

**CALIFORNIA COASTAL COMMISSION**

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Filed: April 11, 1997  
 49th Day: May 30, 1997  
 180th Day: October 8, 1997  
 Staff: Robert Merrill-E  
 Staff Report: June 2, 1997  
 Hearing Date: June 13, 1997  
 Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

**APPLICATION NO.:** 1-96-68

**APPLICANTS:** **LELAND & PAULA ROCK and CHARLES & SALLY DWELLEY**

**AGENTS:** Keith D. Hess and William O. Davis

**PROJECT LOCATION:** Along the Van Duzen River, from the Highway 101 bridge west to the river's junction with the Eel River, near Alton, in Humboldt County. APN's 201-261-09 & 205-121-01.

**PROJECT DESCRIPTION:** Seasonally extract up to 100,000 cubic yards of sand and gravel per year from river gravel bars near the mouth of the Van Duzen River, install and remove seasonal gravel truck crossings as needed over the low flow channel consisting of two railroad flat cars each, and stockpile gravel up to 15 feet high in a 220-foot-wide by 535-foot-long upland area adjacent to the highway.

**Parcel size:** 146.3 acres

**Plan designation:** Agricultural Exclusive, as designated by the Eel River Area Plan

**Zoning:** Agricultural Exclusive with archaeological, flood hazard, and riparian, combining zones (AE-A,F,R, )

**LOCAL APPROVALS RECEIVED:** Humboldt County: (1) Use Permit (UP-28-94); (2) Reclamation Plan Approval No. RP-05-94; and (4) Final Supplemental Environmental Impact Report.

**OTHER APPROVALS REQUIRED:** State Lands Commission; California Department of Fish & Game Streambed Alteration Agreement; U.S. Army Corps of Engineers Section 404 permit.

**SUBSTANTIVE FILE DOCUMENTS:** Humboldt County LCP; Humboldt County Program EIR.

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SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve the coastal development permit for sand and gravel extraction and stockpiling with conditions. The applicant proposes to extract gravel on a seasonal but on-going basis on a gravel bar along the lower Van Duzen river near its junction with the Eel River. As has been required of past applicants for gravel extraction projects, staff recommends that the Commission impose conditions requiring the submittal for the review and approval of the Executive Director of annual gravel extraction plans as a way of ensuring that gravel extraction each year will not exceed the annual replenishment of gravel to the site by the river, and that other potential impacts of the gravel extraction operation are avoided. In the past, the Commission has only considered gravel extraction applications for the Eel and Van Duzen Rivers where the applicant has proposed extraction year after year in one or more specific locations. Although under the current application gravel extraction will likely occur in only one location, the applicants are seeking authorization to be able to move the mining site to other locations on the bar in future years. The bar contains environmentally sensitive riparian vegetation areas, as well as possible nesting sites for the endangered Western Snowy Plover. To prevent disturbance of such habitat, staff recommends that the condition requiring the submittal for an annual gravel extraction plan also include the submittal of a yearly botanical surveys, and that gravel extraction be conditioned on avoiding environmentally sensitive habitat areas and other locations on the bar where gravel extraction could have impacts. In recognition of the fact that much of the bar contains very young riparian vegetation that has not developed to the point where it provides appreciable habitat value, and that the definition of environmentally sensitive areas in the Coastal Act defines environmentally sensitive areas in such a way as to only include riparian vegetation with habitat value, the condition does not ban extraction in all areas containing riparian species, but only those areas where the riparian vegetation has reached a size and extent generally consistent with one year's growth of vegetation, which is when the vegetation can be expected to yield appreciable habitat values for nesting, foraging, and cover of wildlife. In developing the recommended conditions, staff has attempted to make the conditions as consistent as possible with the requirements imposed on the applicants by other regulatory agencies, including the Corps of Engineers, the Department of Fish & Game, and the U.S. Fish and Wildlife Service.

As conditioned, staff believes that the project is fully consistent with the Coastal Act.

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STAFF NOTE

1. Standard of Review

The portion of the proposed project being considered in Application No. 1-96-68 is located within the Commission's retained jurisdictional area. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

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STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions. See attached.

III. Special Conditions.

1. State Lands Commission Review. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit to the Executive Director a written determination from the State Lands Commission that:

- a. No State lands are involved in the development; or
- b. State lands are involved in the development and all permits required by the State Lands Commission have been obtained; or
- c. State lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

2. Annual Administrative Approval to Continue Operations. PRIOR TO THE START OF EACH SEASON'S GRAVEL EXTRACTION OPERATIONS, the applicants shall submit for the review and approval of the Executive Director an annual report that contains the following:

- a. A gravel extraction plan for the upcoming season containing cross-sections, maps, and associated calculations that accurately depicts the proposed extraction area, demonstrates that the proposed extraction will be consistent with the extraction limits specified in Special Condition 3, below, and is prepared in conformance with Appendix C of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County, No. LOP 96-1, dated August 19, 1996;

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- b. A pre-extraction aerial photo of the site taken during the spring of the year of mining at a scale of 1:6000 and upon which the proposed extraction activities have been diagrammed;
- c. A botanical survey prepared by a qualified biologist approved by the Executive Director that maps all vegetation and all ponded areas found in potential extraction areas of the site and highlights the location and extent of all vegetated areas containing woody riparian vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16-of-an-acre or larger or (ii) one-inch-in-diameter at breast height (DBH) or greater;
- d. A copy of the California Department of Fish and Game's annual 1603 agreement for the coming gravel extraction season;
- e. A copy of any necessary U.S. Army Corps of Engineers permit granting approval for the project during the coming gravel extraction season;
- f. a copy of the gravel extraction plan for that year approved by the County of Humboldt Extraction Review Team (CHERT),
- g. A post-extraction survey of the prior year's mining activities (if any) conducted following cessation of extraction and before alteration of the extraction area by flow following fall rains, that includes the amount and dimension of material excavated from each area mined and and is prepared in conformance with Appendix C of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County, No. LOP 96-1, dated August 19, 1996;
- h. The results of biological monitoring report data required by the U.S. Army Corps of Engineers as described in Appendix D of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County, No. LOP 96-1, dated August 19, 1996;

The Executive Director shall approve the report if the report adequately provides the required information and if the proposed gravel extraction for the coming season is consistent with the terms and conditions of this permit, including the requirement of Condition No. 3 regarding seasonal extraction limits. The permittee shall not commence gravel extraction operations for the season until the Executive Director has approved the annual report in writing.

3. Extraction Limitations.

Extraction of material shall be subject to the following limitations:

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- a. The applicants shall extract material only by gravel skimming in a manner that will maintain a sloped extraction area, with the exception that trenching approved by the Department of Fish and Game that is needed to maintain fish passage along the Van Duzen River is also allowed;
- b. The applicants shall extract no more than 100,000 cubic yards of material from the site in any given year;
- c. Excavation shall not occur in the active channel (except for the trenching approved by the Department of Fish & Game for fish passage along the the Van Duzen River) and shall be limited to areas a minimum of 1 vertical foot elevation above the current water surface and a minimum of 6 feet horizontally from the current water's edge;
- d. No gravel extraction shall be performed within 500 feet of a bridge or the length of the bridge, which is greater, and within 500 feet of any other structure (i.e. water intake, dam, etc.)
- e. The excavation of instream aggregate shall be limited to those sites that have experienced sufficient replenishment to accommodate the proposed mining. Areas with sufficient replenishment are those areas that have sufficient aggraded material where mining would leave the final surface elevation of the area to be mined above the low water level of the river with a sloped extraction area that drains towards the main channel of the river;
- f. Gravel extraction operations shall not be conducted within the first 300 feet of the upstream point of the bar;
- g. Gravel extraction operations shall not disturb or remove any of the riparian vegetation located on the bank of the river;
- h. Gravel extraction operations shall not disturb or remove any area of riparian vegetation growing on the gravel bar containing woody vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16-of-an-acre or larger or (ii) one-inch-in-diameter at breast height (DBH) or greater.
- i. Gravel extraction operations shall not disturb any ponded areas;
- j. Gravel extraction operations shall be designed to avoid adversely affecting Western Snowy Plover by complying with one of the following:
  - i. Gravel extraction shall commence after September 15; or
  - ii. Gravel extraction shall commence on or after August 16, and a United States Fish and Wildlife Service (USFWS) approved

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biologist has surveyed the entire gravel bar, on or after August 16th, and not found western snowy plover nests and/or chicks, and the survey results have been submitted to the Executive Director prior to the commencement of gravel extraction;

iii. Gravel extraction shall commence on or after August 16, and a USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, and has found western snowy plover nests and/or chicks, and the survey results have been submitted to the Executive Director prior to the commencement of gravel extraction, and the operator:

- a. has the bar surveyed each morning by a USFWS approved biologist, to locate the discovered nests and/or chicks prior to gravel extraction; and
- b. maintains a 300-meter buffer between the nests and/or chicks' morning location and operations; and
- c. halts operations the first day no nests or chicks are found on the bar; and
- d. continues surveying for two more consecutive days to locate chicks. Surveys can stop on the third consecutive day of not finding chicks. Gravel extraction operations, however, can resume on the second consecutive day; and
- e. submits a copy of all of the morning survey results to the Executive Director.

k. Gravel extraction shall be designed to avoid adversely affecting any other state or federally listed rare or endangered species that is discovered at the project site during the life of the permit.

