would direct log deck sprinkle water runoff and other surface water from the southern end of the log deck towards the drainage improvements constructed in the north of the site.
- A small, temporary earthen dam at the north end of a drainage area next to the main log deck that was installed without benefit of a coastal development permit would be removed, and the drainage would be connected to a proposed collection ditch that would flow into the proposed new retention basins described above.
- Collection ditches would be constructed from east to west across the northern end of the site to collect surface water that flows towards the vegetated pond and direct both the log deck sprinkle water and storm water runoff towards the two new detention basins.
- The area of the site around the detention basins would be graded to drain to the ditches so that as much surface water runoff as possible is captured and treated prior to discharge to the vegetated pond. This grading would fill in the existing lined retention basin with approximately 4,000 square feet of fill at the north end of the site that is to be replaced by the new basins and an unlined extension of the basin that contains existing cattail vegetation with approximately 1,200 square feet of fill.
- An approximately 5,380-square-foot area of wetland would be created as mitigation for the wetlands that would be disturbed by construction of the drainage improvements.

The proposed project includes approximately 7,680 square feet of wetland fill, including 1,480 square feet of fill for the rock-lined channel outfall and energy dissipater through which treated water from the retention basins would discharge to the vegetated pond to the north, and 6,200 square feet of fill proposed for filling in the existing storm water

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retention basin and its northern extension. Section 30233 of the Coastal Act only allows wetland fill for eight kinds of use. The proposed fill for industrial drainage improvements is not for one of the eight allowable uses. Therefore, the proposed project is inconsistent with Section 30233 of the Coastal Act.

However, staff believes that no feasible alternative exists. To construct any kind of treatment facility with discharge to watercourses or ponds would require some kind of interface between the treatment facility and the wetland involving fill, whether the discharge involves outfall pipes, lined channels, or other designs. To leave the site in its present condition without building new facilities would not conform with the water quality requirements of the Regional Water Quality Control Board (RWQCB) and would not address the requirements of the NPDES permit that has been issued by the RWQCB for the site. In a high intensity storm event, runoff may overtop existing retention basins and deposit significant quantities of woody material into the vegetated pond. In addition, one of the retention basins was created by the placement of an earthen dam across a drainage ditch without benefit of a coastal development permit. This fill for the earthen dam is also not for an allowable use under the Coastal Act and cannot remain in place as unpermitted development inconsistent with the Coastal Act. The alternative of constructing new retention ponds within upland portions of the site of sufficient size to hold all of the log deck sprinkler runoff and storm water runoff from the site for a sufficient period of time for all of the runoff to either evaporate or percolate into the ground and thus avoid the need to construct a discharge facility requiring wetland fill would require an enormous amount of area that is not available at the mill and would adversely affect the vegetated pond to the north and its habitat by depriving the pond of a major source of inflow to sustain water levels and habitat. Closure of the mill and cleanup of the woody debris from its grounds would avoid both fill for a use inconsistent with Section 30233 of the Coastal Act and continued water quality degradation. However, the Sierra Pacific mill has been in operation since the 1950s, predating coastal development permit requirements, and is a grandfathered use within an area zoned for such industrial use. The Commission does not have the authority to require closure of the mill and removal of the woody debris.

To not approve the project would result in continued impacts to water quality that would be inconsistent with the mandates of Section 30231 of the Coastal Act to maintain and restore coastal water quality. The sprinkler operation in the log storage area and runoff from the mill site in general is a pollutant source for log bark, dust, and wood particulate from log handling and storage activities. These pollutants become entrained in log deck sprinkler water runoff and storm water runoff that is directed to the freshwater pond and the Mad River Slough and Humboldt Bay. Log bark, dust, and wood particulate act to decrease water clarity and increase chemical and biological oxygen demand. Tannins and lignin concentrations from woody materials entering receiving waters have adverse impacts on fish, aquatic invertebrates, and aquatic vegetation. The impacts of the operation on water quality caused the RWQCB to issue Order No. R1-2002-0042 and

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NPDES Permit No. CA0024520, Waste Discharge Requirements mandating improvements to the drainage facilities to protect and improve water quality.

Therefore, staff believes the proposed project presents a true conflict between Sections 30233 and Section 30231 of the Coastal Act and it is appropriate for the Commission to invoke the conflict resolution policies of Section 30007.5 of the Coastal Act. This section states that when the Commission identifies a conflict among the policies in Chapter 3, such conflicts are to be resolved in a manner which on balance is the most protective of significant coastal resources. Staff believes that the impacts on coastal resources from not constructing the project would be more significant than the project's wetland fill impacts. Denying the project because of its inconsistency with Section 30233 would avoid a total of 7,680 square feet of fill for drainage improvements and site grading. This impact on wetland habitat would be mitigated by the applicant's proposal to create an approximately 5,380-square-foot area of wetland on the site. The new wetland would be constructed in the northwest corner of the site, directly west of the proposed drainage improvements. The new wetland would be contiguous with the existing Palustrine Scrub-Shrub Wetland along the northern end of Ditch 8 that connects with the vegetated pond. The wetland would be constructed by removing woody material and native soils and exposing soil that would subsequently be colonized by Palustrine Scrub-Shrub Wetland vegetation. On the other hand, approving the proposed drainage and treatment facilities would eliminate or greatly reduce the water quality and habitat degradation affects of the past and current discharges of log sprinkler runoff and storm water runoff on the vegetated pond, Mad River Slough, and Humboldt Bay referred to above. In staff's opinion, the improvements to water quality would be more protective of coastal resources than the wetland fill impacts associate with constructing the outfall structure and site grading.

To ensure that the water quality benefits of the project that would enable the Commission to use the balancing provision of Section 3007.5 are achieved, the staff recommends Special Condition No. 7 which requires that the permittee obtain a permit amendment if the use of the drainage and treatment facilities and wetland fill authorized by Coastal Development Permit No. 1-04-073 changes or is abandoned. The condition indicates that an amendment granted may include a requirement that the drainage and treatment facilities and wetland fill shall be removed and the wetlands affected by their development restored. Special Condition No. 8 requires that a deed restriction be recorded that records the terms and conditions of the permit as restrictions affecting the use of the subject property. This condition will ensure that any future owners of the mill site are aware of the provisions of Special Condition No. 7. To ensure that the proposed wetland mitigation plan is successfully implemented, Special Condition No. 5 requires the submittal of a revised final wetland mitigation plan that includes additional success standards and specifies provisions for monitoring success and remediation if those standards are not achieved by the end of the monitoring period. To ensure the protection of water quality and biological productivity during construction of the drainage and treatment facilities consistent with Section 30231 of the Coastal Act, staff recommends

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Special Condition Nos. 2, 3, and 6. To ensure that sedimentation of receiving waters does not result from erosion of exposed areas during excavation of the containment pond, Special Condition No. 2 requires the applicant to submit for the review and approval of the Executive Director, an erosion and sedimentation control plan that would implement temporary and permanent measures to minimize erosion and sedimentation from construction activities. Special Condition No. 3 requires all work to be performed and completed during the non-rainy season between June 1 and October 15. Special Condition No. 6 requires all excavated material associated with the construction of the sprinkler water containment pond be hauled to Sun Valley Floral Farms as proposed, or to another commercial operation able to receive the material for landscaping purposes, or to an approved disposal site located outside of the coastal zone.

Therefore, staff believes that as conditioned, the proposed development is consistent with the Coastal Act.

The Motion to adopt the Staff Recommendation of Approval with Conditions is found on page 7.

STAFF NOTES:

1. Standard of Review

The proposed project is located in the Commission's retained jurisdiction. Humboldt County has a certified LCP, but the site is within an area shown on State Lands Commission maps over which the state retains a public trust interest. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

2. Commission Action Necessary

The Commission must act on the application at the August 12, 2005 meeting to meet the requirements of the Permit Streamlining Act.

3. Addendum

This staff report does not contain certain findings for approval of the project, including the findings related to invoking the conflict resolution provision of the Coastal Act discussed in the Summary of the Staff Recommendation above. Staff was unable to complete the findings prior to the mailing of the staff report. However, staff will present the recommended findings for approval of the project as part of an addendum at the

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Commission meeting. The findings will reflect the basis for approval with conditions discussed in the Summary of the Staff Recommendation.

I. MOTION, STAFF RECOMMENDATION AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-04-073 pursuant to the staff recommendation.

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment.

II. **STANDARD CONDITIONS:** See Attachment A.

III. **SPECIAL CONDITIONS:**

1. **Permit Expiration and Condition Compliance**

Because some of the proposed development has already commenced, this coastal development permit shall be deemed issued upon the Commission's approval and will not

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expire. Failure to comply with the special conditions of this permit may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

2. Erosion and Sedimentation Control Plan

A. WITHIN 30 DAYS OF COMMISSION APPROVAL or within such additional time as the Executive Director may grant for good cause, the applicant shall submit for review and approval of the Executive Director, a plan for erosion and sedimentation control.

(1) The erosion and sedimentation control plan shall demonstrate that:

- (a) During construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties and coastal resources;
- (b) Temporary erosion control measures shall be implemented during construction including, but not limited to: installation of straw bales and silt fencing, and stabilization and containment of stockpiles.

(2) The plan shall include, at a minimum, the following components:

- (a) A narrative report describing all erosion control measures to be used during construction;
- (b) A site plan showing the location of all erosion control measures; and;
- (c) A schedule for installation and removal of the erosion control measures such that they are in place prior to commencement of construction.

B. The permittee shall undertake development in accordance with the approved plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. Timing of Construction

To minimize adverse impacts to wetland habitats from erosion and sedimentation, all development must be performed and completed during the non-rainy season between June 1 and October 15.

4. **Equipment Access in Environmentally Sensitive Habitat Areas**

Consistent with the applicant's proposed project description and to protect wetland habitats and other environmentally sensitive habitat areas at and adjacent to the site from disturbance, all construction access and staging shall be limited to paved areas or areas otherwise outside of any environmentally sensitive habitat areas.

5. **Final Revised Wetland Mitigation Plan**

A. **WITHIN 30 DAYS OF COMMISSION APPROVAL or within such additional time as the Executive Director may grant for good cause** the applicant shall submit, for review and written approval of the Executive Director, a final revised wetland mitigation plan that substantially conforms with the wetland mitigation plan submitted with the application entitled "*Compensatory Wetland Mitigation Plan,*" prepared by Geomatrix Consultants and dated October 27, 2004, except that the plan shall be revised to include the following provisions:

- i. Additional success standards shall include that the new wetland to be created will be recolonized within five years with wetland vegetation of the same density and diversity of plant types as is found in the adjoining Palustrine Scrub-Shrub Wetland areas.
- ii. Provisions for monitoring and remediation of the entire mitigation site in accordance with the approved final revised riparian wetland restoration program for a period of five years after excavation to create the new area of wetland that includes the submittal for the review and approval of the Executive Director of annual monitoring reports prepared in conjunction with a qualified wetlands biologist by September 30 of each year. The annual monitoring reports must evaluate whether the restoration site conforms with the goals, objectives, and performance standards set forth in the approved final revised riparian wetland mitigation plan, including, but not limited to, whether wetland vegetation has colonized the new area of wetland at a density and species composition similar to that of the density and species composition in surrounding portions of the existing wetland. If the final report indicates that the mitigation project has been unsuccessful, in part, or in whole, based on the approved performance standards, the applicant shall submit a revised or supplemental enhancement program to compensate for those portions of the original program which did not meet the approved performance standards. The revised enhancement program shall be processed as an amendment to this

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coastal development permit unless the Executive Director determines that no amendment is legally required.

- iii. The final revised plan shall include:
 - a a cross-section through the mitigation area showing the proposed finished grades;
 - b a survey of the mix and density of wetland vegetation in surrounding portions of the existing wetland habitat of Ditch 8.
 - c the proposed success standards;
 - d a narrative description of the proposed monitoring and remediation plan

- B. The permittees shall undertake development in accordance with the approved final revised wetland mitigation plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

6. Debris Disposal

All excess excavated material associated with the development shall be hauled to Sun Valley Floral Farms as proposed, to another commercial operation able to receive the material for landscaping purposes, or to an authorized disposal site located outside of the coastal zone.

7. Wetland Fill Restrictions

If use of the drainage and treatment facilities and wetland fill authorized by Coastal Development Permit No. 1-04-073 changes or is abandoned, a permit amendment shall be obtained from the Commission. An amendment granted may include a requirement that the drainage and treatment facilities and wetland fill shall be removed and the wetlands affected by their development restored.

8. Deed Restriction.

WITHIN 60 DAYS OF COMMISSION APPROVAL or within such additional time as the Executive Director may grant for good cause the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. Site & Project Description

The proposed project is located at the Sierra Pacific Industries (SPI) sawmill facilities site located approximately two miles west of Arcata on the north side of Highway 255 (Samoa Boulevard). The site is located at the northwest edge of Humboldt Bay adjacent to the Mad River Slough. The site is used for lumber mill operations, truck repair operations, and log and lumber storage and has been in operation since the 1950's. There are several existing structures on the site associated with the lumber mill and maintenance shop including sawmill, sorter, maintenance, planer, dip tank, and administrative buildings as well as several sheds. A paved area at the northern portion of the site is used for storing logs. (See Exhibit Nos.1-4.)

The site is located within a low-elevation coastal environment that includes a diversity of habitat types at and adjacent to the site including Mad River Slough and Humboldt Bay and associated mudflats, coastal salt marsh, freshwater wetlands and associated riparian forests, coastal dunes, and dune forests. A freshwater pond referred to in the permit application as the 'vegetated pond' is located north of the area of the site used for log storage. The freshwater pond is densely vegetated with cattails and flows through an underground seep that discharges into the Mad River Slough, a tributary of Humboldt Bay. In addition to receiving runoff from the subject site, this pond receives the majority

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of storm water from the neighboring properties to the west and north of the site. Several drainage ditches bisect the site and support wetland vegetation including wax myrtle, Pacific water-parsley, rushes, sedges, small-flowered bulrush, bitter-cress, chickweed, California figwort, and Hooker and arroyo willows. While the drainage ditches exhibit wetland characteristics, the ditches do not provide complex wetland habitat. (See Exhibit No. 5.)

The logs stored on the northern portion of the site are watered with sprinklers from an on-site well prior to milling to control damage to the wood caused by fungal growth. The log deck sprinkling operations generate approximately 50,000 gallons of sprinkler water runoff per day. Log deck watering operations involve pumping groundwater from an on-site source that is 160 feet deep and produces up to 400 gallons per minute of freshwater. Water is applied to the logs via approximately 120 sprinkler heads. There is no recirculation of the wastewater and therefore, the log deck sprinkler runoff is referred to as "once over water" by the Regional Water Quality Control Board (RWQCB).

The sprinkler operation in the log storage area is a potential pollutant source for log bark, dust, and wood particulate from log handling and storage activities. These pollutants have the potential to become entrained in log deck sprinkler water runoff and storm water runoff that is directed to the freshwater pond and the Mad River Slough and Humboldt Bay. Log bark, dust, and wood particulate can decrease water clarity and increase chemical and biological oxygen demand. Tannins and lignin concentrations from woody materials entering receiving waters can have adverse impacts on fish, aquatic invertebrates, and aquatic vegetation.