4. Extraction Season.

Extraction shall only be performed during the period from August 16 through October 1 of each year. All regrading required by Special Condition No. 5 must be completed by October 15

5. Seasonal Site Closure.

The excavation area during any given year must be regraded before October 15. Regrading includes filling in depressions created by the mining, grading the construction/excavation site according to prescribed grade, sloping downward to the river channel, removing all seasonal crossings and grading out the abutments, and removing all temporary fills from the bar.

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6. Expiration Date.

The permit shall expire on December 31, 2001, and shall not be subject to a time extension. Continued gravel extraction operations after the expiration date shall require a new coastal development permit.

7. Resource Protection.

The gravel extraction and processing operations shall not disturb or remove any of the established riparian vegetation habitat along the bank of the river, nor any of the riparian vegetation areas on the gravel bar limited by Special Condition No. 3. No new haul roads shall be cut through the habitat. Furthermore, the operations shall not push any material or equipment into the low flow channel of the river.

8. Permit Amendment.

Any proposal to take more than the maximum permitted 100,000 cubic yards of material, to take more than the amount of available gravel, to extract in a manner contrary to the extraction limitations set forth in Special Condition No. 3, or make other significant changes to the proposed operation, including expanding the height and size of stockpiles, shall require an amendment to this permit.

IV. Findings and Declarations.

1. Site Description

The applicants propose to seasonally remove up to 100,000 cubic yards of river runs sand and gravel from the Commission's jurisdiction annually and stockpile gravel in adjacent upland areas along the north side of the lower Van Duzen River near its junction with the Eel River, west of the Highway 101 Bridge (see Exhibits 1-4). The project includes the stockpiling of material at a stockpile location adjacent to the Highway 101 bridge, but no gravel processing is proposed. The project will rely on the adjacent North Coast Railroad to ship unprocessed gravel and sand material to markets in the south. The applicant is seeking authorization to annually install a summer bridge facility to access gravel extraction areas if necessary.

The Commission's jurisdiction over the overall project site is limited to the part of the river and adjoining areas west of the Highway 101 right-of-way. All of the work downstream of the Highway 101 Bridge is within the Commission's retained jurisdictional area. However, the overall project site extends up river from the Highway 101 Bridge to include additional gravel mining outside of the coastal zone.

The proposed gravel extraction would occur in two areas extending across the mouth of the river to the northern property line (see Exhibit 4). The gravel extraction area consists of a large gravel bar formed by the action of both

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the Van Duzen and Eel Rivers. The bar is largely exposed during low flow conditions during the dry season and largely submerged during high flow conditions in the winter. The project area has been designed to exclude a dense riparian forest area located closer to Highway 101 (See Exhibit 4). The bar itself, however, does contain riparian scrub vegetation.

The proposed stockpile area is located adjacent to Highway 101 in an area that had previously been used as a construction staging area by Caltrans when it reconstructed the Highway 101 bridge. (See area D on Exhibit 4). The site is bordered by the dense riparian forest referred to above except for the side adjacent to the highway. Existing access roads established for other purposes connect the stockpile area with the gravel bar and the railroad line.

The Eel River and its tributaries, such as the Van Duzen, are ranked among the most significant anadromous fisheries in Northern California. Chinook salmon, Coho salmon and steelhead trout are among the most important species. The project area and the lower Eel and Van Duzen rivers are mainly important for the anadromous fish as a migration route to and from the upstream spawning grounds as an insignificant amount of spawning occurs in the lower Eel and Van Duzen Rivers.

The riverine habitat of the river channel provides habitat for invertebrates, fish, amphibians such as frogs and salamanders, invertebrate-eating birds and various mammals including river otters and mink and other mammals that come to the river to forage (such as deer and raccoon). The exposed cobble in the gravel bar adjacent to the low-flow channel provides roosting and/or nesting habitat for at least four avian species, the Western Snowy Plover, Spotted Sandpiper, Killdeer, and White-crowned Sparrow, but represents one of the sparsest habitats in terms of wildlife diversity and numbers.

Two kinds of riparian habitat are found at the site as well. The riparian vegetation areas include a dense forest of riparian woodland vegetation just to the north of the proposed extraction areas and west of the proposed stockpile location. The other form of riparian vegetation on the subject property is the riparian vegetation growing on the bar itself where gravel extraction could occur.

As discussed in Finding 4 below, the riparian vegetation lining the banks of the lower Eel River, is perhaps the single-most important element for the natural environment in the area. The riparian habitat provides habitat for most birds and mammals found in the project area. Also, the riparian zone along the river provides migration routes for wildlife. Over 200 different species of birds and 40 different species of mammals have been observed in the Eel River Delta, most of which utilize portions of the riparian corridor. In addition to its habitat value, the riparian corridor also provides protection of water quality, stream bank stabilization through root penetration and flood protection.



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The riparian scrub vegetation growing on the bar occurs in scattered small clumps, with the clumps ranging in size from just a few plants to half an acre or more of coverage. The scrub vegetation is dominated by willow species but may also include many kinds of herbaceous species, coyote brush, and young black cottonwood. The majority of the riparian scrub vegetation is inundated during high flow periods and is often uprooted and scoured by river flows. The dynamic river can cause the river channel itself to migrate over time, which in turn can eliminate more stands of riparian scrub vegetation from one year to the next. As a result, much of the vegetation is relatively young, having only grown for a season or several seasons since the time of the last inundation severe enough to remove the plants previously growing in their place.

Numerous bird species have been identified using the riparian habitat. The most abundant species include the Song Sparrow, American Goldfinch, Warbling Vireo, Swinson's thrush, Pacific-slope Flycatcher, and Orange-crowned Warbler.

The project site may be used by two rare or endangered species. The Coho salmon has recently been listed by the federal government as a "threatened species," along the northern California and southern Oregon Coastlines. The Western Snowy Plover, a federally listed "endangered species," in the last two years has been observed roosting and nesting on gravel bars on the lower Eel River. The bird sitings have all been in the months of May through early August, during the nesting season. The Plovers establish their nests on the open gravel bars themselves, rather than in trees. At other times of the year the bird has not been observed.

The Chinook salmon and steelhead trout that use the Eel River are listed by the California Department of Fish & Game as "species of special concern". Other fish species in the river that are so listed include coastal cutthroat trout, Pacific lamprey and Green sturgeon. Special status species are those legally protected by state or federal endangered species laws, those under consideration for such protection or those of concern to state or federal resource agencies.

## 2. Background on Eel River Gravel Mining

The lower Eel and Van Duzen Rivers have been used for gravel extraction since 1911. Currently, 11 gravel operations are located along an eight mile stretch of the lower Eel River, and two additional operations are located on the lower reaches of the Van Duzen River which flows into the Eel at Alton. The annual maximum amount of gravel permitted to be extracted by the 13 gravel mining operations in the lower Eel and Van Duzen Rivers is estimated by the County to be approximately 1,480,000 cubic yards. Actual extraction is generally much lower (less than 400,000 cubic yards in 1992).