In a letter dated December 19, 2000, the California Regional Water Quality Control Board, North Coast Region, (RWQCB) ordered the applicant to stop discharging log deck sprinkle water runoff to the vegetated pond to file a Report of Waste Discharge for a site-specific National Pollutant Discharge Elimination System (NPDES) permit. The applicant subsequently stopped discharging log deck sprinkle water to the vegetated pond by storing the water in two retention basins, one existing retention basin at the north end of the site and to the east of the north end of the log deck, and the other a new retention basin created at the north end of "Ditch 8," a lineal wetland feature that extends from the west side of the north end of the log deck northward to the vegetated pond. The second retention basin was created by placing an earthen fill plug or dam across "Ditch 8." The fill was placed without the benefit of a coastal development permit. After halting the discharge of log deck sprinkle water to the vegetated pond by storing the water in the two retention basins and allowing the water to evaporate and seep into the ground, the applicant also filed the required Report of Waste Discharge with the RWQCB. The RWQCB adopted Order No. R!-2002-0042, NPDES Permit No. CA0024520, Waste Discharge Requirements (NPDES Permit) for Sierra Pacific Industries, Arcata Division Sawmill on August 22, 2002. The NPDES Permit regulated the collection, treatment, storage and disposal systems associated with the discharge of log deck sprinkle water runoff to a vegetated pond at the north end of the log deck.

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The applicant submitted Coastal Development Permit Application No. 1-01-047 in August 2001 to construct on-site drainage improvements to contain and treat log deck sprinkle water runoff and storm water. The RWQCB adopted the NPDES permit under the assumption that these improvements would be constructed. However, the drainage improvements proposed under CDP Application No. 1-01-047 raised concerns that the proposed drainage improvements would modify the hydrological regime at the vegetated pond by decreasing the amount of water that eventually enters the pond. Information submitted at the time by the applicant's biologist and the Department of Fish and Game indicates that the pond could have been adversely impacted by decreased flows. In addition, the improvements proposed by the applicant were dependent on the use of the previously placed fill plug across Ditch 8, which the Coastal Commission staff discovered was constructed without the benefit of a coastal development permit only after the CDP Application No. 1-01-047 had been filed and scheduled for a public hearing. The submitted CDP application did not seek after-the-fact authorization for the fill plug. The applicant subsequently withdrew the permit application on September 23, 2003 and later indicated it would submit a new CDP application for a modified project that would not significantly decrease flows to the pond over what the flows had been prior to the issuance of the RWQCB order and would address the unpermitted fill plug.

Log deck sprinkling activities are currently limited by the volume of the runoff retention basins which is relatively small. The applicant hopes to resume regular log deck sprinkling operations under the requirements of a revised NPDES permit allowing for a modified treatment facility to improve the efficiency of the mill operation to levels that existed prior to the cessation of discharge to the vegetated pond. The project would also reduce the risk that runoff from a high intensity storm event would overtop the existing retention basins and deposit significant quantities of woody material and associated pollutants into the vegetated pond.

The currently proposed drainage improvements would treat both log deck sprinkle water and storm water runoff prior to discharge to the vegetated pond. The proposed drainage improvements are designed to reduce the total suspended and volatile solids content of the influent water to meet the effluent limitations of the NPDES Permit.

The proposed drainage improvements include the following:

- Two new retention basins would be constructed at the north end of the site just to the south of the vegetated pond. These basins would be designed to accept both log deck sprinkle water and storm water runoff from the northern portion of the mill grounds. Floating material would be removed in the first basin as the water flows through a baffled outlet. Larger particulate matter would also drop out of suspension in this basin. This basin would be concrete lined to allow heavy equipment to clean it out regularly. The second basin is designed to have

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quiescent flow and a sufficiently long residence time to allow suspended sediment to settle.

- Water would flow from this second basin to the vegetated pond via a high flow discharge channel that would be constructed across an approximately 40-foot-wide zone of Palustrine Scrub-Shrub Wetland habitat identified on the south bank of the vegetated pond. Approximately 1,480 square feet of this wetland would be affected by the construction of a rock-lined channel with channel end protection at the downstream end of the discharge channel to prevent erosion of the soil.
- An asphalt berm would be constructed near the center of the sawmill site that would direct log deck sprinkle water runoff and other surface water from the southern end of the log deck towards the drainage improvements constructed in the north of the site.
- Most water from the log deck sprinkling operations would continue to be collected in Ditch 8, west of the log deck. The small, temporary earthen dam at the north end of Ditch 8 that was installed without benefit of a coastal development permit would be removed, and Ditch 8 would be connected to a proposed collection ditch that would flow into the proposed new retention basins described above.
- Collection ditches would be constructed from east to west across the northern end of the site to collect surface water that flows towards the vegetated pond and direct both the log deck sprinkle water and storm water runoff towards the two new detention basins.
- The area of the site around the detention basins would be graded to drain to the ditches so that as much surface water runoff as possible is captured and treated prior to discharge to the vegetated pond. This grading would fill in the existing lined retention basin with approximately 4,000 square feet of fill at the north end of the site that is to be replaced by the new basins and an unlined extension of the basin that contains existing cattail vegetation with approximately 1,200 square feet of fill.
- An area of wetland would be created as mitigation for the wetlands that would be disturbed by construction of the drainage improvements. The new approximately 5,380-square-foot wetland would be constructed in the northwest corner of the site, directly west of the proposed drainage improvements. The new wetland would be contiguous with the existing Palustrine Scrub-Shrub Wetland along the northern end of Ditch 8 that connects with the vegetated pond. The wetland would be constructed by removing woody material and native soils and exposing soil that would subsequently be colonized by Palustrine Scrub-Shrub Wetland vegetation.

Construction of the drainage improvements would include earthwork activities that would generate excess wood waste material. This material would either be reused on site as hog fuel or transported off site to Sun Valley Floral Farms in Arcata for use as a soil amendment.

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All equipment access and staging locations would be on existing paved areas or areas otherwise outside of any environmentally sensitive habitats.

As part of the operation of the drainage improvements, debris will collect in the drainage ditches and basins. The majority of this material will be bark and wood particulates. This material will periodically be removed by the applicant with a front-end loader (or similar equipment) to maintain their functionality. The excavated material would be transported off site to Sun Valley Floral farms in Arcata for use as a soil amendment or will be reused on the site as hog fuel.

B. Visual Resources

Section 30251 of the Coastal Act states that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance, and requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas.

The proposed development is located on the west side of Highway 255 (Samoa Boulevard) near where the mouth of Mad River Slough enters Humboldt Bay. The proposed runoff containment pond and bark control structure would not be visible from Highway 255 or any other public vantage point because of its distance from the road and because of the intervening development and log storage associated with the mill facility. The project does not involve any other above-ground development that would have adverse impacts to views to or along the coast and therefore, the appearance of the site as viewed from the slough, Highway 255, or surrounding areas would not change. The project involves a significant amount of excavation. However, this excavation does not constitute significant landform alteration, as the grading would occur in an existing flat area used for log and bark storage.

Therefore, the Commission finds that the proposed development is consistent with Section 30251 of the Coastal Act as the development would not block views to and along the coast, would not involve any alteration of land forms, and the proposed runoff containment pond and concrete bark control structure would not result in any significant change to the visual character of the coastal area.

C. Public Access

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act requires that access from the nearest public

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roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. In applying Sections 30210, 30211, 30212, and 30214, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential access.

The project site is located adjacent to the Mad River Slough. Public access to the slough is provided at the southeast corner of the Sierra Pacific Industries property on the east side of the Mad River Slough Bridge. This access location is approximately 800-1,000 feet from the area of the site where the proposed runoff containment pond and associated structures would be constructed and as a result, this access location would not be affected by the proposed project. There are no public trails or other public roads that provide shoreline access within the immediate vicinity of the project. The proposed project does not involve any work in the slough and therefore, the project would not result in any conflicts with boating, fishing, or other recreational uses of the slough. Furthermore, the proposed project would not change the nature or intensity of use of the site, and thus would not create any new demand for public access or otherwise create any additional burdens on public access.

Therefore, the Commission finds that the proposed project as conditioned, does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

D. Alleged Violation

A small berm or dam of earthen material was previously placed on a portion of the site in an area within the Commission's jurisdiction without the benefit of a coastal development permit, as detailed in Finding A. Consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Review of this permit does not constitute a waiver of any legal action with regard to the cited alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit. Special Condition No. 1 ensures that this permit is deemed issued upon Commission approval, and that it will not expire, as development has already commenced and been completed.

E. California Environmental Quality Act (CEQA)

SIERRA PACIFIC INDUSTRIES

1-04-073

Page 17

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Commission incorporates its findings on conformity with Coastal Act policies at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the proposed project has been conditioned so as to be found consistent with the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been made requirements of project approval. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

EXHIBITS:

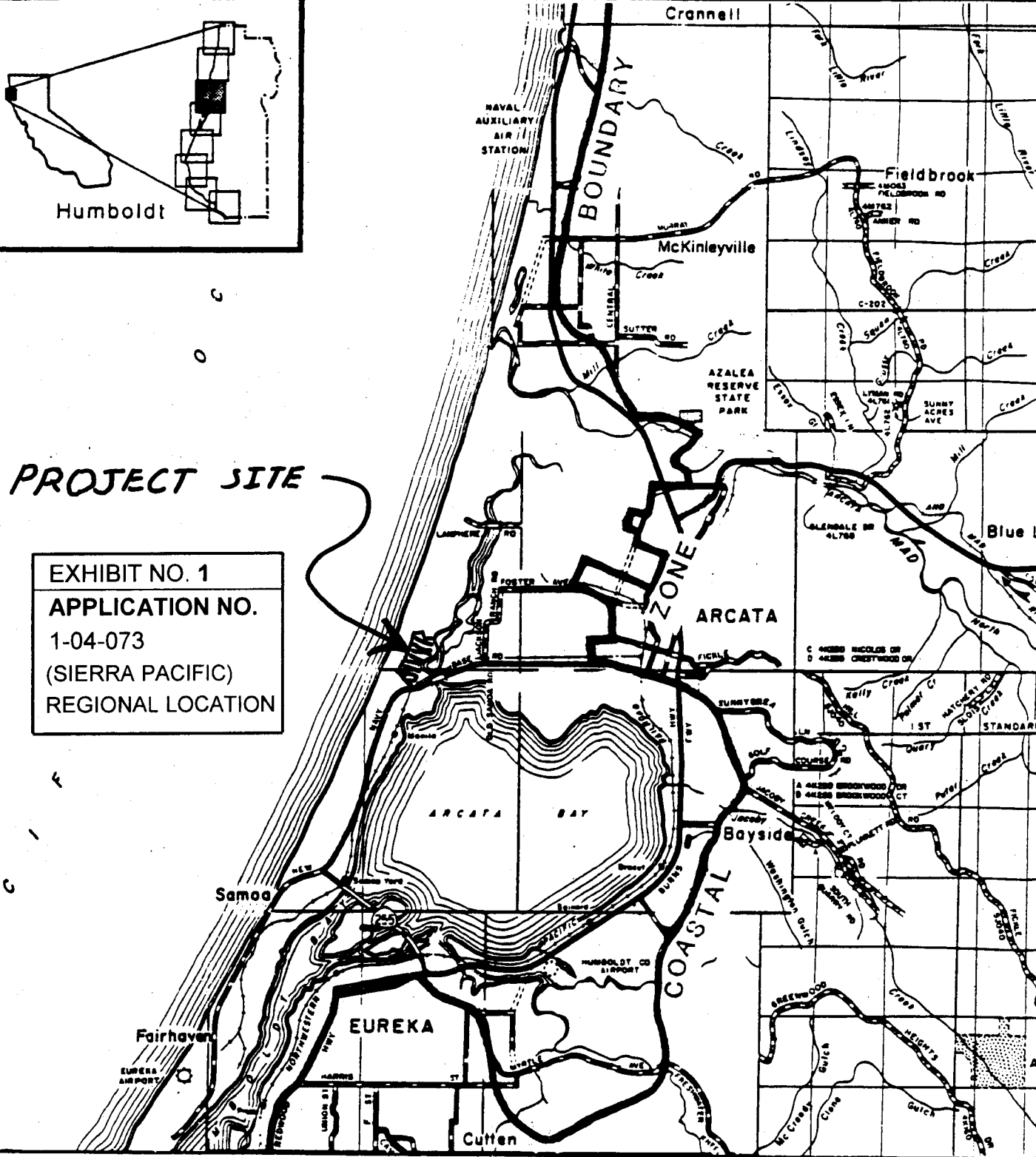
1. Regional Location
2. Vicinity Map
3. Existing Conditions
4. Site Plan
5. Basin Plan and Sections
6. Existing and Proposed Wetlands
7. Botanical Survey
8. Excerpts of Proposed Mitigation Plan

ATTACHMENT A:

STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director of the Commission.
3. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
4. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

A B C D E F G H I J K L M N O



PROJECT SITE

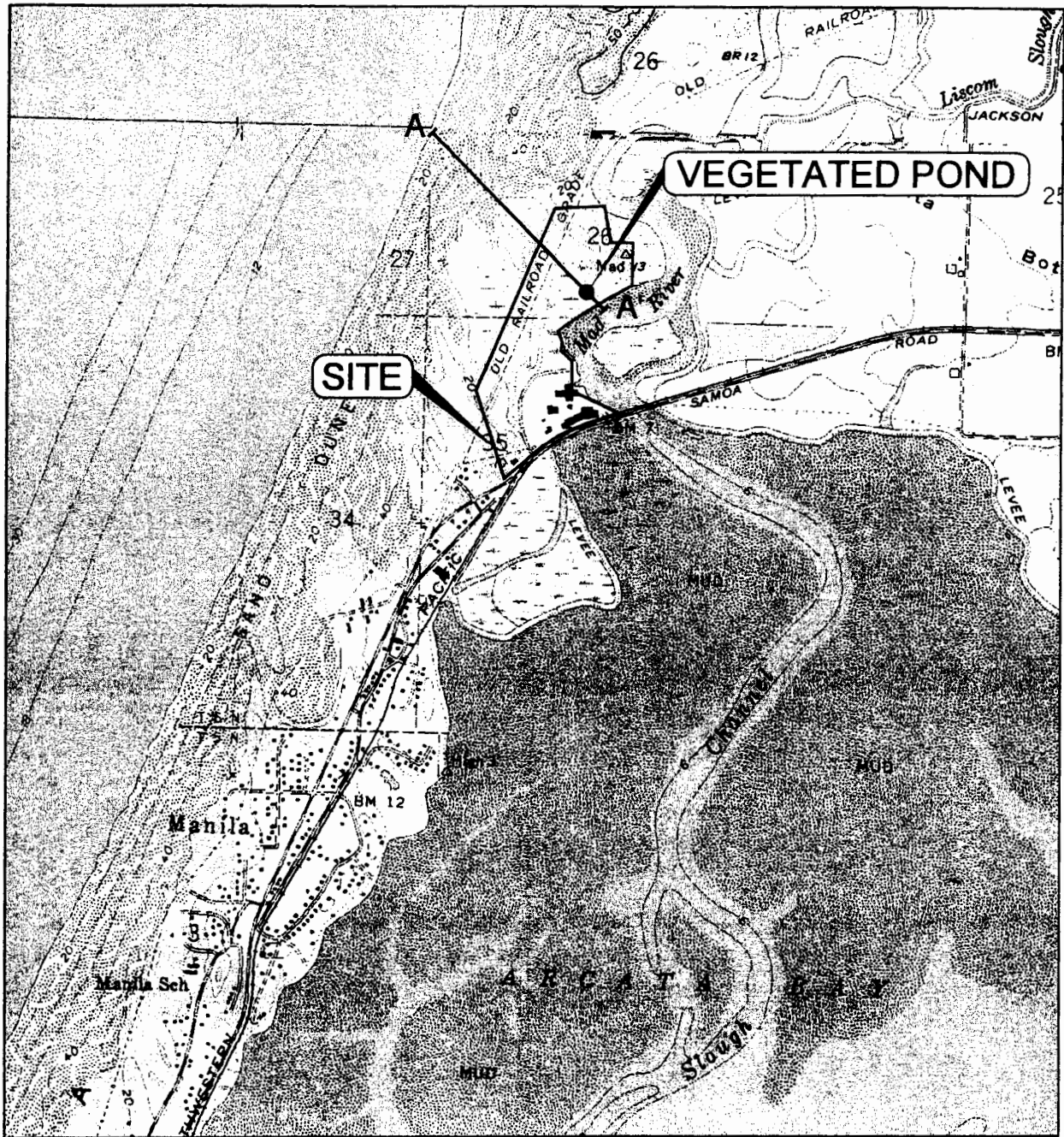
EXHIBIT NO. 1
 APPLICATION NO.
 1-04-073
 (SIERRA PACIFIC)
 REGIONAL LOCATION



California Coastal Commission

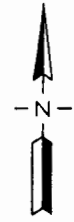
LOCATION MAP





EXPLANATION

A — A' CROSS SECTION LOCATION



BASE MAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE
MAPS ARCATA NORTH, 1956; ARCATA SOUTH, 1956;
EUREKA, 1958; AND TYLEE CITY, 1959, CALIFORNIA.
ALL PHOTO-REVISED 1972.