The projects are interrelated in the sense that all of the gravel bars derive their material from the same source. A report prepared by a Department of Fish & Game Scientific Team examining gravel extraction on the nearby Mad River describes the interrelationship of gravel miners on a river as follows:

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"The gravel resource stored in any reach of a river can be visualized as a bank account. The capital in the account is contained in the bed, and in the bars and banks along the channel. Deposits are made naturally into the account as new gravel is brought in (recruited) from upstream. Natural withdrawals from the account occur as gravel is transported downstream out of the reach by the river. Checks are written on the account as gravel is extracted by man. As with any bank account, if deposits exceed withdrawals, the capital in the account will increase, that is the, river will raise its bed (aggrade) and build up the bars. On the other hand, if withdrawals and checks exceed the deposits, the balance in the account will diminish; in the case of a river, this means lowering of the bed (degradation) and widening of the channel."

"The river as a whole can be looked at as a string of serially linked adjacent bank accounts (reaches), whereby the natural withdrawals (outflows) of bed material from each account provide the natural deposits (inflows) to the account immediately downstream. Thus deposits to any downstream account reflect the cumulative effects of all upstream actions. In particular, if upstream reaches intercept most of the natural gravel recruitment (i.e., the cash flow to downstream accounts is reduced), deposits to reaches farther downstream can only come by reducing the capital in the intervening accounts, i.e., by eroding the bed and banks."

Thus, the projects can contribute cumulatively to erosion of the bed and banks of the river, which in turn can erode adjacent riparian and other habitat areas, interfere with fishery resources, undermine bridge supports, and cause other impacts. Besides the cumulative impacts resulting from river morphology changes, other cumulative impacts resulting from the gravel mining operations can include habitat degradation from the installation of gravel processing operations and access roads within environmentally sensitive habitat adjacent to the gravel bars, exclusion of recreational use of the river banks, and noise.

Until the 1990s, there had been very little coordinated review of the combined effects of the various gravel mining operations. A gravel mining operation on the river can require the approval of a number of different agencies. Permits granted in the past by the various approving agencies were site specific and granted with little knowledge of the cumulative impacts of gravel mining throughout the lower Eel River.

The initiation of coordinated review began to change in 1991. That year, Humboldt County considered the granting of a gravel lease from the County owned bar at Worswick. To comply with environmental review requirements under CEQA, the County decided to prepare a Program Environmental Impact Report to describe and analyze the potential environmental effects resulting from the 13 gravel removal operations in the lower Eel River watershed. The document was certified on July 28, 1992, and is intended to be incorporated by reference into future environmental documents prepared for individual gravel removal projects in the area.

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At the same time, the County initiated a comprehensive review of the status of County permits for each of the 13 operators in an effort to reach a final determination as to which operations were proceeding according to valid vested rights or County permits, and which ones required further review. The Department of Fish and Game also began to insist that the operators demonstrate that they had all necessary County approvals before the Department would issue annual 1603 agreements.

As a result, much was learned about the cumulative impacts of the gravel mining operations and the County developed a strategy for controlling the cumulative impacts of the gravel operations on river bed degradation and bank erosion. At the heart of the strategy is an annual administrative renewal of reclamation plans that will set a yearly limit on the amount of gravel that may be removed in any given year and specifies the particular method and location of extraction. The primary mitigation measure recommended by the Program EIR is for the County to prepare a River Management Plan which includes, as a primary component, an annual monitoring program to make annual decisions on where and how much gravel can be removed from the lower Eel and Van Duzen Rivers without adversely affecting the river. As described in the program EIR, the monitoring program was to be conducted by a consulting firm using funds provided by the gravel operators. The monitoring program would involve periodic biological surveys, creating cross-sections and thalweg profiles, plus taking aerial photos and ground photos each year for each gravel removal operation. This information would be compiled and compared to data from previous years to determine gravel recruitment, changes in channel morphology and impacts on wildlife and fisheries.

To initiate the river management planning process, the County established a Surface Mining Advisory Committee composed of gravel operators, representatives of certain environmental groups and interested citizens to advise the County on how to proceed with the preparation and implementation of the plan. However, the River Management Plan has not been developed. In the interim period before adoption of a River Management Plan, the County has been conditioning permits it grants for gravel extraction operations to require that the projects be made consistent with the river management plan when it is adopted.

To create an effective river management plan, there is a need to collect and analyze long-term data about the flow characteristics and bed load distribution of the river and how both vary from year to year. Much data is already being collected by the gravel operators as part of the annual reports that are required by some of the permitting and reviewing agencies before the commencement of mining each season.

In an effort to standardize the information in annual monitoring reports so that the cumulative impacts of all the various gravel operations on the river can be better understood, Region 1 of the Department of Fish & Game has developed standards for gravel operators to follow in developing their annual monitoring reports. The standards were developed after a series of meetings

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were held with County Planning staff, numerous gravel operators and their representatives, and experts in the scientific community. Before an operator can obtain an annual 1603 Streambed Alteration Agreement from Fish & Game, the operator must submit annual reports consistent with the standards.

In an additional effort to standardize reporting and monitoring requirements, Humboldt County issued a "Lower Eel River Interim Monitoring Plan," which incorporated and refined the reporting and monitoring guidelines developed by Fish & Game. The plan also called for the establishment of a review team which would provide the County and other oversight agencies with scientific input on the gravel operations. The committee that was established is known as CHERT, (County of Humboldt Environmental Review Team) and is composed of independent fluvial geomorphologists, biologists, and botanists. CHERT has the authority for the County to review all annual mining plans and prescribe changes to those plans as deemed necessary. CHERT integrates all of the monitoring data developed by the gravel operators for geomorphic evaluations of the streambed and also evaluates and recommends practices designed to preserve and enhance riparian vegetation and wildlife habitat.

In the fall of 1993, due to an amendment of the U.S. Army Corps of Engineers Clean Water Act Regulatory Program, the Army Corps of Engineers (Corps) became more involved in regulating gravel extraction operations. Whereas previously the Corps' regulatory review under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 of many instream gravel extraction operations focused mainly on the installation of channel crossings and stockpiling of material on the river bar, in 1993, the Corps began actively regulating incidental fill related to gravel mining activities themselves. In an effort to streamline the processing of Corps permits for numerous in-stream gravel operations within Humboldt County, the Corps adopted a Letter of Permission (LOP) procedure for authorizing such projects (LOP 96-1). The LOP was adopted after a series of interagency and public meetings. An applicant for a project covered by the LOP must submit yearly gravel plans and monitoring information to the Corps for approval under the procedure. The Corps incorporated the CHERT review process into its LOP procedure and utilized the same monitoring standards. A feature of the LOP process is that every spring, the local field office of the Corps in Eureka conducts an interagency meeting of representatives of various agencies with regulatory responsibilities over gravel extraction in the County to review the monitoring data provided by the operators and the recommendations of CHERT. Commission staff participated in the first such meeting in the spring of 1997. The interagency meeting is useful for coordinating the review of the different agencies and standardizing requirements among agencies as much as possible.

The combination of the new federal regulatory authority of the Corps of Engineers, the Program EIR requirement for preparation of River Management Plan for the Eel River, the standardization of state and local agency monitoring requirements, and the establishment of CHERT underscore how a comprehensive approach of river management of the Eel River gravel operations

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may be the only way in which permitted operations will be allowed to continue in the future.

3. Detailed Project Description

The applicant proposes to seasonally extract up to a maximum of 100,000 cubic yards of sand and gravel per year from portions of the project site within the Commission's jurisdiction identified as Areas "F" and "G" in Exhibit 4. In addition, the applicant proposes to seasonally stockpile gravel in an upland area adjacent to Highway 101 identified as Area "D" in Exhibit 4.

In area F, the primary extraction method to be used would be a skimming operation, where gravel above the low flow channel is scraped off and removed while maintaining an even grade. However, the applicants are also seeking authorization to be able to perform modified extractions methods that would enhance the protection of fishery resources. For example, pursuant to an emergency permit granted by the Executive Director, in 1996, the applicant excavated a narrow trench along the thalweg profile of the river to facilitate fish passage. In the late summer of that year, the flows of the Van Duzen had diminished to the point where all of the flow was subsurface for the last approximately 1,500 feet of the river to its confluence with the Eel. No fish could pass up river and adult salmonids were left stranded. The trenching project was designed in consultation with staff of the Department of Fish & Game and was successful in providing safe passage to deeper holes upstream.