CONTOUR INTERVAL 20 FEET
DASHED LINES REPRESENT
HALF-INTERVAL CONTOURS

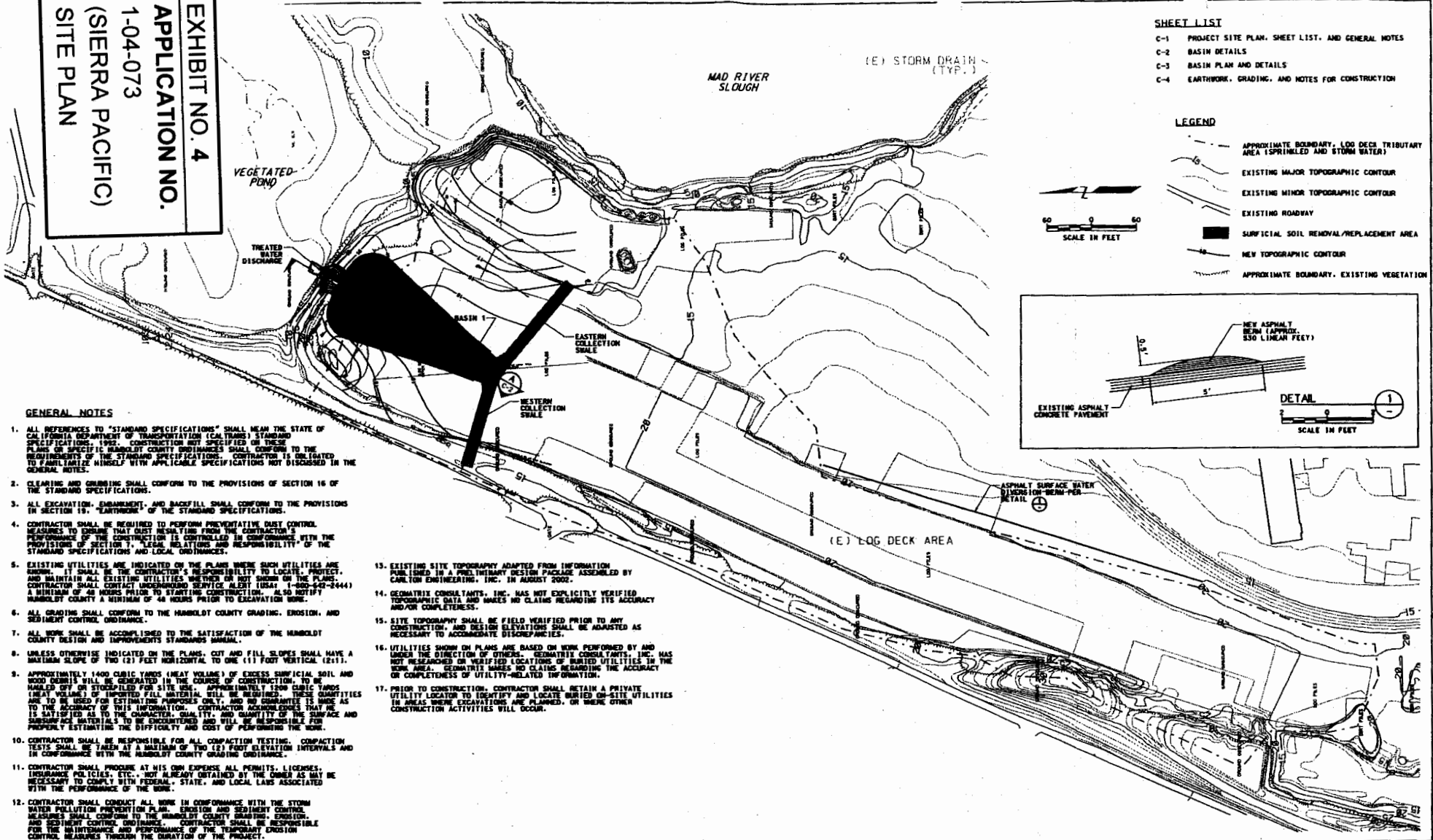
EXHIBIT NO. 2
APPLICATION NO.
1-04-073
(SIERRA PACIFIC)
VICINITY MAP

Figure By pah	Project No. 9329
Date 2/26/04	Figure 1

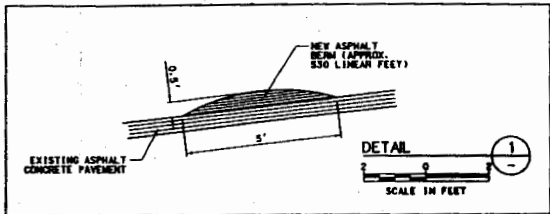
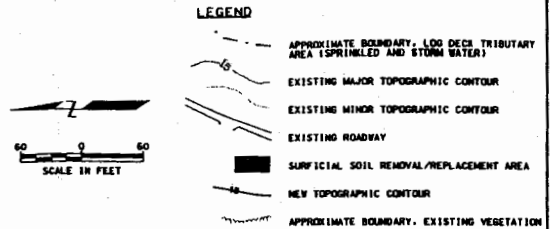


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EXHIBIT NO. 4
 APPLICATION NO.
 1-04-073
 (SIERRA PACIFIC)
 SITE PLAN



- SHEET LIST**
- C-1 PROJECT SITE PLAN, SHEET LIST, AND GENERAL NOTES
 - C-2 BASIN DETAILS
 - C-3 BASIN PLAN AND DETAILS
 - C-4 EARTHWORK, GRADING, AND NOTES FOR CONSTRUCTION



GENERAL NOTES

1. ALL REFERENCES TO "STANDARD SPECIFICATIONS" SHALL MEAN THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS, 1992. CONSTRUCTION NOT SPECIFIED ON THESE PLANS OR SPECIFIC HANDBOOK COUNTY ORDINANCES SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. CONTRACTOR IS OBLIGATED TO FAMILIARIZE HIMSELF WITH APPLICABLE SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES.
2. CLEARING AND GRUBBING SHALL CONFORM TO THE PROVISIONS OF SECTION 16 OF THE STANDARD SPECIFICATIONS.
3. ALL EXCAVATION, EMBANKMENT, AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19, "EARTHWORK" OF THE STANDARD SPECIFICATIONS.
4. CONTRACTOR SHALL BE REQUIRED TO PERFORM PREVENTATIVE DUST CONTROL MEASURES TO ENSURE THAT DUST RESULTING FROM THE CONTRACTOR'S PERFORMANCE OF THE CONSTRUCTION IS CONTROLLED IN CONFORMANCE WITH THE PROVISIONS OF SECTION 7, "LEGAL RELATIONS AND RESPONSIBILITY" OF THE STANDARD SPECIFICATIONS AND LOCAL ORDINANCES.
5. EXISTING UTILITIES ARE INDICATED ON THE PLANS WHERE SUCH UTILITIES ARE KNOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, PROTECT, AND MAINTAIN ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) 1-800-42-2444 A MINIMUM OF 48 HOURS PRIOR TO STARTING CONSTRUCTION. ALSO NOTIFY HANBOLD COUNTY A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.
6. ALL GRADING SHALL CONFORM TO THE HANBOLD COUNTY GRADING, EROSION, AND SEDIMENT CONTROL ORDINANCE.
7. ALL WORK SHALL BE ACCOMPLISHED TO THE SATISFACTION OF THE HANBOLD COUNTY DESIGN AND IMPROVEMENTS STANDARDS MANUAL.
8. UNLESS OTHERWISE INDICATED ON THE PLANS, CUT AND FILL SLOPES SHALL HAVE A MINIMUM SIDE OF TWO (2) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL (2:1).
9. APPROXIMATELY 1400 CUBIC YARDS (GREAT VOLUMES OF EXCESS SURFICIAL SOIL AND WOOD DEBRIS) WILL BE GENERATED IN THE COURSE OF CONSTRUCTION. TO BE Hauled OFF OR STOCKPILED FOR SITE USE. APPROXIMATELY 1200 CUBIC YARDS (GREAT VOLUMES) OF IMPORTED FILL MATERIAL WILL BE REQUIRED. THESE QUANTITIES ARE TO BE USED FOR ESTIMATING PURPOSES ONLY, AND NO GUARANTEE IS MADE AS TO THE ACCURACY OF THIS INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING AS TO THE CHARACTER, QUALITY, AND QUANTITY OF THE SURFACE AND SUBSURFACE SOILS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, ESTIMATING THE DIFFICULTY AND COST OF PERFORMING THE WORK.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COMPACTION TESTING. COMPACTION TESTS SHALL BE TAKEN AT A MINIMUM OF TWO (2) FOOT ELEVATION INTERVALS AND IN CONFORMANCE WITH THE HANBOLD COUNTY GRADING ORDINANCE.
11. CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL PERMITS, LICENSES, INSURANCE POLICIES, ETC., NOT ALREADY OBTAINED BY THE OWNER AS MAY BE NECESSARY TO COMPLY WITH FEDERAL, STATE, AND LOCAL LAWS ASSOCIATED WITH THE PERFORMANCE OF THE WORK.
12. CONTRACTOR SHALL CONDUCT ALL WORK IN CONFORMANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE HANBOLD COUNTY GRADING, EROSION, AND SEDIMENT CONTROL ORDINANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGH THE DURATION OF THE PROJECT.
13. EXISTING SITE TOPOGRAPHY ADAPTED FROM INFORMATION PUBLISHED IN A PRELIMINARY DESIGN PACKAGE ASSEMBLED BY CARLTON ENGINEERING, INC. IN AUGUST 2002.
14. GEOMATRIX CONSULTANTS, INC. HAS NOT EXPLICITLY VERIFIED TOPOGRAPHIC DATA AND MAKES NO CLAIMS REGARDING ITS ACCURACY AND/OR COMPLETENESS.
15. SITE TOPOGRAPHY SHALL BE FIELD VERIFIED PRIOR TO ANY CONSTRUCTION, AND DESIGN ELEVATIONS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE DISCREPANCIES.
16. UTILITIES SHOWN ON PLANS ARE BASED ON WORK PERFORMED BY AND UNDER THE DIRECTION OF OTHERS. GEOMATRIX CONSULTANTS, INC. HAS NOT RESEARCHED OR VERIFIED LOCATIONS OF BURIED UTILITIES IN THE WORK AREA. GEOMATRIX MAKES NO CLAIMS REGARDING THE ACCURACY OR COMPLETENESS OF UTILITY-RELATED INFORMATION.
17. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL RETAIN A PRIVATE UTILITY LOCATOR TO IDENTIFY AND LOCATE BURIED ON-SITE UTILITIES IN AREAS WHERE EXCAVATIONS ARE PLANNED, OR WHERE OTHER CONSTRUCTION ACTIVITIES WILL OCCUR.