Area G would not be used for gravel extraction under current conditions, because of the channel configuration and because of the presence of large amounts of riparian vegetation. However, an examination of historical aerial photos indicates that at times in the past, Area G was within the active channel and the vegetation was more scattered and much less dense. According to the applicant, extraction could have occurred at that time without significant adverse impact to the riparian vegetation. If the channel of the river migrates back to the site in the future and uproots existing riparian vegetation, extraction could be appropriate. Given the dynamic nature of the river system in the area, it is possible that such an event can occur within a very short period of time, perhaps over one winter season. In that event, the applicant proposes to perform a skimming operation but is also seeking authorization to be able to perform modified extractions methods that would enhance the protection of fishery resources as in Area F.

Gravel is proposed to be extracted using a bulldozer, front-end loader, and dump trucks. The trucks will haul extracted material from the extraction site off the bar to the stockpile area via existing access roads that have been developed for other purposes. No new haul roads are proposed to be cut developed.

As noted previously, the applicant does not propose to perform any gravel processing, just stockpiling of the material for later shipment as unprocessed material. The stockpile site adjacent to the west side of the abutment to the

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Highway 101 Bridge is 535 feet in length and 220 feet in width. Material is proposed to be stockpiled no higher than 15 feet above grade, yielding a stockpile area capacity of approximately 50,000 cubic yards.

Under current river conditions, no summer bridge crossing of the channel within the Commission's jurisdiction is necessary to access gravel extraction operations. However, wanting to retain flexibility in the event that river conditions change in future years, and to be able to access more efficiently gravel bars up river, the applicants are seeking authorization to be able to install summer bridge crossings. If a bridge becomes necessary, the applicants propose to construct a crossing consisting of two 60-foot-long rail cars spanning the area to be crossed (see Exhibit 5). Gravel from the surrounding area would be graded to form necessary abutments. The bridge would be constructed without fill material entering the wetted channel. At the end of the extraction season, the bridge would be removed off the site and the bar in the vicinity of the bridge would be regraded to re-establish pre-existing contours.

4. Protection of Riverine Environment

The proposed project involves the extraction of gravel from a river bar that is exposed during low flow summer conditions but is often underwater during the winter when the Eel and Van Duzen Rivers are swollen with storm water runoff from throughout its huge drainage basin. A number of Coastal Act policies address protection of the portion of the river environment below the ordinary high water mark from the impacts of developments such as gravel mining operations. These policies include, among others, Sections 30231 and 30233 of the Coastal Act. Section 30231 applies generally to any development in riverine systems and other kinds of water bodies in the coastal zone, and Section 30233 applies to any diking, filling, or dredging project in a river and other kinds of water bodies in the coastal zone. Gravel extraction within a river bed is a form of dredging within a wetland.

Section 30231 of the Coastal Act provides as follows, in applicable part:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes...shall be maintained and, where feasible, restored...

Section 30233(a) provides as follows, in applicable part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

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(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

...

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary....

The above policies set forth a number of different limitations on what development may be allowed in rivers within the coastal zone. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are:

- a. that the purpose of the fill is for one of eight uses allowed under Section 30233;
- b. that feasible mitigation measures have been provided to minimize adverse environmental effects; and

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- c. that the project has no feasible less environmentally damaging alternative; and
- d. that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

Permissible Use For Dredging of Coastal Waters.

The first test set forth above is that any proposed fill must be for an allowable purpose under Section 30233 of the Coastal Act. The proposed project involves dredging for mineral extraction.

Section 30233(6) allows dredging for mineral extraction, except in environmentally sensitive areas. Therefore, to the extent that the proposed gravel extraction will avoid environmentally sensitive areas, the proposed gravel extraction is for an allowable purpose under Section 30233 as mineral extraction.

Although the applicants anticipates gravel mining in a specific location on the bar from year to year that is not known to contain any environmentally sensitive areas, the applicants is still seeking authorization to be able to mine at other places within its holding at the site. The flexibility to move mining locations would allow the applicants to respond to direction from other agencies with regulatory responsibility over gravel mining to mine in other areas of the bar. Movement of the mining area from year to year raises the potential for environmentally sensitive areas to be affected. As noted previously, much of the gravel bar is vegetated with riparian species, some of which constitutes environmentally sensitive area. The riparian vegetation areas include a dense riparian woodland adjacent to the potential extraction and stockpiling areas. The other form of riparian vegetation on the subject property is the riparian vegetation growing on the bar itself where gravel extraction could occur. In addition, the bar may be a nesting site for the Western snowy plover, an endangered species. Furthermore, it is possible that due to seasonal changes in the river, ponded areas could develop on the bar that would leave wetlands, another form of environmentally sensitive habitat.

The Coastal Commission has previously determined through numerous past permit actions that habitat for endangered species, and most forms of riparian vegetation areas are environmentally sensitive. The Commission has consistently conditioned permits for development near such riparian woodlands along streams and rivers to avoid disturbance of riparian areas. As discussed in Finding 5 below, the Commission has similarly considered the potential impacts of the proposed project on the band of riparian forest on the subject parcel that covers the bank between the gravel bar where extraction will occur and the coastal terrace where processing activities will occur and has conditioned the permit to avoid disturbance of this area.

Some of the riparian scrub vegetation growing on the bar itself, however, where gravel extraction activities could take place, does not provide the same



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level of habitat value as the riparian woodland that lines the bank of the river.

The riparian scrub vegetation growing on the bar occurs in scattered small clumps, with the clumps ranging in size from just a few plants to half an acre or more of coverage. The scrub vegetation is dominated by willow species but may also include many kinds of herbaceous species, coyote brush, and young black cottonwood. The majority of the riparian scrub vegetation is inundated during high flow periods and is often uprooted and scoured by river flows. The dynamic river can cause the river channel itself to migrate over time, which in turn can eliminate more stands of riparian scrub vegetation from one year to the next. As a result, much of the vegetation is relatively young, having only grown for a season or several seasons since the time of the last inundation severe enough to remove the plants previously growing in their place.

Given that some of this riparian vegetation is very new and underdeveloped, it may not provide habitat values great enough for the vegetation to be characterized as environmentally sensitive area where mineral extraction would not be permissible under Section 30233(6).

Section 30107.5 of the Coastal Act defines an "environmentally sensitive area" as:

"Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

Under this definition, any area supporting a plant, animal, or their habitat is environmentally sensitive if the area meets two main criteria: (1) the plant, animal, or habitat is either rare or especially valuable because of their special nature or role in an ecosystem, and (2) the area could be easily disturbed or degraded by human activities and developments. The riparian scrub habitat clearly meets the second criteria in that the gravel extraction activities on the river bars, such as that proposed by the applicant, can quickly obliterate any of this habitat the extraction activities come in contact with. With regard to the first criteria, the riparian scrub vegetation is not rare, as it usually does not contain rare or endangered species and can be found extensively on the many gravel bars along North Coast rivers. However, the riparian scrub vegetation can meet the first criteria as it can be especially valuable for its role in the ecosystem. Part of why the habitat is so valuable is its location adjacent to the river. The life-sustaining waters of the river draw many forms of wildlife, and once there, wildlife requires places to forage, nest, and seek cover. The scrub habitat, in combination with the annual vegetation which dominates the gravel bars, supports a variety of wildlife species that use the riparian scrub vegetation for these purposes. Such wildlife includes a number of small mammals such as raccoon, striped skunk, rodents, and gray fox. Numerous bird

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species also utilize this habitat. Therefore, the riparian scrub vegetation areas are environmentally sensitive areas because they are especially valuable because of its role in the river ecosystem and because they are easily degraded by activities of man.

However, the riparian scrub vegetation must grow to a certain size and mass before it can begin to serve these roles in the ecosystem. A willow sprig growing in isolation that has just taken root and only rises a few inches out of the ground cannot provide much forage area, nesting opportunities, or much screening from predators for birds and animals that choose to use it. As the sprig grows taller, however, and as more riparian plants colonize the area around it, the sprig, and the plants now growing in association with it, can start to provide the forage area, nesting opportunity, and cover that make it especially valuable habitat and thereby an environmentally sensitive area.