NO.	DATE	REVISION	BY	NO.	DATE	REVISION	BY
A	7/1/04	ISSUED FOR AGENCY REVIEW	JVE				

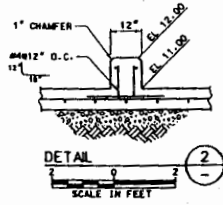
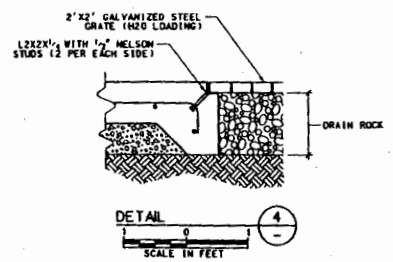
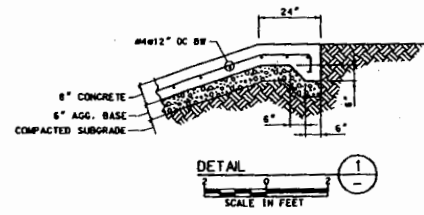
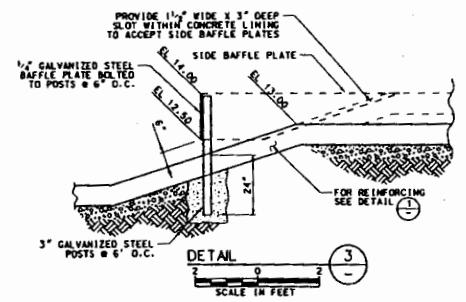
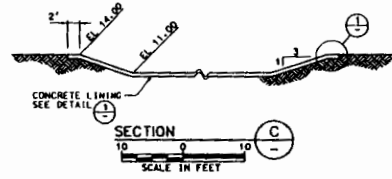
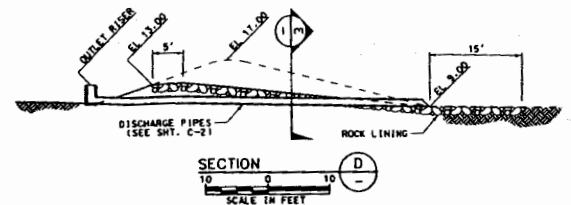
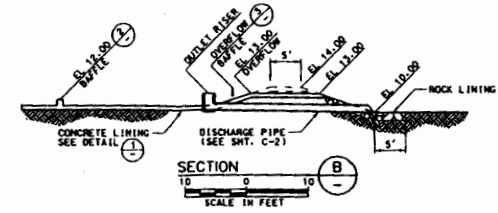
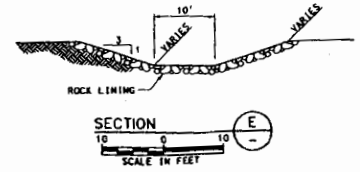
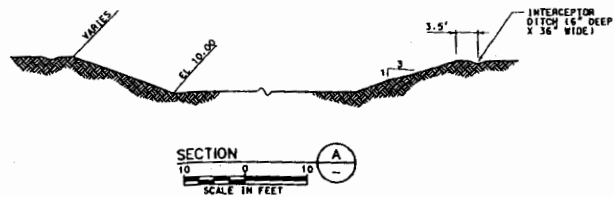
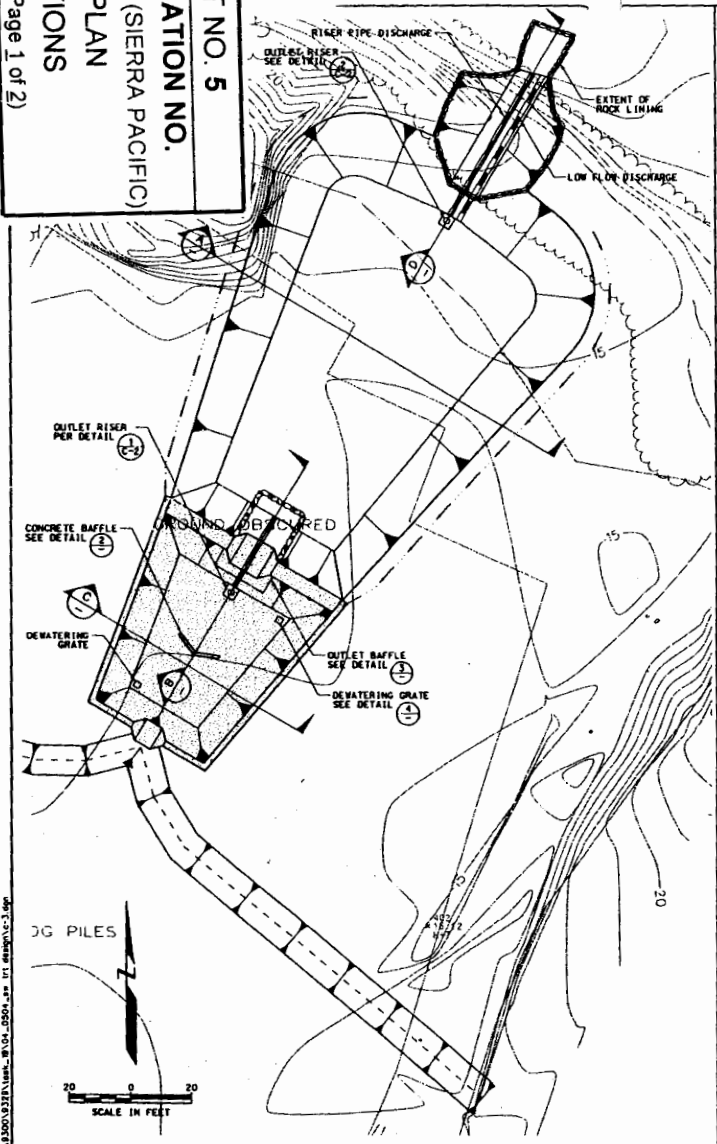
Approval:
FOR REVIEW AND INFORMATION ONLY
NOT FOR CONSTRUCTION
 Date:

GEOMATRIX
 Geomatrix Consultants, Inc.
 2101 Webster Street, 12th Floor
 Oakland, Ca 94612

PROJECT SITE PLAN, SHEET LIST, AND GENERAL NOTES
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

9329.000
Project No.
C-1
Sheet

EXHIBIT NO. 5
APPLICATION NO.
 1-04-073 (SIERRA PACIFIC)
BASIN PLAN
& SECTIONS
 (Page 1 of 2)



ENCL. C-1 8/84
 CHECKED: [Signature]
 DATE: 11/1/84
 DRAWN BY: JVG
 DATE: 11/1/84
 PROJECT NO.: 9329.000
 SHEET NO.: C-3

NO.	DATE	REVISION	BY	NO.	DATE	REVISION	BY
A	7/1/84	ISSUED FOR AGENCY REVIEW	JVG				

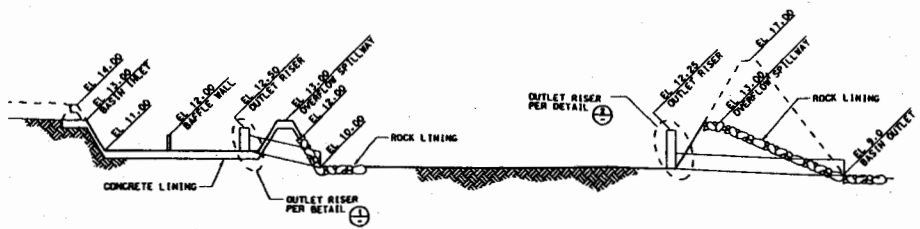
Approval: _____
 FOR REVIEW AND INFORMATION ONLY
 NOT FOR CONSTRUCTION
 Date: _____

GEOMATRIX
 Geomatrix Consultants, Inc.
 2101 Webster Street, 12th Floor.
 Oakland, Ca 94612

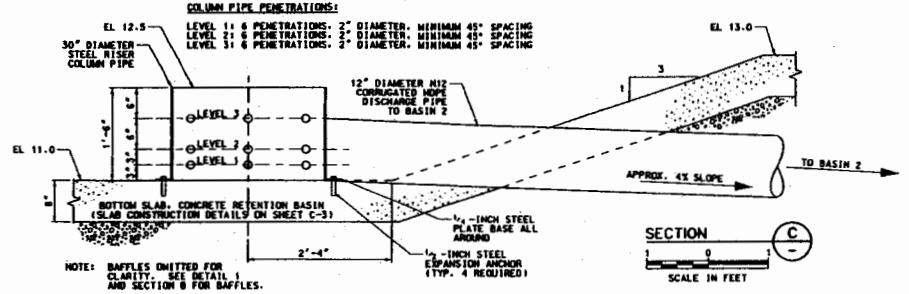
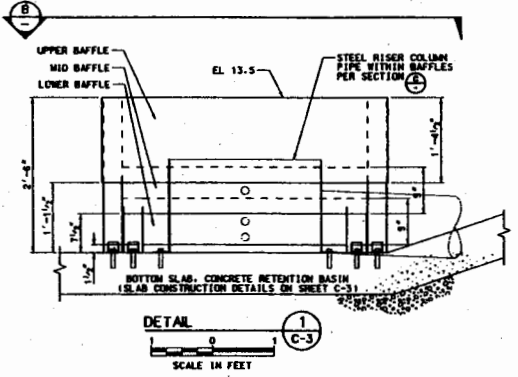
BASIN PLAN AND DETAILS
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

9329.000
 Project No.
 C-3

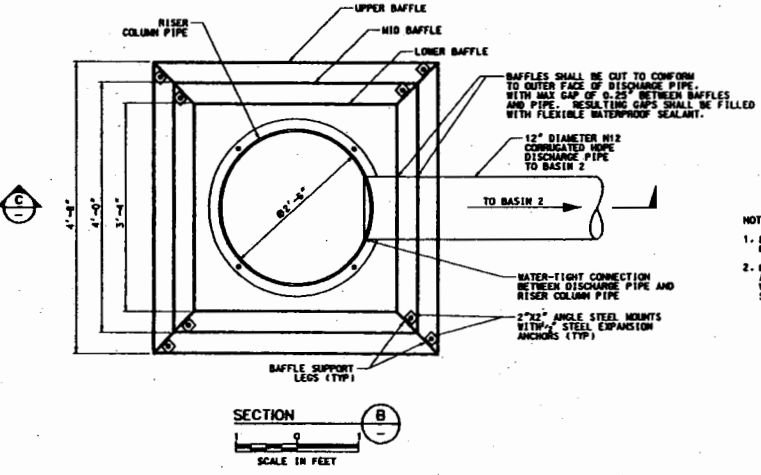
2 of 2



SECTION A-A
VERTICAL SCALE IN FEET
HORIZONTAL SCALE IN FEET

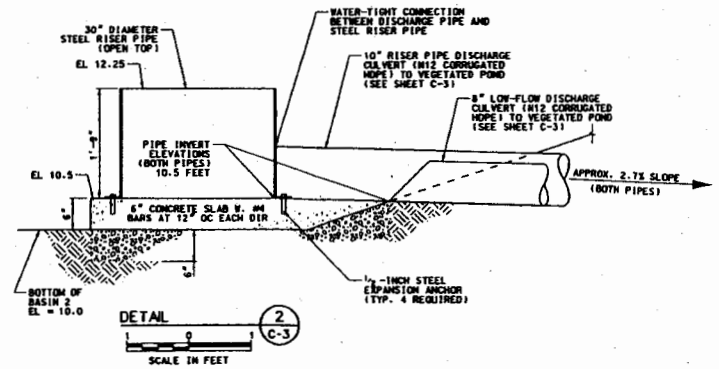


SECTION C-C
SCALE IN FEET



SECTION B-B
SCALE IN FEET

- NOTES:
1. BAFFLES AND BAFFLE SUPPORT LEGS SHALL BE SHOP-FABRICATED FROM 0.25" PLATE STEEL.
 2. OPEN SPACE BETWEEN BOTTOM EDGE OF UPPER BAFFLE AND CONCRETE SURFACE OF BASIN 1 SHALL BE COVERED WITH STEEL MESH HAVING 0.5" OPENINGS. EDGES OF MESH SHALL BE WELDED TO BAFFLE STRUCTURE.



DETAIL 2
SCALE IN FEET

SHEET NO. 17-114
 DATE: 1/1/04
 DRAWN BY: JVG
 CHECKED BY: JVG
 PROJECT NO. 9329.000
 SHEET NO. C-2

NO.	DATE	REVISION	BY	NO.	DATE	REVISION	BY
A	1/1/04	ISSUED FOR AGENCY REVIEW	JVG				

Approval: _____
 FOR REVIEW AND INFORMATION ONLY
 NOT FOR CONSTRUCTION
 Date: _____

GEOMATRIX
 Geomatrix Consultants, Inc.
 2101 Webster Street, 12th Floor
 Oakland, Ca 94612

BASIN DETAILS
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

9329.000
 Project No.
 C-2
 Sheet

NEW VEGETATED WETLAND
AREA TO BE CONSTRUCTED;
APPROXIMATELY 5360 SQ FT
MITIGATION FOR CATTAIL
AREA AND PALUSTRINE
WETLAND

VEGETATED
POND

EXISTING PALUSTRINE
WETLAND TO BE REMOVED
APPROXIMATELY 1480 SQ.FT

NEW STORM WATER DETENTION
BASIN TO BE CONSTRUCTED
APPROXIMATELY 6900 SQ. FT
MITIGATION FOR EXISTING
STORM WATER BASIN

UNLINED SEDIMENT
CONTROL BASIN

CONCRETE-LINED
BARK SEPARATION
AND SEDIMENT
CONTROL BASIN

EXISTING CATTAILS;
AREA TO BE FILLED
APPROX 1200 SQ. FT.

STORM WATER AND
LOG DECK SPRINKLE
WATER COLLECTION
SWALES

EXISTING STORM WATER
RETENTION BASIN;
AREA TO BE FILLED
APPROX 4000 SQ. FT.

EXHIBIT NO. 6
APPLICATION NO.
1-04-073
(SIERRA PACIFIC)
EXISTING &
PROPOSED WETLANDS



KEY:

▲ SLOPE BANK

— PIPE

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CHECKED:  GEOMATRIX

EXISTING AND PROPOSED WETLANDS AREAS
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No.
9329

Figure
1

BOTANICAL SURVEY OF PROPOSED DEVELOPMENT SITES AT THE SIERRA PACIFIC INDUSTRIES (SPI) ARCATA MILL FACILITY, HUMBOLDT COUNTY, CA

Prepared by: Shayne Green
 PO Box 4207, Arcata CA, 95518
 e-mail: sgreen@tidepool.com
 August 15, 2002

EXHIBIT NO. 7

APPLICATION NO.

1-04-073

(SIERRA PACIFIC)

BOTANICAL SURVEY

(Page 1 of 17)

1.0 INTRODUCTION AND OBJECTIVES

A botanical survey was conducted for areas that will be impacted by proposed developments at the Sierra Pacific Industries Arcata mill facility. The purpose of the survey was to determine if any rare and endangered plant species and/or rare plant communities were present within the project area and to assess the potential for negative impacts resulting from proposed activities.

2.0 ENVIRONMENTAL SETTING

Sierra Pacific Industries Arcata mill facility is located near the northwest corner of Humboldt Bay in Humboldt County, Ca. The site is geo-referenced to the Eureka quadrangle (USGS 7.5 minute series); section 26 of T6N, R1W and section 35 of T5N, R1W, H.B.M.. The project area is set within a low-elevation coastal environment that involves a diverse mosaic of natural community types¹, including Humboldt Bay and associated mudflats, coastal salt marshes, freshwater wetlands and associated riparian forests, coastal dunes, dune forests, and the Pacific Ocean. Vegetated natural community types that occur in close proximity to proposed developments but beyond the reach of their expected impacts include coastal dune forest, freshwater wetlands and associated riparian forests, and north coastal salt marshes.

A coastal dune forest located west of the project area involves conifer stands that meet the classification criteria of the beach pine and Sitka spruce alliances (Sawyer and Keeler-Wolf 1995; NDDB 2002a). Important species of this forest include beach pine (*Pinus contorta* ssp. *contorta*)², Sitka spruce (*Picea sitchensis*), and grand fir (*Abies grandis*) in the tree layer. A dense shrub layer involving evergreen huckleberry (*Vaccinium ovatum*), salal (*Gaultheria shallon*), wax myrtle (*Myrica californica*), silk-tassel (*Garrya elliptica*), and in openings bearberry (*Arctostaphylos uva-ursi*) characterizes the understory. The herbaceous layer tends to be poorly developed as a result of dense shading, but frequently encountered species include slough sedge (*Carex obnupta*), sweetgrass (*Hierchloe occidentalis*), false-lily of the valley (*Malanthemum dilatatum*), pearly everlasting (*Anaphalis margaritacea*), and a variety of associated species.

Freshwater wetlands and associated riparian forests occurring north and northwest of the project area include red alder (*Alnus rubra*), Hooker willow (*Salix hookeriana*), arroyo willow (*Salix*

¹ Vegetation classified according to Holland (1986) and Sawyer and Keeler-Wolf (1995).

² Botanical nomenclature generally follows Hickman (1993), although common names are occasionally borrowed from other sources.

lasiolepis), and wax myrtle (*Myrica californica*) as important species in a tree layer that is best developed near the margins of standing water. A tall shrub layer of twinberry (*Lonicera involucrata*), cascara buckthorn (*Rhamnus purshiana*), and California blackberry (*Rubus ursinus*) occasionally intermixes with short trees to form dense thickets. Permanently wet or saturated sites involve an herbaceous layer dominated by broad-leaved cattail (*Typha latifolia*), small-flowered bulrush (*Scirpus microcarpus*), Pacific water-parsley (*Oenanthe sarmentosa*), slough sedge (*Carex obnupta*), rushes (*Juncus* spp), skunk cabbage (*Lysichiton americanum*), and duckweed (*Lemna* spp.).

North coastal salt marsh vegetation occurs on islands and margins of the Mad River slough, generally east of the project area. Inferences regarding the important constituent species can be made from similar sites of Humboldt Bay (pers. obs.) and the literature (Barbour and Major 1988). The primary vegetation layer is herbaceous. Saltgrass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), fleshy jaumea (*Jaumea carnosa*), and dense-flowered cord grass (*Spartina densiflora*) are dominant or important species. Less important but commonly occurring species include gumweed (*Grindelia stricta* var. *stricta*), western marsh-rosemary (*Limonium californica*), and arrow-grass (*Triglochin maritima*). Also known from salt marshes within the vicinity are two rare plant taxa: Point Reyes bird's-beak (*Cordylanthus maritimus* ssp. *palustris*) and Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtensis*).

3.0 PROJECT AREA DESCRIPTION

Numerous developments have been proposed in order improve the quality of storm water discharges from the mill facility into surrounding areas. Proposed developments are likely to impact vegetation at several sites, including 3 existing drainage ditches and a degraded embankment of the Mad River slough. Developments may also indirectly impact vegetation associated with the freshwater wetland located immediately north of the facility by altering existing drainage patterns into that area. A site plan map showing areas that are likely to be impacted by proposed developments is shown in Figure 1. Habitats and vegetation occupying these sites may be geographically referenced in Appendix D at the back of this report.

3.1 Ditches

The vegetation of three drainage ditches (D #4, D#8, and 41 of site plan map) will be directly impacted by proposed developments. One of the ditches appears to contain perennial standing water; the others only seasonal. These ditches presently harbor a variety of wetland and upland species, the latter of which are largely dominated by exotic taxa. Important taxa of the drier zones include sweet-vernal grass (*Anthoxanthum odoratum*), clover (*Trifolium* spp.), vetch (*Vicia* spp.), buttercup (*Ranunculus repens*), dock (*Rumex* spp.), California blackberry (*Rubus ursinus*), lotus (*Lotus uginosus*), birdsfoot trefoil (*Lotus corniculatus*), radish (*Raphanus sativus*), English plantain (*Plantago lanceolata*), annual bluegrass (*Poa annua*), bedstraw (*Galium* spp.), sweet-clover (*Melilotus* spp.), and sow-thistle (*Sonchus* spp.).

Numerous species characteristic of wetlands and otherwise mesic sites of the northcoast are present in the wetter zones of the ditches. Important taxa include: red alder (*Alnus rubra*), Hooker and arroyo willows, wax myrtle, Pacific water-parsley, spreading rush and other rushes (*Juncus* spp.), slough sedge, false nut-sedge (*Cyperus strigosus*), small-flowered bulrush, bitter-cress (*Cardamine hirsuta*), chickweed (*Stellaria* sp.), California figwort (*Scrophularia californica*), and American brooklime (*Veronica americana*).

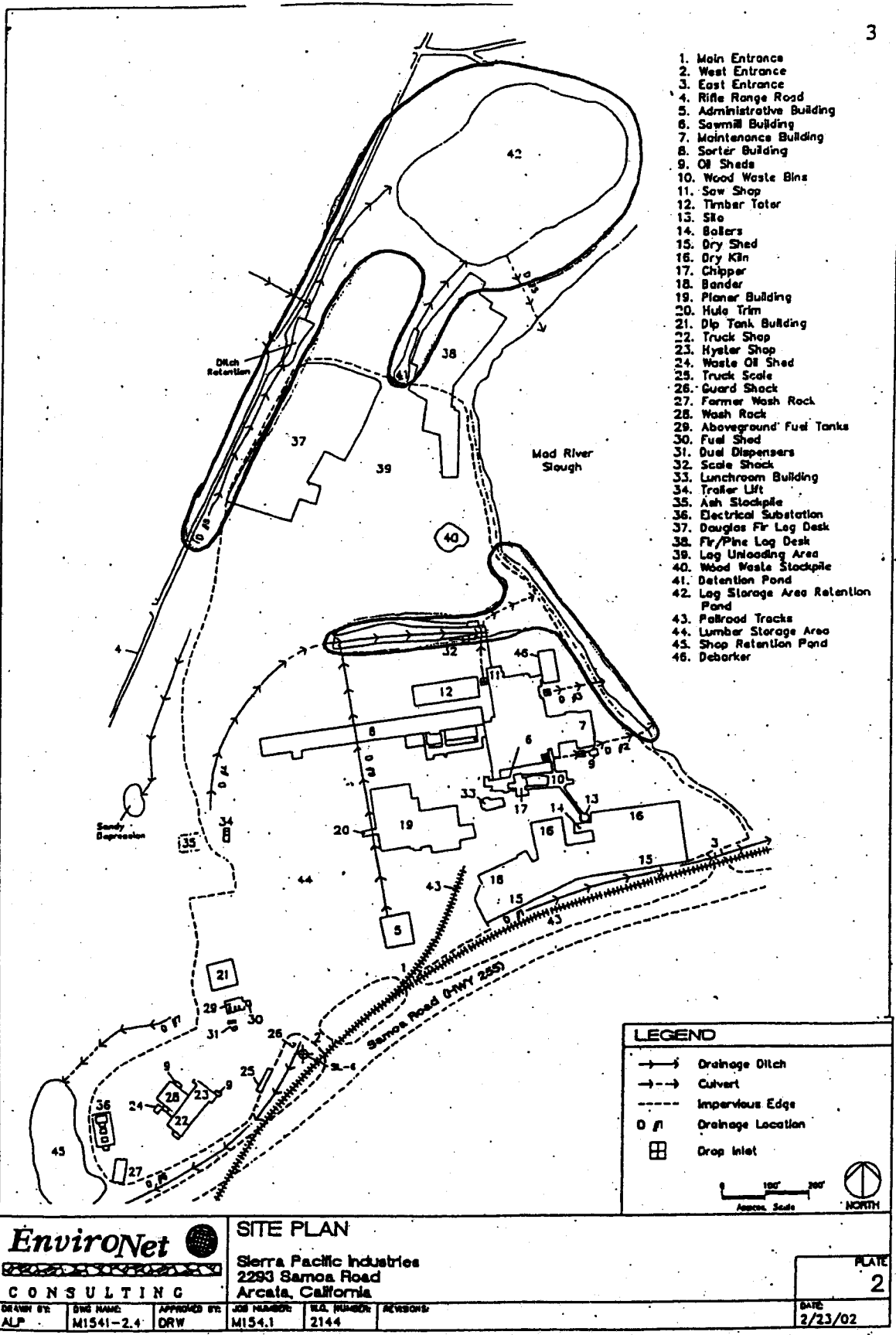


Figure 1. Site plan map showing project area and projected areas of potential impact to vegetation.

3 of 17

3.2 Mad River Slough: embankment and mudflat

A bark control structure will be placed at a site along the degraded embankment where the mill facility interfaces with the Mad River Slough and its associated mudflats. Vegetation on top of the embankment includes lupine (*Lupinus arboreus*, *L. littoralis*, and *L. arboreus* X *L. rivularis* hybrids), jubata grass (*Cortaderia jubata*), wax myrtle, willow, clover, vetch, annual bluegrass, and a variety of other "weedy" species.

This embankment descends steeply into the Mad River slough and its associated mudflats. The salt marsh vegetation layer is poorly developed here and only small, scattered patches of salt-marsh associated taxa were detected, including salt grass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), dense-flowered cordgrass (*Spartina densiflora*), fleshy jaumea (*Jaumea carnosa*), gumplant (*Grindelia stricta* var. *stricta*), spear oracle (*Atriplex patula*), and sand spurrey (*Spergularia macrotheca* var. *macrotheca*).

3.3 Freshwater wetland

The freshwater wetland located immediately north of the log decks (see Appendix C) is dominated by herbaceous vegetation and fringed by riparian forest. A dense stand of broadleaved cattail (*Typha latifolia*) extends across much of the wetland area. Other important taxa include various willows, pacific water-parsley, slough sedge, Cusick's sedge (*Carex cusickii*), spreading rush, tapered rush (*Juncus acuminatus*), Baltic rush (*Juncus balticus*), purple-leaved willowherb (*Epilobium ciliatum* ssp. *ciliatum*), yellow monkeyflower (*Mimulus guttatus*), canary reedgrass (*Phalaris arundinaceae*), pacific silverweed (*Potentilla anserina* ssp. *pacifica*), Douglas' water-hemlock (*Cicuta douglasii*), and small-flowered bulrush.

Additional taxa that are particularly important in or near standing water at the center of the mire include: common three-square (*Scirpus pungens*), jointed rush (*Juncus articulatus*), toad rush (*Juncus bufonius*), creeping spike-rush (*Eleocharis macrostachya*), three-ribbed arrowgrass (*Triglochin striata*), common mare's-tail (*Hippurus vulgaris*), marsh pennywort (*Hydrocotyle* sp.), and duckweed (*Lemna* sp.).

Woody vegetation characterizes the margins of the wetland and is dominated by riparian and/or mesic-associated species such as wax myrtle, red alder, willows, twinberry, and California blackberry.

4.0 SCOPING AND SURVEY METHODOLOGY

4.1 Rare and endangered plant taxa

The California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Plants of California* (2001) was queried for all List 1A, 1B, and 2 plant taxa³ known from: 1) a 7 quadrangle area that includes the Eureka quad and surrounding quads; and 2) coastal (500 m elevation or lower) wetlands of all Humboldt County. The database query resulted in a list of rare

³ Those species which in most cases meet listing eligibility criteria set forth in the California Endangered Species Act and which must be fully considered when preparing environmental documents relating to the California Environmental Quality Act (CEQA).

plant taxa⁴ that are considered to potentially occur in the project area (Table 1). This list included all state and federal (proposed or listed) rare, threatened, or endangered plant species known from the scoping area.

The survey protocol was based on *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* developed by James Nelson (California Department of Fish and Game 2000). Surveys were floristic, seasonally-appropriate, and intuitively-controlled within areas likely to be impacted by operations. Botanist Shayne Green (M.A. Botany) spent a total of 12.5 hours searching for rare plants on April 20, June 22, and July 24, 2002. Due to the presence of a wide range of habitat types either within or nearby the project area, all taxa listed in Figure 1 were considered to potentially be present during field searches. High intensity (75-100% coverage) surveys were conducted in areas that are likely to be impacted by proposed developments⁵. A map of the survey route is attached as Appendix A. Each plant observed was identified to a taxonomic level necessary (relative to the target taxa) to determine rarity. Appendix B provides a list of plant taxa observed during field surveys.

The California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2001) was used to verify the seasonal-appropriateness of surveys. Searches for target species were timed so as to take place during their respective periods of active blooming.

4.2 Rare plant communities

The California Natural Diversity Database (2002a) and Sawyer and Keeler-Wolf (1995) were screened for all rare plant communities known from coastal Humboldt County. The following terrestrial natural communities (Holland 1986) and/or vegetation series/alliances are considered by the CNDDB (2002a) to be a "high inventory priority":

Coastal communities: dunes, prairies, scrubs, salt and brackish marshes

Freshwater wetlands: meadows, marshes, swamps, bogs, fens, willow and black cottonwood stands

Closed-cone conifer forests: Bishop pine and beach pine forests

North Coast conifer forests: grand fir, Sitka spruce, and western hemlock stands

⁴ Long-beard lichen (*Usnea longissima*) is not listed in the CNPS database but was included among the list of taxa searched for during surveys of the project area.

⁵ Survey intensity was slightly lower (~50-75%) in the freshwater wetland located north of the log decks. Access to some portions of that wetland was limited by standing water and dense vegetation.

Table 1. Rare plant taxa addressed during botanical surveys of proposed development sites at the SPI Arcata mill

Scientific Name	Common Name	Habitat	Elev (m)	Blooms
<i>ABRONIA IMBELLATA</i> SSP. <i>BREVIFLORA</i>	"pink sand-verbena"	Coastal dunes	0-10	Jun-Oct
<i>ASTRAGALUS PYCNOSTACHYUS</i> VAR. <i>PYCNOSTACHYUS</i>	"coastal marsh milk-vetch"	Coastal dunes (mesic), Marshes and Swamps (coastal salt, streamsides)	0-30	Apr-Oct
<i>CALAMAGROSTIS BOLANDERI</i>	"Bolander's reed grass"	Bogs and fens, Closed-cone coniferous forest, Coastal scrub, Meadows (mesic), Marshes and Swamps (freshwater), North Coast coniferous forest / mesic	0-305	May-Aug
<i>CALAMAGROSTIS CRASSICLONIS</i>	"Thurber's reed grass"	Coastal scrub (mesic), Marshes and Swamps (freshwater)	10-45	May-Jul
<i>CAREX ARCTA</i>	"northern clustered sedge"	Bogs and fens, North Coast coniferous forest (mesic)	60-1400	Jun-Aug
<i>CAREX LEPTALEA</i>	"flaccid sedge"	Bogs and fens, Meadows (mesic), Marshes and Swamps	0-700	May-Jul
<i>CAREX LYNGBYEI</i>	"Lyngbye's sedge"	Marshes and Swamps (brackish or freshwater)	0-10	May-Aug
<i>CAREX PRATICOLA</i>	"meadow sedge"	Meadows (mesic)	0-3200	May-Jul
<i>CAREX SALINIFORMIS</i>	"deceiving sedge"	Coastal prairie, Coastal scrub, Meadows, Marshes and Swamps (coastal salt) / mesic	3-230	Jun
<i>CAREX VIRIDULA</i> VAR. <i>VIRIDULA</i>	"green sedge"	Bogs and fens, Marshes and Swamps (freshwater), North Coast coniferous forest (mesic)	0-1600	Jun-Sep
<i>CASTILLEJA AFFINIS</i> SSP. <i>LITORALIS</i>	"Oregon coast Indian paintbrush"	Coastal bluff scrub, Coastal dunes, Coastal scrub / sandy	15-100	Jun
<i>CASTILLEJA AMBIGUA</i> SSP. <i>HUMBOLDTIENSIS</i>	"Humboldt Bay owl's-clover"	Marshes and Swamps (coastal salt)	0-3	Apr-Aug
<i>CORDYLANTHEUS MARITIMUS</i> SSP. <i>PALUSTRIS</i>	"Point Reyes bird's-beak"	Marshes and Swamps (coastal salt)	0-10	Jun-Oct
<i>EPILOBIUM OREGANUM</i>	"Oregon fireweed"	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest / mesic	500-2240	Jun-Sep
<i>ERYSIMUM MENZIESII</i> SSP. <i>EUREKENSE</i>	"Humboldt Bay wallflower"	Coastal dunes	0-10	Mar-Apr
<i>ERYTHRONIUM REVOLUTUM</i>	"coast fawn lily"	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest / mesic, streambanks	0-1065	Mar-Jun
<i>FISSIDENS PAUPERCOLUS</i>	"n/a"	North Coast coniferous forest (damp coastal soil)	10-100	n/a
<i>GILIA CAPITATA</i> SSP. <i>PACIFICA</i>	"Pacific gilia"	Coastal bluff scrub, Coastal prairie	5-300	May-Aug

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Table 1. Rare plant taxa addressed during botanical surveys of proposed development sites at the SPI Arcata mill