There is no clear cut answer, however, to the question of just when in the growth and development of riparian scrub vegetation area it reaches the point where it provides sufficient value for foraging, nesting, cover, and other habitat functions that it should be considered environmentally sensitive. In discussions with staff of the Department of Fish & Game, Commission staff has learned that there is no specific plant height, diameter, coverage, age, etc of a riparian vegetation area which guarantees habitat values sufficient to characterize the riparian vegetation area as environmentally sensitive. Part of the reason for the uncertainty is that there can be tremendous variability in the values of riparian vegetation of the same size from one location to the next depending on such factors as surrounding habitat and vegetation surrounding land uses, river configuration, etc.

One existing standard that may provide useful guidance for determining when riparian scrub vegetation reaches the point of becoming environmentally sensitive area is a standard imposed in the U.S. Army Corps of Engineers Letter of Permission (LOP) Procedure authorizing gravel mining in Humboldt County. The LOP, which was first issued in 1996, was developed by the Corps after a number of interagency meetings and consultations with representatives of various state and federal resource agencies. The LOP sets a number of restrictions on the gravel extraction projects that it authorizes. One such restriction concerns riparian vegetation. The restriction states as follows:

"All riparian woody vegetation and wetlands must be avoided to the maximum extent possible. Any riparian vegetation or wetland that is to be disturbed must be clearly identified by mapping. Woody vegetation that is part of a contiguous 1/8 acre complex, or is at least 2 inches diameter breast height (DBH) that is disturbed must be mitigated. Impacts to other woody vegetation must be described and submitted to the Corps and CHERT with the gravel extraction plans. These impacts may require mitigation at the discretion of the Corps..."

The restriction establishes a threshold for when impacts to riparian vegetation must be mitigated. The threshold is reached any time the riparian

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area that would be disturbed contains woody vegetation that is part of a contiguous 1/8-acre complex or is at least 2 inches diameter at breast height.

The Corps administers its permit program under Section 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. These laws do not limit mineral extraction in coastal wetlands and other coastal water bodies to the same extent that Section 30233 of the Coastal Act does. As previously stated, 30233(6) prohibits all mining in environmentally sensitive areas. Thus, although the Corps, can allow mineral extraction in an environmentally sensitive area so long as mitigation is provided, the Commission simply cannot allow mineral extraction within an environmentally sensitive area at all.

Thus, the Corps' purpose in determining when mitigation should be required is not the same as determining when a riparian vegetation area reaches a level of growth and development such that it should be considered environmentally sensitive.

By requiring mitigation whenever a riparian vegetation area to be disturbed contains woody vegetation that is part of a contiguous 1/8-acre complex or is at least 2 inches diameter at breast height, the standard suggest that vegetation at that level already is providing habitat value. Otherwise, if the vegetation were not providing habitat value there would be no need for mitigation. Therefore, the riparian vegetation must reach a form of growth and development where it provides important habitat values at some point before the Corps threshold is reached. Acknowledgement of this fact is contained in the rest of the Corps standards which indicates that impacts to other woody vegetation not rising to the threshold level must also be described and submitted to the Corps and may require mitigation at the discretion of the Corps.

Therefore, the Commission finds that riparian vegetation areas become environmentally sensitive areas when they have achieved somewhat less growth and development than the riparian vegetation that has reached the Corps' mitigation threshold.

In discussions with the staff of the Department of Fish & Game, Commission staff has discerned that under average growing conditions, a willow tree that is 1 inch in diameter at breast height or part of a contiguous 1-16-acre complex would likely have survived about one growing season. Given that riparian vegetation is only becoming established during the first growing season, the vegetation may not yet provide much habitat value at that point. On the other hand, vegetation that has survived more than one growing season would be more established and more likely to be used by wildlife. Therefore, the Commission finds that the riparian scrub vegetation can be characterized as an environmentally sensitive area when the vegetation contains woody vegetation that is part of a contiguous complex no greater than 1/16-acre or less or is no greater than 1 inch in diameter at breast height. By restricting extraction in riparian vegetation areas that are essentially half

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as developed as the riparian areas for which the Corps has determined mitigation must be provided, the Commission will minimize the chances that any riparian vegetation providing important habitat value will be disturbed by the proposed gravel extraction.

To ensure that the mineral extraction proposed by the applicant each year is not performed within an environmentally sensitive riparian vegetation area of the gravel bar and thereby remains a dredging and fill development allowable under Section 30233 (6), the Commission attaches Special Condition No. 1 which establishes an annual administrative review process to occur prior to each year's extraction operation. The condition requires, in part, that the applicant submit for the review and approval of the Executive Director an annual gravel extraction plan for the upcoming season together with a botanical survey prepared by a qualified biologist that maps all vegetation and ponded areas found in potential extraction areas of the site and highlights the location and extent of all vegetated areas containing woody riparian vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16 of an acre or larger or (ii) one-inch-in-diameter at breast height or greater. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restriction of subsection f which states that gravel extraction operations shall not disturb or remove any area of riparian vegetation growing on the gravel bar containing woody vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16-of-an-acre or larger or (ii) one-inch-in-diameter at breast height or greater.

Another form of environmentally sensitive area that could be found on the site in future years are ponded wetlands. It is possible that the process of aggradation and degradation of the bar with fluctuations of river flows could create depressions on the bar from year to year that could become wetlands. Through numerous permit actions, the Commission has long held that wetlands are a form of environmentally sensitive habitat area that should be protected. Therefore, the Commission has included among the extraction limitations contained in Special Condition No.3 the restriction of subsection l which states that gravel extraction operations shall not disturb any ponded areas. The requirement of Special Condition No. 2 that the applicant submit for the review and approval of th Executive Director an annual gravel extraction plan consistent with the limitations of Special Condition No. 3 for the upcoming season together with a botanical survey prepared by a qualified biologist that maps all ponded areas found in potential extraction areas of the site, will provide a process that will ensure that mineral extraction will not be performed in ponded wetlands.

Another form of environmentally sensitive areas that can be found at the gravel bar are seasonally nesting sites of the Western snowy plover. As noted previously, the Western snowy plover is a federally listed endangered species which in the last two years, has been observed nesting on the gravel bars of the lower Eel and Van Duzen Rivers, during May through early August. At other times of the year, the Bird has not been observed. As the Commission consider

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the habitat of rare and endangered species to be environmentally sensitive areas, the Commission finds any areas utilized by the Western Snowy Plover during the nesting season when the birds are present to constitute environmentally sensitive areas. Therefore, the Commission has included among the extraction limitations contained in Special Condition No. 3 the restriction of subsection j which requires that gravel extraction operations avoid Western snowy Plover habitat by either not commencing until after the nesting season, or commencing only after August 16 and after a biologist approved by the USFWS has surveyed the site and either found no plover nests, or has found some but will conduct daily surveys to ensure a 300 meter buffer area is maintained around the nests that have been found. This limitation is consistent with the recommendations of the USFWS to avoid disturbance of the endangered bird species. The requirement of Special Condition No. 2 that the applicant submit or the review and approval of the Executive Director an annual gravel extraction plan consistent with the limitations of Special Condition No. 3 for the upcoming season together will provide a process that will ensure that mineral extractions will not be performed in Western Snowy Plover nesting sites during the time of nesting when such areas constitute environmentally sensitive areas.

Therefore, as conditioned herein, the proposed gravel extraction operation is consistent with the use limitations of Section 30233 of the Coastal Act on dredging in coastal water bodies as the extraction operation is for mineral extraction in areas that are not environmentally sensitive, consistent with Section 30233(6).

Feasible Mitigation Measures

The second test set forth by Sections 30231 and 30233 is that that feasible mitigation measures have been provided to minimize adverse environmental effects.