Scientific Name	Common Name	Habitat	Elev (m)	Blooms
<i>GILIA MILLEFOLIATA</i>	"dark-eyed gilia"	Coastal dunes	2-20	Apr-Jul
<i>GLYCERIA GRANDIS</i>	"American manna grass"	Bogs and fens, Meadows, Marshes and Swamps (streambanks and lake margins)	15-1980	Jun-Aug
<i>HESPERIVAX SPARSIFLORA</i> VAR. <i>BREVIFOLIA</i>	"short-leaved evax"	Coastal bluff scrub (sandy), Coastal dunes	0-215	Mar-Jun
<i>JUNCUS SUPINIFORMIS</i>	"hair-leaved rush"	Bogs and fens, Marshes and Swamps (freshwater) / near coast	20-100	Apr-Jun
<i>LATHYRUS JAPONICUS</i>	"sand pea"	Coastal dunes	1-30	May-Aug
<i>LATHYRUS PALUSTRIS</i>	"marsh pea"	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and Swamps, North Coast coniferous forest / mesic	1-100	Mar-Aug
<i>LAYIA CARNOSA</i>	"beach layia"	Coastal dunes, Coastal scrub (sandy)	0-60	Mar-Jul
<i>LILIUM OCCIDENTALE</i>	"western lily"	Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and Swamps (freshwater), North Coast coniferous forest (openings)	2-185	Jun-Jul
<i>LYCOPODIELLA INUNDATA</i>	"bog club-moss"	Bogs and fens (coastal), Lower montane coniferous forest (mesic), Marshes and Swamps (lake margins)	5-1000	Sep
<i>LYCOPIDIUM CLAVATUM</i>	"running-pine"	Marshes and Swamps, North Coast coniferous forest (mesic)	60-790	Jul-Aug
<i>MITELLA CAULESCENS</i>	"leafy-stemmed mitrewort"	Broadleaved upland forest, Lower montane coniferous forest, Meadows, North Coast coniferous forest / mesic	60-1700	May-Jul
<i>MONOTROPA UNIFLORA</i>	"Indian-pipe"	Broadleaved upland forest, North Coast coniferous forest	10-425	Jun-Jul
<i>MONTIA HOWELLII</i>	"Howell's montia"	Meadows, North Coast coniferous forest, Vernal pools / vernal mesic	0-595	Mar-May
<i>PUCCINELLIA PUMILA</i>	"dwarf alkali grass"	Marshes and Swamps (coastal salt)	1-10	Jul
<i>SANGUISORBA OFFICINALIS</i>	"great burnet"	Bogs and fens, Broadleaved upland forest, Meadows, Marshes and Swamps, North Coast coniferous forest, Riparian forest / often serpentinite	60-1400	Jul-Oct
<i>SIDALCEA MALACHROIDES</i>	"maple-leaved checkerbloom"	Broadleaved upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest / often in disturbed areas	2-700	Apr-Aug

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Table 1. Rare plant taxa addressed during botanical surveys of proposed development sites at the SPI Arcata mill

Scientific Name	Common Name	Habitat	Elev (m)	Blooms
<i>SIDALCEA MALVIFLORA</i> SSP. <i>PATULA</i>	"siskiyou checkerbloom"	Coastal bluff scrub (?), Coastal prairie, North Coast coniferous forest	15-700	May-Jun
<i>SIDALCEA OREGANA</i> SSP. <i>EXIMIA</i>	"coast checkerbloom"	Lower montane coniferous forest, Meadows, North Coast coniferous forest	5-1340	Jun-Aug
<i>SPERGULARIA CANADENSIS</i> VAR. <i>OCCIDENTALIS</i>	"western sand-spurrey"	Marshes and Swamps (coastal salt)	0-3	Jun-Aug
<i>VIOLA PALUSTRIS</i>	"marsh violet"	Coastal scrub (mesic), Bogs and fens (cpastal)	0-150	Mar-Aug

Also:

Usnea longissima

long-beard lichen,
 Methuselah's beard

Coastal forests

n/a

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5.0 FINDINGS

5.1 Rare plant taxa

No rare and endangered plant taxa were detected during surveys of the project area.

5.2 Rare plant communities

The freshwater wetland located north of the log decks is unusual in that it involves:

1) a peat layer often 1 meter or more thick; 2) floating mats of vegetation; and 3) an apparently rare assemblage of plant species. Definitions from supporting references (Gore 1983; Crum 1988; Sawyer and Keeler-Wolf 1995; Tiner 1999) indicate that this wetland may be best classified as a fen. Fens are rare in California (Sawyer and Keeler-Wolf 1995) and considered by the CNDDDB (2002a) to be a high inventory priority.

Riparian forest stands in which willows, red alder, and wax myrtle occur in combination and typically share dominance exist in the project area. These stands are best developed around the margins of the large freshwater wetland and at the north end of ditch #8. Willow riparian forests comprised of the *Salix* species inhabiting the project area are considered by the CNDDDB (2002a) to be a high inventory priority. While willow-dominated stands may be said to occur at a fine ($\leq 1/5$ acre) spatial scale, such vegetation patches typically constitute inclusions within a riparian forest type that involves a mixture of species.

6.0 DISCUSSION

6.1 Rare plants

Survey results indicate that no rare or endangered plants are present in areas that will be impacted by proposed developments.

6.2 Fen habitat and associated vegetation

The term "mire" is used to distinguish wetlands involving a peat layer from marshes and other wetland types that do not (Gore 1983; Tiner 1999). Mires can be subdivided into bogs and fens based primarily on hydrological criteria (Gore 1983). Sawyer and Keeler-Wolf (1995) define fens as "local depressions with accumulations of organic matter (peat) associated with springs, seeps, and streams." The same authors claim that mires of California are better classified as fens than as bogs (Sawyer and Keeler-Wolf 1995).

Fen habitat is globally rare and rare in California, covering less than 10,000 acres worldwide and less than 2,000 acres in the state (Sawyer and Keeler-Wolf 1995). The community type is considered to be a "high inventory priority" by the California Natural Diversity Database (2002a). Less than a dozen such fens are known along the northern coast of California (Leppig 2002, pers. comm.). Thus, the fen associated with the project area represents a wetland type that is rare at the local, state, and global levels.

Although proposed developments will not directly impact the fen, indirect impacts associated with altered drainage patterns at the north end of the facility could potentially occur. Proposed developments may reduce the amount water that drains from log decks into the fen, particularly runoff currently associated with sprinkler system use (Wiemeyer 2002, pers. comm.).

Archived aerial photographs⁶ dating as far back as 1942 show what appears to be a large wetland existing at the site prior to the construction of the mill facility in the late 1940's or early 1950's. The wetland site was reportedly excavated about 30 years ago to create a log deck storage area retention pond (Wiemeyer 2002, pers. comm.), although this could not be confirmed from the photographic record. Bark fragments and other woody debris that has been pushed into the wetland during recent decades may have increased the rate of peat accumulation in some areas.

Vegetation patterns apparent in aerial photographs further indicate that an essentially contiguous wetland system, dissected by roads and bordered on either side by upland vegetation, extends northwest several hundred meters from the fen to the leading margin of a migrating sand dune sheet (Appendix C). This observation was confirmed in the field. Thus, the fen's most important area of hydrological influence may have historically extended from an area largely or wholly outside that currently occupied by the mill facility. The annual increase in water diverted to the fen from the mill facility in recent decades, and its overall effect on the condition of the wetland, are unknown. Air photos support the possibility that the surface area of seasonal standing water may have increased as a response.

Reducing or eliminating water runoff from the mill facility to the fen would probably constitute a return towards the hydrological regime under which the wetland developed for most of its history. At the same time, it is difficult to refute the possibility that increased runoff from the facility in recent decades has somehow facilitated or enhanced the development of the wetland's unique characteristics. Any decision regarding appropriate levels of future runoff from the facility should consider not only the wetland's existing condition but also its historical and ecological contexts.

6.2 Riparian forest and willow stands

The rarity status of Willow riparian forest alliances (CNDDDB 2002a) probably reflects the small patch size and limited distribution of the wetland habitats they occur in. In the coastal landscape surrounding Humboldt Bay, willow stands and the wetlands they inhabit are not particularly uncommon. Riparian forests occupying wetlands of the project area combine elements of red alder and willow alliances. These stands primarily occur in areas that will not be directly disturbed by proposed developments. The north end of ditch #8, near its confluence with the fen, may be an exception. While the exact extent of expected disturbance to this area was not clear to the author at the time of this writing, it appears that projected disturbances to willow vegetation would be extremely limited in scope. While riparian stands are understood to provide a broad range of biological and ecological values, the *botanical* significance of vegetation at the site is considered to be relatively minor.

7.0 SUMMARY

Systematic field surveys were conducted for rare and endangered plants and plant communities in areas that will potentially be impacted by proposed developments at the Sierra Pacific Industries Arcata mill facility. No rare or endangered plants were detected. Fen habitat and associated vegetation occurring in the project area represent a rare community type of high ecological significance. Willow vegetation associated with riparian stands of the project area is highly limited in extent but may represent a type that has been recognized as a high inventory priority by the California Natural Diversity Database.

⁶ Photos on file Humboldt County's Public Works Natural Resources Division office in Eureka, CA.

While the fen will not be directly impacted by the project, proposed alterations in drainage patterns at the north end of the facility could potentially modify the hydrological regime it is presently subject to. The potential effects of such changes on the fen and its community of plant life are unknown. Aerial photographs of the site pre-dating the mill facility indicate that a large wetland existed there prior to water contributions associated with sprinkler systems.

Direct impacts to willow vegetation will be largely avoided except perhaps at one site at the north end of ditch #8. Any indirect impacts associated with altered drainage patterns would probably be relatively minor and restricted to willow stands developing in and around the fen.

Copies of field forms shall be sent to the California Natural Diversity Database in order to document the fen's occurrence.

8.0 LITERATURE CITED

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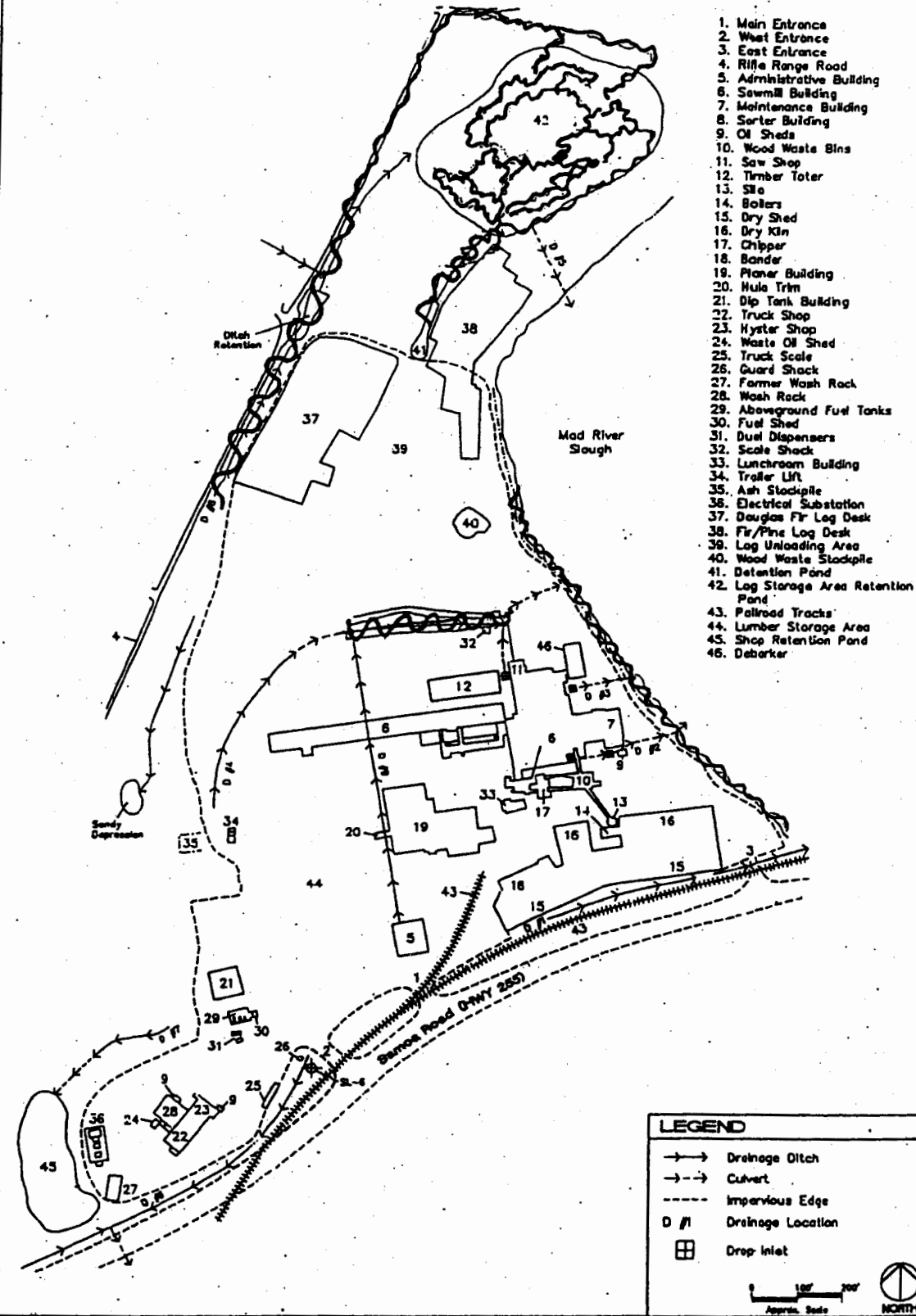
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9.0 PERSONAL COMMUNICATIONS

Leppig, Gordon 2002. Environmental Scientist. California Department of Fish and Game. Eureka, CA.

Wiemeyer, Darren 2002. Biologist. Pacific Northwest Environet Group, Inc. Santa Rosa, CA.

APPENDIX A: Botanical survey route.



1. Main Entrance
2. West Entrance
3. East Entrance
4. Rifle Range Road
5. Administrative Building
6. Sawmill Building
7. Maintenance Building
8. Sorter Building
9. Oil Sheds
10. Wood Waste Bins
11. Saw Shop
12. Timber Toter
13. Silo
14. Boilers
15. Dry Shed
16. Dry Kiln
17. Chipper
18. Bonder
19. Planer Building
20. Hule Trim
21. Dip Tank Building
22. Truck Shop
23. Hyster Shop
24. Waste Oil Shed
25. Truck Scale
26. Guard Shack
27. Former Wash Rack
28. Wash Rack
29. Aboveground Fuel Tanks
30. Fuel Shed
31. Dual Dispensers
32. Scale Shack
33. Lunchroom Building
34. Trailer Lift
35. Ash Stockpile
36. Electrical Substation
37. Douglas Fir Log Deck
38. Fir/Pine Log Deck
39. Log Unloading Area
40. Wood Waste Stockpile
41. Detention Pond
42. Log Storage Area Retention Pond
43. Railroad Tracks
44. Lumber Storage Area
45. Shop Retention Pond
46. Debarker

LEGEND

- Drainage Ditch
- Culvert
- Impervious Edge
- D # Drainage Location
- ⊞ Drop Inlet

Scale: 0 100 200
Approx. Scale

NORTH

EnviroNet		SITE PLAN			PLATE 2
CONSULTING		Sierra Pacific Industries 2293 Samoa Road Arcata, California			
DRAWN BY: ALP	DWG NAME: M1541-2.4	APPROVED BY: DRW	JOB NUMBER: M154.1	S.D. NUMBER: 2144	DATE: 2/23/02

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APPENDIX B: PLANT TAXA OBSERVED DURING BOTANICAL SURVEYS OF PROPOSED DEVELOPMENT SITES AT THE SIERRA PACIFIC INDUSTRIES ARCATA MILL FACILITY.