Depending on the manner in which the gravel operations are conducted, the portions of the proposed project to be conducted below the ordinary high water mark could have six potential adverse effects on the natural environment of the lower Eel and Van Duzen Rivers. These impacts include alteration of the river bed and increased bank erosion, impacts on fisheries, impacts on environmentally sensitive riparian vegetation on the bar, impacts on rare and endangered species such as impacts to Western snowy plover, impacts to ponded wetlands that might form on the bar in future years, and impacts to the water quality of the river. The potential impacts and their mitigation are discussed separately in the following four sections:

a. River Morphology

As discussed above, a potential major impact of gravel mining operations is degradation of the river bed and erosion of the river banks. Such impacts can occur if the amount of gravel extracted from a particular part of the river over time exceeds the amount of gravel deposited at the site through natural

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recruitment, or downstream transport of sand and gravel by the waters of the river. Bed degradation and river bank erosion can also occur as a result of the manner in which the gravel is extracted. For example, according to the Fish & Game Scientific Team examining gravel extraction on the nearby Mad River, if bars are skimmed too flat and too close to the low-water surface, at slightly higher stages the river will tend to spread across the bars, reducing the depth of flow and the channel may both migrate rapidly and break into a number of shallow channels or threads. This is also true for stream sections where aggradation of material is a problem. Such sites will tend to trap gravel which would otherwise move downstream and may trap fish migrating up and down the river.

The applicant proposes to extract a maximum of 100,000 cubic yards of sand and gravel per year from the site. Extraction without consideration to replenishment of the site could cause bed degradation and river bank erosion.

Therefore, to ensure that the mineral extraction proposed by the applicant each year does not exceed the natural replenishment of gravel so as to avoid degradation of the river bed, the Commission attaches Special Condition No. 1 which establishes an annual administrative review process to occur prior to each year's extraction operation. The condition requires, in part, that the applicant submit for the review and approval of the Executive Director an annual gravel extraction plan for the upcoming season together with field surveys and annual assessments that will determine the levels and volume of gravel recruitment during the last winter high flow period and identify areas where mining can occur without causing bed degradation. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restriction of subsection e, which states that the excavation of instream aggregate shall be limited to those sites that have experienced sufficient replenishment to accommodate the proposed mining.

Other limitations imposed by Special Condition No. 3 will also ensure that configuration of mining to be performed will also not lead to adverse bed degradation. Subsection a of the condition states that the applicant shall extract material only by gravel skimming in a manner that will maintain a sloped extraction area, except for trenching approved by the Department of Fish & Game for fish passage along the the Van Duzen River. Leaving the bar with a prescribed slope will encourage future gravel recruitment and minimize bed degradation. Subsection c of the condition states that excavation shall not occur in the active channel (except for the trenching approved by the Department of Fish & Game for fish passage along the the Van Duzen River) and shall be limited to areas a minimum of 1 vertical foot elevation above the current water surface and a minimum of 6 feet horizontally from the current water's edge. This requirement will ensure that disturbance of the active channel will be avoided. To further minimize the chances of bed degradation and stream bank erosion and its consequences to existing structures along the river, subsection d of the condition states that no gravel extraction shall be performed within 500 feet of a bridge or any other structure (i.e. water

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intake, dam, etc.). This restriction will reduce to a level of insignificance any potential impact on the Highway 101 bridge and North Coast Railroad Bridge, and other public works facilities that might exist in the area. Finally, subsection f of the condition states that gravel extraction operations shall not be conducted within the first 300 feet of the upstream point of the bar. According to staff of the Department of Fish and Game, the upstream point of a gravel bar plays an especially valuable role in maintaining the geomorphology of the river. Leaving the upstream point of the bar alone aids in the annual deposition of sand and gravel on the bar, which in turn, helps to maintain the present geomorphology of the river's bed, channel, and banks. As the upstream point of the gravel bar rises in elevation from the bed of the river, sediment-carrying winter and spring waters that flow over the bar are slowed by the vegetation and the bar so that a portion of the sand and gravel that is in suspension drops behind the vegetation that is on the point of the bar. This deposition action is similar to a snow fence that slows the wind so that a drift of snow is deposited behind the snow fence. Similarly, a snow fence that is placed on a foredune will build a sand dune behind the fence by trapping drifting sand.

The Commission finds that the annual mining plan and monitoring procedures imposed by Special Condition No. 2, together with the above-described extraction limitations imposed by Special Condition No. 3 will ensure that the project will not cause river bed degradation.

b. Fisheries

As noted previously, the Eel River and its tributaries are ranked among the most significant anadromous fisheries in Northern California. Chinook salmon, Coho salmon and steelhead trout are among the most important species. The Coho salmon has recently been listed as a "threatened" species pursuant to the Federal Endangered Species Act. The project area and the lower Eel and Van Duzen Rivers is mainly important for the anadromous fish as a migration route to and from the upstream spawning grounds. This stretch of the river itself is not a significant fish spawning area.

As proposed for seasonal extraction of gravel during the summer months only, the proposed gravel extraction operation will not adversely affect fisheries. However, gravel mining operations need to be out of the river bed before the rainy season to prevent impacts on fisheries. This is especially important in that the runs of the various species of anadromous fish up and down the river increase in the fall with the rise in river levels and remain at high levels through the early spring.

In recent 1603 Streambed Alteration Agreements issued for gravel extraction at this site, the Department of Fish & Game has imposed a seasonal limitation on gravel extraction operations of June 1 through October 15 each year, which corresponds to the period when potential impacts to fisheries is lowest. Therefore, the Commission attaches Special Condition No. 4 which states that the applicant proposes that extraction shall only be performed during the

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summer months ending October 15 of each year. The condition requires all yearly restoration activities such as regrading the site establish an appropriate slope to the extraction area must also be completed by October 15 to ensure no disturbance to anadromous fish.

The Commission finds that the limitations of Special Condition No. 4 will ensure that the project will not adversely affect fisheries.

c. Riparian Vegetation on the Bar.

As noted previously, the proposed project has the potential to adversely affect environmentally sensitive riparian scrub vegetation on the bar, as the mining site may change from year to year and could be proposed in areas where riparian scrub vegetation is growing. To prevent disturbance of the habitat, Special Condition No. 1 requires, in part, that the applicant submit or the review and approval of the Executive Director an annual gravel extraction plan for the upcoming season together with a botanical survey prepared by a qualified biologist that maps all vegetation and ponded areas found in potential extraction areas of the site and highlights the location and extent of all riparian vegetation that meets the criteria discussed in Finding 5. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restriction of subsection f which states that gravel extraction operations shall not disturb or remove any area of riparian vegetation growing on the gravel bar that meets the criteria. In this manner, disturbance to all of the environmentally sensitive riparian vegetation on the bar will be avoided.

d. Western Snowy Plover and Other Rare and Endangered Species

As noted previously, the Western snowy plover, an endangered species, has been observed nesting on the gravel bars of the lower Eel River during May through early August in the last two years. The bird does not use the gravel bars at other times of the year. Because the species is on the federal list of endangered species, the responsibility for protecting the species rests with the U.S. Fish & Wildlife Service. The Service has established a protocol for allowing gravel mining to proceed without disturbance to the plover. The Army Corps of Engineers has required applicants under its LOP procedure to adhere to the protocol. The protocol is shown in Exhibit 6. The protocol requires that gravel extraction operations avoid Western snowy Plover habitat by either not commencing until after the nesting season, or commencing only after August 16 and after a biologist approved by the USFWS has surveyed the site and either found no plover nests, or has found some but will conduct daily surveys to ensure a 300 meter buffer area is maintained around the nests that have been found. As the USFWS recommends this protocol to avoid disturbance of the Western Snowy Plover, the Commission incorporates the protocol into the extraction limitations imposed in Special Condition No. 3. The requirement of Special Condition No. 2 that the applicant submit or the review and approval of the Executive Director an annual gravel extraction plan consistent with the limitations of Special Condition No. 3 will provide a process that will ensure



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that mineral extractions will not be performed in Western Snowy Plover nesting sites or otherwise disturb this endangered species.

Although no other threatened or endangered species are known to exist on the gravel bar, it is possible that threatened or endangered species could colonize the site in future years. As noted above, the Western Snowy Plover itself had not been seen on the gravel bars of the lower Eel River until just two years ago. To ensure that gravel mining plans submitted pursuant to Special Condition 2 in future years will be designed to avoid any new habitat of threatened or endangered species that colonize the site in future years, the Commission includes in the list of extraction limitations imposed through Special Condition No. 3, subsection k. The subsection states that gravel extraction shall be designed to avoid adversely affecting any other state or federally listed rare or endangered species that is discovered at the project site during the life of the permit.

e. Ponded wetlands

Similarly, the project site does not currently contain ponded wetlands. However, it is possible that the process of aggradation and degradation of the bar with fluctuations of river flows could create depressions on the bar from year to year that could become wetlands. Therefore, the Commission has included among the extraction limitations contained in Special Condition No. 3 the restriction of subsection 1 which states that gravel extraction operations shall not disturb any ponded areas. The requirement of Special Condition No. 2 that the applicant submit or the review and approval of the Executive Director an annual gravel extraction plan consistent with the limitations of Special Condition No. 3 for the upcoming season together with a botanical survey prepared by a qualified biologist that maps all ponded areas found in potential extraction areas of the site, will provide a process that will ensure that mineral extraction will not be performed in ponded wetlands.

f. Water Quality.

If properly managed, the proposed gravel extraction operations should not adversely affect the river's water quality. However, excessive or sloppy gravel extraction operations could adversely impact water quality, and ultimately the biological productivity and fishery resources of the river. For example, pushing gravel materials into the water could degrade water quality and biological productivity by increasing the turbidity of the water.

To prevent such occurrences, the Commission attaches Special Condition No. 6 which requires that gravel extraction operations not push any material into the river.

g. Conclusion.

The Commission finds, that as conditioned herein, the proposed gravel extraction operation is consistent with the requirement of Section 30233 of

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the Coastal Act that feasible mitigation measures be provided to minimize adverse environmental effects. The gravel extraction limitations imposed through Special Condition No. 3 that are designed to prevent impacts to river morphology, riparian vegetation, threatened and endangered species, ponded wetlands, and water quality, together with the requirements of Special Condition Nos. 4 and 6 to limit the extraction season and avoid placement of material into the active channel will ensure that the proposed gravel extraction operation will avoid adverse impacts on the Eel and Van Duzen Rivers. Therefore, the proposed project, as conditioned, will minimize adverse environmental effects by avoiding such impacts altogether.

Alternatives

The third test set forth by the Commission's dredging and fill policies is that the proposed dredging or fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various identified alternatives, and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned by Special Conditions 1-7. A total of four possible alternatives have been identified, including: (1) the no project alternative, (2) extracting gravel from another river site, (3) obtaining sand and gravel from quarry operations, (4) obtaining sand and gravel from terrace deposits, and (5) modifying the proposed project. As explained below, each of these alternatives have problems that make them infeasible and/or more environmentally damaging than the proposed project.

- a. The No Project Alternative. The no project alternative means that no gravel extraction would occur at the site. Without extraction from this site, an equivalent amount of sand and gravel would have to be obtained from other sources. Increasing production from other river bar extraction operations would have environmental impacts similar to or greater than the proposed project. The proposed project is located in an area where gravel has historically accumulated and has historically been mined. Mining in many other parts of the river where gravel does not accumulate could lead to changes in channel morphology which in turn, could cause a variety of adverse impacts such as river bank erosion, the undermining of bridge supports, erosion of environmentally sensitive habitat, and increased sedimentation. As discussed below, obtaining additional sand and gravel from quarry operations or from terrace deposits from the valley floors of local rivers would also create environmental impacts similar to or greater than the proposed project. The no project alternative would also eliminate an opportunity to reduce erosion on the agricultural land situated to the south. The south bank of the river in this location has been experiencing erosion from high water events of the last three years. During this time, approximately 20 acres of former agricultural land has been eroded away. According to the applicants, the proposed extraction of material from the gravel bars may relieve the hydraulic pressure placed on this bank during high flow events. Therefore, the Commission finds that the

no project alternative is not a less environmentally damaging alternative to the project as conditioned.

- b. Extracting Gravel From Alternative River Site. One of the applicants of the project, Leland Rock, owns another gravel bar approximately eight miles upstream on the Eel River, outside of the coastal zone, at the confluence of Howe Creek. However, development of this site for gravel extraction would not be environmentally less damaging than the proposed site as far more riparian vegetation would be affected. To provide access to the site, a road would need to be constructed that would result in the loss of approximately 1 full acre of riparian habitat. In addition, the site would also require clearing mature riparian habitat for a new stockpiling site. Therefore, the Commission finds that using the alternative Howe Creek site would not be an environmentally less damaging alternative.
- c. Obtaining Sand and Gravel From Quarry Operations. Excavation from the river could be avoided if an equivalent amount of sand and gravel could be obtained from upland rock quarries. As discussed in the Final Program EIR on Gravel Removal from the Lower Eel River, certified by Humboldt County in 1992, there are few quarries in nearby areas where it would be economically feasible to obtain sufficient material. The substrate of nearby areas of Humboldt County is composed mostly of the Franciscan formation which is made up of large masses of graywacke and siltstone inter-mixed with incompetent clay and silt material. This composition of material generally does not lend itself to quarrying. The quarries that are found in the region are generally in remote locations where water for processing is scarce and the rock is generally of poor quality. Therefore, the Commission finds that substituting gravel extracted from quarry operations is not a feasible alternative.
- d. Obtaining Sand and Gravel from Terrace Deposits. Excavation from the river could be avoided if an equivalent amount of sand and gravel could be obtained from terrace deposits in the flood plain of the Eel, Van Duzen, or Mad Rivers. The floors of these river valleys are underlain by substantial amounts of gravel deposited over thousands of years and provide upland rock quarries. However, commencing gravel extraction from these terrace deposits would create its own environmental impacts. Much of the undeveloped valley floor of each of these rivers is devoted to agricultural and timber production uses. Converting productive coastal agricultural lands or forest lands to gravel extraction or other uses would not be consistent with Coastal Act policies which call for the maintenance of lands suitable for agriculture and timber production in those uses. Most of the remaining undeveloped areas of these river valleys are currently covered with riparian habitat and other environmentally sensitive habitats. Extracting gravel from such areas would result in far more impact to environmentally sensitive habitat than extraction at the project site as conditioned by the permit to avoid all riparian habitat. Therefore, the Commission finds that

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substituting gravel extracted from terrace deposits in local river valleys is not an environmentally less damaging alternative.

- e. Modifying the Proposed Project, As Conditioned. Various modifications to the proposed project as conditioned could be proposed in an attempt to reduce the environmental effects. One such modification would be to mine in different mining areas at the project site. However, this modification would not result in less impact than the project authorized by Permit 1-96-68. As discussed previously, the proposed project has been conditioned to avoid adverse impacts to coastal resources. Therefore, the Commission finds that modifying the proposed gravel extraction would not create an environmentally less damaging alternative.

#### Maintenance and Enhancement of Estuarine Habitat Values.

The fourth general limitation set by Sections 30231 and 30233 on dredging and fill projects is that any proposed dredging or fill project must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed in the section of this finding on mitigation, the conditions of the permit will ensure that the project will not have adverse impacts on water quality, riparian vegetation, rare and endangered species, ponded wetlands, stream morphology, and other coastal resources. By avoiding impacts to coastal resources, the project will maintain the biological productivity and functional capacity of the habitat. In addition, by allowing the annual gravel extraction plans to include trenching along the channel of the Van Duzen River needed for fish passage, the proposed project will serve to enhance the biological and functional capacity of the habitat by directly benefitting salmonids.

Therefore, the Commission finds that the proposed project is consistent with the requirements of Sections 30231 and 30233 of the Coastal Act that any proposed dredging or fill project must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

#### 6. Environmentally Sensitive Habitat Area

Section 30240 of the Coastal Act states that environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and that development in areas near such sensitive habitat areas shall be sited and designed to prevent significant adverse impacts to these areas.