Tree layer		
	<i>Alnus rubra</i>	red alder
	<i>Malus fusca</i>	Oregon crab apple
	<i>Myrica californica</i>	wax myrtle
	<i>Picea sitchensis</i>	Sitka spruce
	<i>Pinus contorta ssp. contorta</i>	beach pine
	<i>Salix lasiolepis</i> ¹	arroyo willow
	<i>Salix hookeriana</i> ¹	Hooker's willow
	<i>Salix lucida ssp. lasiandra</i>	Pacific willow, shining willow
	<i>Salix sitchensis</i>	Sitka willow
Shrub layer		
	<i>Baccharus pilularis</i>	coyote brush
	<i>Cicuta douglasii</i>	Douglas' water-hemlock
	<i>Lonicera involucrata</i>	twinberry
	<i>Lupinus spp.</i>	lupine
	<i>Lupinus arboreus</i>	yellow bush lupine
	<i>Lupinus rivularis</i>	lupine
	<i>Lupinus arboreus</i> X <i>L. rivularis</i> (hybrids)	lupine hybrids
	<i>Rubus discolor</i>	Himalayan blackberry
	<i>Rubus ursinus</i>	California blackberry
	<i>Solanum sp.</i>	nightshade
Herb layer		
	<i>Agrostis spp.</i>	bent grass
	<i>Anaphalis margaritaceae</i>	pearly everlasting
	<i>Anthoxanthum odoratum</i>	sweet vernal grass
	<i>Athyrium felix-femina</i>	lady fern
	<i>Atriplex patula</i>	spear oracle
	<i>Bellis perennis</i>	English daisy
	<i>Blechnum spicant</i>	deer fern
	<i>Cardamine hirsuta</i>	bitter-cress
	<i>Carex cusickii.</i>	Cusick's sedge
	<i>Carex obnupta</i>	slough sedge
	<i>Cerastrium sp.</i>	mouse-ear chickweed
	<i>Chamomilla suaveolens</i>	pineapple weed, rayless chamomile
	<i>Cirsium canadensis</i>	Canadian thistle
	<i>Cortaderia jubata</i>	weedy pampas grass
	<i>Cynosurus echinatus</i>	hedgehog dogtail
	<i>Cyperus strigosus</i>	false nut-sedge
	<i>Deschampsia elongata</i>	slender hairgrass
	<i>Distichlis spicata</i>	salt grass

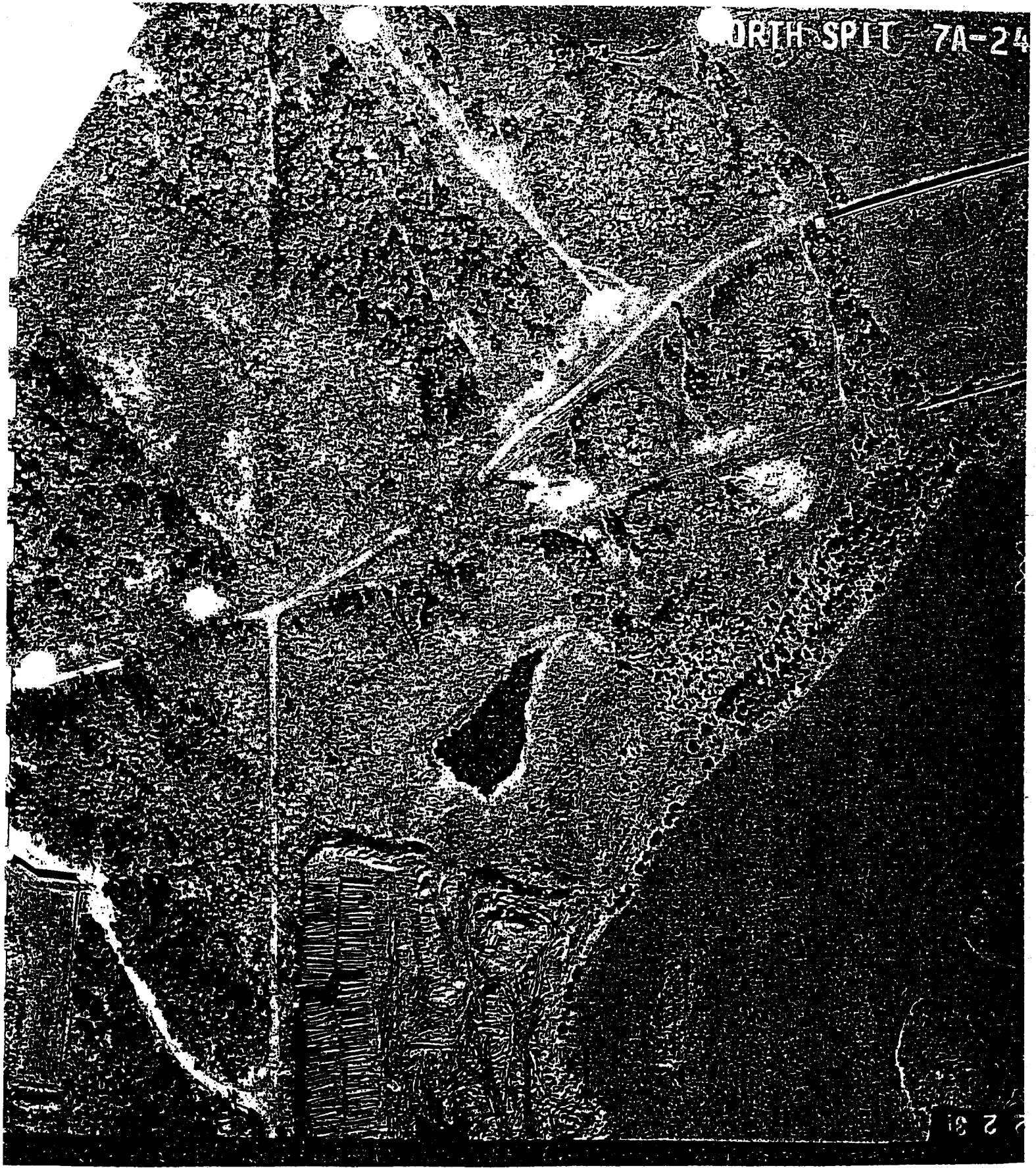
¹ Some individuals appear as *S. lasiolepis* X *S. hookeriana* hybrids.

<i>Eleocharis macrostachya</i>	common spike-rush, creeping spike-rush
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> ³	purple-leaved willowherb
<i>Equisetum telmateia</i>	giant horsetail
<i>Erechites minima</i>	toothed coast-fireweed
<i>Erigerion</i> sp.	fleabane daisy
<i>Galium</i> spp.	bedstraw
<i>Geranium</i> sp.	geranium, cranesbill
<i>Gnaphalium</i> sp.	cudweed
<i>Grindelia stricta</i> var. <i>stricta</i>	gumplant
<i>Hippurus vulgaris</i>	common mare's-tail
<i>Hydrocotyle ranunculoides</i> .	marsh pennywort
<i>Hypochaeris radicata</i>	hairy cat's-ear
<i>Jaumea carnosa</i>	fleshy jaumea
<i>Juncus acuminatus</i>	tapered rush
<i>Juncus articulatus</i>	jointed rush
<i>Juncus balticus</i>	Baltic rush
<i>Juncus bufonius</i>	toad rush
<i>Juncus effusus</i>	common rush
<i>Juncus lesuerii</i> .	salt rush
<i>Lemna</i> sp.	duckweed
<i>Limonium californicum</i>	western marsh-rosemary
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Lotus corniculatus</i>	birds-foot trefoil
<i>Lotus uliginosus</i>	lotus
<i>Lysichiton americanum</i>	yellow skunk cabbage
<i>Melilotus alba</i>	white sweet-clover
<i>Melilotus officinalis</i>	yellow sweet-clover
<i>Mimulus guttatus</i>	yellow monkeyflower
<i>Oenanthe sarmentosa</i>	Pacific water-parsley
<i>Parentucellia viscosa</i>	parentucellia
<i>Phalaris arundinacea</i>	reed canary grass
<i>Plantago lanceolata</i>	plantain
<i>Plantago</i> sp.	plantain
<i>Poa annua</i>	annual bluegrass
<i>Poa</i> sp.	bluegrass
<i>Polypogon australis</i>	Chilean beard grass
<i>Polypogon monspeliensis</i>	annual beard grass
<i>Polystichum munitum</i>	sword fern
<i>Potentilla anserina</i> ssp. <i>pacifica</i>	Pacific silverweed
<i>Prunella vulgaris</i>	self-heal
<i>Ranunculus repens</i>	buttercup
<i>Rhaphanus sativus</i>	radish
<i>Rumex acetosella</i>	sheep sorrel
<i>Rumex crispus</i>	curly dock
<i>Rumex</i> sp.	dock
<i>Salicornia virginica</i>	pickleweed
<i>Scirpus microcarpus</i>	small-flowered bulrush

³ Individuals bearing some characteristics of *Epilobium ciliatum* ssp. *watsonii*

<i>Scirpus pungens</i>	common three-square
<i>Scrophularia californica</i>	California figwort
<i>Senecio sp.</i>	groundsel, ragwort, betterweed
<i>Sisymbrium sp.</i>	hedge mustard
<i>Sonchus olereaceous</i>	common sow thistle
<i>Sonchus sp.</i>	sow thistle
<i>Spartina densiflora</i>	dense-flowered cord grass
<i>Spergularia macrotheca var. macrotheca</i>	sand-spurrey
<i>Stellaria sp.</i>	chickweed, starwort
<i>Taraxacum officinale</i>	dandelion
<i>Trifolium repens</i>	white clover
<i>Trifolium spp.</i>	trefoil, clover
<i>Triglochin striata</i>	three-ribbed arrowgrass
<i>Typha latifolia</i>	cattail
<i>Veronica sp.</i>	brooklime, speedwell
<i>Vicia hirsuta</i>	vetch
<i>Vicia sativa</i>	common vetch, narrow-leaved vetch
<i>Vulpia sp.</i>	annual fescue

NORTH SPI 7A-24



APPENDIX C: 1988¹ (Feb. 3) Aerial photograph of the north end of the SPI Arcata mill facility, showing the fen occurring there.

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¹ The most recent date for which large-scale aerial photographs were available on the date research was conducted at the Humboldt County Public Works Natural Resource Division office, Eureka, CA.



Compensatory Wetland Mitigation Plan

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

Prepared for:

Sierra Pacific Industries

October 27, 2004

Project No. 9329, Task 19

EXHIBIT NO. 8

APPLICATION NO.

1-04-073 (SIERRA PACIFIC)

Excerpts of Proposed

Mitigation Plan

(Page 1 of 14)

Geomatrix Consultants

2101 Webster Street, 12th Floor
Oakland, CA 94612
(510) 863-4100 • Fax (510) 863-4141



October 27, 2004
Project 9329, Task 19

Robert Merrill
Coastal Manager
California Coastal Commission, North Coast Office
710 E Street, Suite 200
Eureka, California 95501

Subject: Compensatory Wetland Mitigation Plan
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Dear Mr. Merrill:

As requested by Sierra Pacific Industries, we have enclosed a copy of the subject report.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Handwritten signature of Ross Steenson in black ink.

Ross Steenson, C.H.G.
Senior Hydrogeologist

Handwritten signature of Edward P. Conti in black ink.

Edward P. Conti, C.E.G., C.H.G.
Principal Geologist

RAS/EPC/abr
I:\Project\9000s\9329\Task 19\Coastal Commission Permit Application\Wetland Mitigation Plan\TransmittalLtr.doc

Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
Gordie Amos, Sierra Pacific Industries (with enclosure)

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RAS/EPC/abr
I:\Project\9000s\9329\Task 19\Coastal Commission Permit Application\Wetland Mitigation Plan\TransmittalLtr.doc

Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
Gordie Amos, Sierra Pacific Industries (with enclosure)
~~Fred Evenson, Law Offices of Frederic Evenson (with enclosure)~~
~~Jim Lampion, Ecological Rights Foundation (with enclosure)~~

Handwritten initials, possibly 'RAS' or 'EPC', in cursive.



Compensatory Wetland Mitigation Plan

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

Prepared for:

Sierra Pacific Industries

Prepared by:

Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, California 94612
(510) 663-4100

October 27, 2004

Project No. 9329, Task 19

Geomatrix Consultants

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FIGURES

Sheet C-1 Project Site, Plan, Sheet List, and General Notes
Figure 1 Existing and Proposed Wetland Areas



COMPENSATORY WETLAND MITIGATION PLAN

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

EXECUTIVE SUMMARY

Sierra Pacific Industries (SPI) owns and operates the sawmill at 2593 New Navy Base Road, Arcata, California. Douglas fir logs are stored on a log deck along the west side of the site prior to processing, as shown on the attached Sheet C-1.

Both storm water and sprinkle water runoff from the log deck historically drained into the "vegetated pond" (a freshwater wetland or fen directly north of the property) via Ditch 8 west of the log deck and via a drainage channel at the north end of the site. In a letter dated December 19, 2000, the California Regional Water Quality Control Board, North Coast Region, (RWQCB) ordered SPI to stop discharging log deck sprinkle water runoff to the vegetated pond and to file a Report of Waste Discharge for a site-specific National Pollutant Discharge Elimination System (NPDES) permit. SPI subsequently stopped discharging log deck sprinkle water to the vegetated pond by storing the water in two retention basins, one at the north end of Ditch 8 and a second at the north end of the site. SPI also filed the required Report of Waste Discharge. The RWQCB adopted Order No. R1-2002-0042, NPDES Permit No. CA0024520, Waste Discharge Requirements (NPDES Permit) for Sierra-Pacific Industries, Arcata Division Sawmill on August 22, 2002. The NPDES Permit regulates the collection, treatment, storage, and disposal systems associated with the discharge of log deck sprinkle water runoff to the vegetated pond. SPI has not discharged log deck sprinkle water runoff under this permit because the planned facilities described in the NPDES permit were never built. Currently, all log deck sprinkle water runoff is collected in on-site retention basins along Ditch 8 and at the north end of the site.

SPI hopes to resume regular log deck sprinkling under a revised NPDES permit after SPI constructs drainage improvements to treat site runoff prior to discharge to the vegetated pond. These drainage improvements include two collection swales and two basins, as described in the Coastal Development Permit Application for Drainage Improvements dated October 2004. Most floating material in site runoff will be removed in the first basin (Basin 1) as the water flows through a baffled outlet structure. The second basin (Basin 2) is designed to have

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quiescent flow and a sufficiently long residence time to allow suspended sediment to settle. Water will flow from this basin to the vegetated pond.

Construction of these drainage improvements will result in limited impacts to existing habitats. An area of Palustrine Scrub-Shrub Wetland approximately 40 feet square will be removed to construct the discharge structure from Basin 2 to the vegetated pond, and an area of Palustrine Emergent Wetland habitat will be affected by construction of channel end protection installed at the downstream end of the discharge channel. In addition, grading will remove a small area containing cattails at the south end of the vegetated pond, and will cover the retention basin at the north end of the site. Habitat will be restored by the removal of the temporary earthen dam at the north end of Drainage Ditch 8.

As ordered by the RWQCB, combined log deck sprinkle water and storm water runoff must be treated prior to discharge from the site. Log deck sprinkle water and storm water runoff in the northern portion of the sawmill follows the natural slope of the ground towards the vegetated pond at the north of the site. Design of treatment and discharge facilities is limited by flat local grades and the need to cross wetland habitat to discharge to the vegetated pond. The design of the proposed drainage improvements is likely the least environmentally damaging feasible alternative.

Suitable wetland mitigation can be included as part of the project, in close proximity to the affected habitat. Completion of the project, including the proposed drainage improvements and the proposed wetland construction, will result in an overall environmental benefit to the area because log deck sprinkle water and storm water runoff will be treated prior to discharge to the vegetated pond, and additional high quality habitat will be constructed around the vegetated pond as mitigation for any habitat affected by the construction.

A Biological Assessment (Attachment 4 to the permit application) and a Botanical Survey (Attachment 5 to the permit application) have been prepared for the site and conclude that no rare or endangered plants are present in areas that will be impacted by proposed developments. A Hydrologic Study of the vegetated pond (Attachment 3 to the permit application) was prepared that concludes that water levels in the vegetated pond are strongly influenced by surrounding groundwater levels, and are relatively unaffected by log deck sprinkle water runoff. Based on these findings, the California Department of Fish and Game (DFG) issued a memorandum to the RWQCB dated April 26, 2004, (Attachment 9) stating that "DFG has determined that the addition of high quality discharge water [i.e. log deck sprinkle water] into

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the pond by SPI is not likely to result in negative impacts to the pond or the habitat it provides.” We believe that the proposed drainage improvements meet the intent of this memorandum and that no further approvals likely are necessary from DFG.

At our site meeting on August 16, 2004, California Coastal Commission personnel indicated that impacts to existing wetlands could be mitigated by constructing new wetlands as part of the project work and that the affected areas of cattails and Palustrine Wetland likely could be mitigated by constructing new wetland that was twice the total combined area of these affected habitats. In addition, they indicated that, because the retention basin is low quality habitat, it could likely be mitigated by constructing wetland that was equal in area to the retention basin (subject to Coastal Commission approval). The estimated area of the cattails and the Palustrine Wetlands is 2,680 square feet (sf), and the estimated area of the retention basin is 4,250 sf. Therefore, the total areas of compensatory habitat will be at least 5,360 sf for removal of the cattails and Palustrine Wetlands, and at least 4,250 sf for removal of the storm water retention basin.

Two new areas of wetland are proposed as part of the project. The bottom of Basin 2, which will be constructed as part of the new drainage improvements, will be below the current groundwater level. Therefore, the bottom of this basin likely will be perennially wet, and will support wetland vegetation. The area of the bottom of Basin 2 is 6,900 square feet, and this area is proposed as compensatory habitat for the removal of the retention basin. No materials will be salvaged from the existing retention basin for reuse in Basin 2.

A second area of new wetland will be constructed in the northwest corner of the site, directly west of the proposed drainage improvements. The new wetland will be contiguous with the existing Palustrine Scrub-Shrub Wetland along the northern end of Ditch 8 (as described in the Biological Assessment). The new wetland will be constructed by removing woody material and native soils and exposing seasonally wet soil that will subsequently be colonized by Palustrine Scrub-Shrub Wetland vegetation. Vegetation anticipated to colonize the new habitat includes red alder, Hooker willow, Pacific willow, wax myrtle, twinberry, cascara buckthorn, and California blackberry. The area of the new wetland will be approximately 5,360 square feet, twice the area of cattails and Palustrine Wetlands that will be removed.

The compensatory habitats will be constructed concurrent with the proposed drainage improvements. Based on the tentative schedule discussed at our August 16 meeting, we expect construction of the compensatory wetlands and the drainage improvements in summer 2005.

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1.0 PROJECT DESCRIPTION

1.1 BACKGROUND

Sierra Pacific Industries (SPI) owns and operates the sawmill at 2593 New Navy Base Road, Arcata, California. Douglas fir logs are stored on a log deck along the west side of the site prior to processing, as shown on the attached Sheet C-1 (Sheet C-1 is one sheet of a set of drawings for proposed drainage improvements at the sawmill property). These logs are sprinkled to prevent fungus growth and splitting. Additional fir and pine logs are stored in the northeast portion of the site; however, these logs are not currently sprinkled.

Both storm water and sprinkle water runoff from the log deck historically drained into the "vegetated pond" (a freshwater wetland or fen directly north of the property) via Ditch 8 west of the log deck and via a drainage channel at the north end of the site. In a letter dated December 19, 2000, the California Regional Water Quality Control Board, North Coast Region, (RWQCB) ordered SPI to stop discharging log deck sprinkle water runoff to the vegetated pond and to file a Report of Waste Discharge for a site-specific National Pollutant Discharge Elimination System (NPDES) permit. SPI subsequently stopped discharging log deck sprinkle water to the vegetated pond by storing the water in two retention basins, one at the north end of Ditch 8 and a second at the north end of the site. SPI also filed the required Report of Waste Discharge. The RWQCB adopted Order No. R1-2002-0042, NPDES Permit No. CA0024520, Waste Discharge Requirements (NPDES Permit) for Sierra-Pacific Industries, Arcata Division Sawmill on August 22, 2002. The NPDES Permit regulates the collection, treatment, storage, and disposal systems associated with the discharge of log deck sprinkle water runoff to the vegetated pond. SPI has not discharged log deck sprinkle water runoff under this permit because the planned facilities described in the NPDES permit were never built. Currently, all log deck sprinkle water runoff is collected in on-site retention basins along Ditch 8 and at the north end of the site.

Log deck sprinkling activities are currently limited by the volume of the runoff retention basins. SPI hopes to resume regular log deck sprinkling operations under the requirements of a revised NPDES Permit. The drainage improvements described in the Coastal Development Permit Application for Drainage Improvements dated October 2004 are intended to treat site runoff prior to discharge to the vegetated pond in accordance with the intent of the existing NPDES Permit. RWQCB staff have indicated their intent to modify the NPDES permit, as appropriate, once the California Coastal Commission approves the Coastal Development Permit Application for Drainage Improvements.

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1.2 PROPOSED DRAINAGE IMPROVEMENTS

The proposed drainage improvements shown on Sheet C-1 are designed to treat log deck sprinkle water and storm water runoff prior to discharge to the vegetated pond. Surface water flowing to the north end of the site will be diverted into two collection swales that flow into two basins. Most floating material will be removed in the first basin (Basin 1) as the water flows through a baffled outlet structure. This basin will be concrete lined so that equipment can clean it out regularly. The second basin (Basin 2) is designed to have quiescent flow and a sufficiently long residence time to allow suspended sediment to settle. Water will flow from this basin to the vegetated pond.

In order to divert all surface water flow into the basins, the area of the site around the proposed collection swales and the basins will be graded to drain towards the basins. Grading will include removal of the temporary earthen dam at the north end of Ditch 8, removal of a small area of cattails and filling of the existing retention basin at the north end of the site, as shown on Figure 1.

1.3 IMPACTS TO EXISTING WETLANDS

Most of the proposed drainage improvements shown on Sheet C-1 will be constructed on the operational area of the site and will not impact any identified habitats. However, limited impacts will occur. Specifically, the west end of the western collection swale will intersect Ditch 8 on the east bank of the ditch, which has been identified as ruderal habitat in the biological and botanical studies prepared for the site (see Section 2.0). The high flow discharge structure at the outlet of the second basin will be constructed to flow into the vegetated pond across the approximately 40-foot wide zone of Palustrine Scrub-Shrub Wetland habitat identified on the southern bank of the vegetated pond. The area of impact will be about 40 feet square to allow for construction of the rock-lined channel. Channel end protection will also be installed at the downstream end of the discharge channel to prevent erosion of the native soil. The channel end protection will be a 15-foot square area of rock lining in the Palustrine Emergent Wetland habitat identified in vegetated pond.

The operational area of the sawmill adjacent to the drainage improvements will be graded to drain towards the new structures so that as much surface water runoff as possible is captured and treated prior to discharge to the vegetated pond. This grading will remove the small area containing cattails at the south end of the vegetated pond (approximately 1200 square feet), and will cover the retention basin at the north end of the property. Habitat will be restored by the

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removal of the temporary earthen dam at the north end of Drainage Ditch 8. These areas of impact are shown on Figure 1.

1.4 EVALUATION OF ALTERNATIVES TO MEET RWQCB REQUIREMENTS

Log deck sprinkle runoff will require treatment prior to discharge to the vegetated pond to meet the requirements of the NPDES permit issued by the RWQCB. In addition, storm water management at the site will require implementation of Best Management Practices (BMPs) as approved by the RWQCB. Storm water and log deck sprinkle runoff cannot effectively be separated because these waters commingle as they drain off of the log deck, so both will be handled and treated together. The natural slope at the north end of the property drains north towards the vegetated pond, so surface water runoff will accumulate in this area. There is limited capacity to store runoff in this area, so the water must be discharged to the vegetated pond. Any treatment and discharge facility must cross the habitat around the vegetated pond (including Palustrine Scrub-Shrub Wetland and Palustrine Emergent Wetland habitat). The range of possible effective designs for the treatment facilities is very limited because of flat local grades, and the drainage improvements shown on Sheet C-1 have been designed to be minimally environmentally damaging.

The alternative to installation of the proposed drainage improvements is no action. This would not meet the water quality requirements of the RWQCB, and would not address the requirements of the NPDES permit. In a high intensity storm event, runoff may overtop existing retention basins and deposit significant quantities of woody material into the vegetated pond. Because there is no other reasonable alternative, and because some water treatment facilities are needed to meet regulatory requirements, we believe that the proposed drainage improvements are likely the least environmentally damaging feasible alternative.

Suitable wetland mitigation can also be included as part of the project, in close proximity to the affected habitat. Completion of the project, including the proposed drainage improvements and the proposed wetland construction, will result in an overall environmental benefit to the area because log deck sprinkle water and storm water runoff will be treated prior to discharge to the vegetated pond, and additional high quality habitat will be constructed around the vegetated pond as mitigation for any habitat affected by the construction.

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2.0 ADVERSELY IMPACTED SITE

A Biological Assessment (Attachment 4 to the permit application) and a Botanical Survey (Attachment 5 to the permit application) have been prepared for the site that address construction of drainage improvements that were previously proposed for the site and are similar to those shown on Sheet C-1. These two documents list and describe habitat types and plant species present at the site, describe soils and surrounding habitats, and conclude that no rare or endangered plants are present in areas that will be impacted by proposed developments.

A Hydrologic Study of the vegetated pond (Attachment 3 to the permit application) was prepared in response to California Coastal Commission comments on the previous proposal for drainage improvements. The hydrology report concludes that water levels in the vegetated pond are strongly influenced by surrounding groundwater levels, and are relatively unaffected by log deck sprinkle water runoff. Based on these findings, the California Department of Fish and Game (DFG) issued a memorandum to the RWQCB dated April 26, 2004, (Attachment 9) stating that "DFG has determined that the addition of high quality discharge water [i.e. log deck sprinkle water] into the pond by SPI is not likely to result in negative impacts to the pond or the habitat it provides." We believe that the proposed drainage improvements meet the intent of this memorandum and that no further approvals likely are necessary from DFG.

3.0 MITIGATION GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

The mitigation goals for this plan are to construct compensatory wetlands as mitigation for the habitats that will be affected by constructing the proposed drainage improvements. At our site meeting on August 16, 2004, California Coastal Commission personnel identified the existing storm water retention basin at the north end of the site and the area of cattails as wetlands (in accordance with California Coastal Commission regulations) in addition to the areas of Palustrine Scrub-Shrub Wetland and Palustrine Emergent Wetlands that will be affected by the construction of the drainage improvements. California Coastal Commission personnel indicated that impacts to these wetlands could be mitigated by constructing new wetlands as part of the project work. Specifically, they indicated that the affected areas of cattails and Palustrine Wetland likely could be mitigated by constructing new wetland habitat that was twice the total combined area of these affected habitats. In addition, they indicated that, because the retention basin is low quality habitat, it could likely be mitigated by constructing wetland habitat that was equal in area to the retention basin (subject to Coastal Commission approval). The estimated area of the cattails and the Palustrine Wetlands is 2,680 square feet (sf), and the estimated area of the retention basin is 4,250 sf. Therefore, the total areas of

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compensatory habitat will be at least 5,360 sf for removal of the cattails and Palustrine Wetlands, and at least 4,250 sf for removal of the storm water retention basin.

The mitigation objectives for this plan are to create new, compensatory habitats as close as possible to those that will be removed, and to create them concurrent with the construction of the proposed drainage improvements. The habitat value of the compensatory wetlands will exceed the value of the habitat that is being removed because of the significant improvement in overall water quality and the larger area of habitat.

4.0 MITIGATION SITE

Two new areas of wetland will be created as part of the project. The bottom of Basin 2, which will be constructed as part of the new drainage improvements, will be below the current groundwater level. Therefore, the bottom of the basin likely will be perennially wet, and will support wetland vegetation. The area of the bottom of Basin 2 is 6,900 square feet, and this area is proposed as compensatory habitat for the removal of the retention basin. This area represents more than 1:1 compensatory habitat for the approximately 4,250 sf retention basin. No materials will be salvaged from the existing retention basin for reuse in Basin 2.

A second area of new wetland will be constructed in the northwest corner of the site, directly west of the proposed drainage improvements. The new wetland will be contiguous with the existing Palustrine Scrub-Shrub Wetland along the northern end of Ditch 8 (as described in the Biological Assessment). The new wetland will be constructed by removing woody material and native soils and exposing seasonally wet soil that will subsequently be colonized by Palustrine Scrub-Shrub Wetland vegetation. Vegetation anticipated to colonize the new habitat includes red alder, Hooker willow, Pacific willow, wax myrtle, twinberry, cascara buckthorn, and California blackberry.

The area of the new wetland will be approximately 5,380 square feet, twice the area of cattails and Palustrine Wetlands that will be removed, and this area is proposed as mitigation for the removal of the these areas. No material will be salvaged from the existing area of cattails or the Palustrine Wetlands areas for reuse in the creation of the compensatory wetlands.

The proposed wetland creation is shown in detail on Figure 1, which shows the planned construction and existing topography.

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5.0 SITE PLAN AND DESIGN

The design of Basin 2 is generally controlled by site hydrology and local grades so that water will flow through the basin to the vegetated pond. The bottom of Basin 2 will likely be perennially wet because the bottom of the basin will be constructed below the current depth to groundwater. Basin 2 has been sized so that water flow will be slow and quiescent through the basin and could support wetland vegetation.

The area of new Palustrine Scrub-Shrub Wetland will be created by removing overburden materials to match the level of the adjacent ground in the surrounding Palustrine Scrub-Shrub Wetland. Woody material and native soil will be removed by excavators and conventional earth-moving equipment to expose the saturated soil. Adjacent slope banks will be graded so that they are stable. Substantial revegetation and colonization of this new wetland is expected within 5 years of construction.

The new habitats will be maintained as they become established. Basins 1 and 2 will be kept operational so that they provide the necessary control and treatment of storm water and log deck sprinkle water runoff. SPI will maintain the new Palustrine Scrub-Shrub Wetland by keeping the area free of woody material until the vegetation is reestablished. SPI will also prevent erosion of the new Palustrine Scrub-Shrub Wetland by the construction of the proposed drainage improvements, which will contain and control storm water and log deck sprinkle water runoff.

SPI will visually monitor the new wetlands and will provide annual status reports to the California Coastal Commission.

6.0 SCHEDULE

The compensatory habitats will be constructed concurrent with the proposed drainage improvements. Based on the tentative schedule discussed at our August 16, 2004 meeting, we expect construction of the compensatory wetlands and the drainage improvements in summer 2005. Following completion of construction, SPI will visually monitor the new wetlands on a semiannual frequency and provide status reports annually for a period of 5 years.

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