As noted previously, the portions of the project site above the ordinary high water mark of the river includes a significant environmentally sensitive habitat area in the form of the riparian woodland vegetation that lies adjacent to the gravel extraction and stockpiling areas. This riparian habitat area and the rest of the riparian vegetation lining the lower Eel and Van Duzen Rivers is perhaps the single-most important element for the natural

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**LELAND & PAULA ROCK AND CHARLES & SALLY DWELLEY**

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environment in the area. The riparian habitat provides habitat for most of the birds and mammals in the project area. Also, the riparian zone along the river provides migration routes for wildlife. Over 200 different species of birds and 40 different species of mammals have been observed in the Eel River Delta, most of which utilize portions of the riparian corridor. In addition to its habitat value, the riparian corridor also provides protection of water quality, stream bank stabilization through root penetration and flood protection.

The proposed project will not adversely affect the riparian woodland. None of the woodland will be disturbed by the extraction or stockpiling operations themselves. In addition, existing haul roads through the riparian area will be used to truck gravel from the extraction site to the processing facility. No new haul roads are proposed to be cut through the riparian woodland. To ensure that no new haul roads are created through the riparian woodland, the Commission attaches Special Condition No. 6 which requires that the proposed project not disturb or remove any of the established riparian vegetation at the site and prohibits the the cutting of new haul roads through the habitat.

As conditioned, the Commission finds that the project is consistent with Section 30240 of the Coastal Act, as the project will avoid significant adverse impacts to the environmentally sensitive habitat area found at the site.

7. Visual Resources.

Section 30251 of the Coastal Act provides in applicable part that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall: (a) be sited and designed to protect views to and along the ocean and scenic coastal areas, and (b) be visually compatible with the character of surrounding areas.

The gravel extraction and gravel processing operations will be visible from Highway 101. However, these operations are seasonal activities that will occur for only approximately two months each year as limited by the terms of Special Condition No. 4 (August 16 through October 15). In addition, many of the 13 gravel extraction operations occurring along the lower Eel and Van Duzen Rivers are similarly visible from Highway 101 and other public roads. The proposed project will not be any more prominent than the gravel extraction and processing activities that have occurred in the past. Therefore, the Commission finds that the proposed project is visually compatible with the character of the area as gravel extraction operations here and in the vicinity have long been part of the view shed.

Stockpiling gravel could have the greatest impact on visual resources of all of the activities proposed in the application because the stockpiles could potentially be made very tall, and actually block views to a certain degree of the river from the Highway. However, as proposed by the applicant, the stockpiles will only be a maximum of 15 feet high. At that height, the

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stockpiles will not rise above the tops of the trees in the adjacent riparian woodland and thus will not block views of the river that are not already blocked by the woodland. To ensure that the Commission would have the opportunity to review and future proposals by the applicant to increase the height of the stockpiles or other aspects of the project that could affect visual resources for their conformity with Section 30251 of the Coastal Act, the Commission attaches Special Condition No. 7. The condition states that any significant changes to the proposed operation shall require an amendment of the permit.

Therefore, the Commission finds that, as conditioned, the proposed project is consistent with the visual resource policies of Section 30251 of the Coastal Act as the project is compatible with the visual character of the surrounding area and will not block views to and along the coast.

8. Public Access.

The project is located between the first public road (Highway 101) and the sea (the Eel and Van Duzen Rivers are considered to be arms of the sea in this area).

Coastal Act Section 30210 requires that maximum public access opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Coastal Act Section 30211 requires that development not interfere with the public's right of access to the sea where acquired through use. Coastal Act Section 30212 requires that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, as when adequate access exists nearby. In applying Sections 30210, 30211, and 30212, the Commission is limited by the need to show that any denial of a permit application based on those 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 public access.

Public access to the river is currently provided informally by the California Department of Transportation Right-of-way. A driveway off of Highway 101 enables a motorist to drive along side the highway to the water's edge under and near the bridge. The driveway is located in the vicinity of the proposed stockpile area. Many people use the informal access for fishing access, primarily in the winter months when anadromous fish are running. Other people use the area for site seeing, recreational boating, wood collection, off-road vehicle driving, nature study, and target practice.

The proposed project will not interfere with this access. The stockpile operation will be conducted in a manner that will maintain access through the area, even during the extraction season. Although the extraction operations will necessarily prevent access at the extraction sites themselves during the extraction season, the extraction season is limited to approximately two months of the year, during the summer months when fishing is at a low point.

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In addition, other parts of the extensive site not affected by that season's extraction activities would continue to be available for public access use. The temporary displacement of a portion of the area available currently for public access use will not be significant.

Therefore, the Commission finds that the proposed project will not have any significant adverse effect on public access. The Commission finds that the proposed project, which does not include any new public access is consistent with the public access policies of the Coastal Act.

9. Permit Expiration.

As noted in the "Background" finding of this report, regulation of gravel mining operations along the Eel and Van Duzen Rivers has been evolving rapidly over the last few years and is likely to continue to evolve in the future. The development of a river management plan is called for in the Program EIR for the gravel mining operations along the lower Eel River. The review of standardized monitoring data only recently required by the local Humboldt County review committee, the Department of Fish & Game, the U.S. Army Corps of Engineers and other regulatory bodies may be beneficial in suggesting ways in the future that the gravel operations can be conducted to more optimally protect the rivers. Therefore, to enable the Commission to review future mining at the applicant's site in light of the new information and changed circumstances that may develop over the next few years, the Commission attaches Special Condition No. 6, which states that the permit shall expire on December 31, 2001.

The Commission notes that it may be necessary for the applicant to amend this authorization even before expiration of the permit at the end of 2001. The Van Duzen River is a dynamic environment that can change dramatically in the course of a single winter due to extreme high water flows. Standard Condition No. 3 requires that the project adhere to the project plans submitted with the application, as modified by the conditions of the permit. In the event that changes in the riverine environment necessitate changes to the extraction and/or reclamation plans for the project, such changes will require further review by the Commission.

10. State Lands Commission Review.

The project is located along the bed of the Van Duzen River, a navigable river, between the ordinary high water marks. As such, the State of California may hold a public trust easement and other property interests in the site. Any such property interest of the State would be administered by the State Lands Commission. To assure that the applicant has a sufficient legal property interest in the site to carry out the project and to comply with the terms and conditions of this permit, the Commission attaches Special Condition No. 1 which requires that the applicant submit evidence that any necessary authorization from the State Lands Commission has been obtained prior to issuance of the permit.

11. Department of Fish and Game Review.

The project requires an annual 1603 streambed alteration agreement from the Department of Fish and Game. The applicant has not yet received an agreement for the 1997 gravel extraction season. Therefore, to ensure that the project area reviewed by the Department of Fish and Game is the same project area that was reviewed under this permit by the Commission, and to ensure that the requested amount of gravel extraction does not exceed the seasonal extraction limits established under Special Condition No. 3, the Commission requires as part of Special Condition No. 2 that prior to commencing each gravel extraction season, the applicant submit a copy of a 1603 agreement from the Department of Fish and Game that is valid for that season.

12. U.S. Army Corps of Engineers Review.

The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (Corps). Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. To ensure that the project ultimately approved by the Corps is the same as the project authorized herein, the Commission requires as part of Special Condition No. 2 that prior to commencing each gravel extraction season, the applicant demonstrate that it has all necessary approvals from the U.S. Army Corps of Engineers for the proposed gravel extraction to be performed that season.

13. California Environmental Quality Act (CEQA).

Section 13096 of the California Code of Regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) 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 impact which the activity may have on the environment.

The proposed project has been conditioned to be found consistent with the policies of the Coastal Act that restrict the filling and dredging of coastal waters and require the protection of the biological productivity of coastal waters. Mitigation measures, including requirements that (1) limit extraction to avoid environmentally sensitive habitat areas, rare and endangered species, migratory fish, and extraction under conditions that could lead to changes in the river morphology, (2) call for the preparation of annual surveys of channel conditions and biological resources that are to be considered in the preparation of annually gravel extraction plans to be reviewed by the



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Commission and other agencies, will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

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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. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

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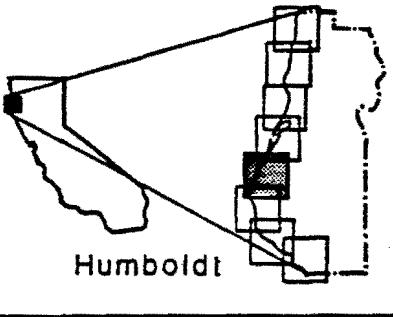
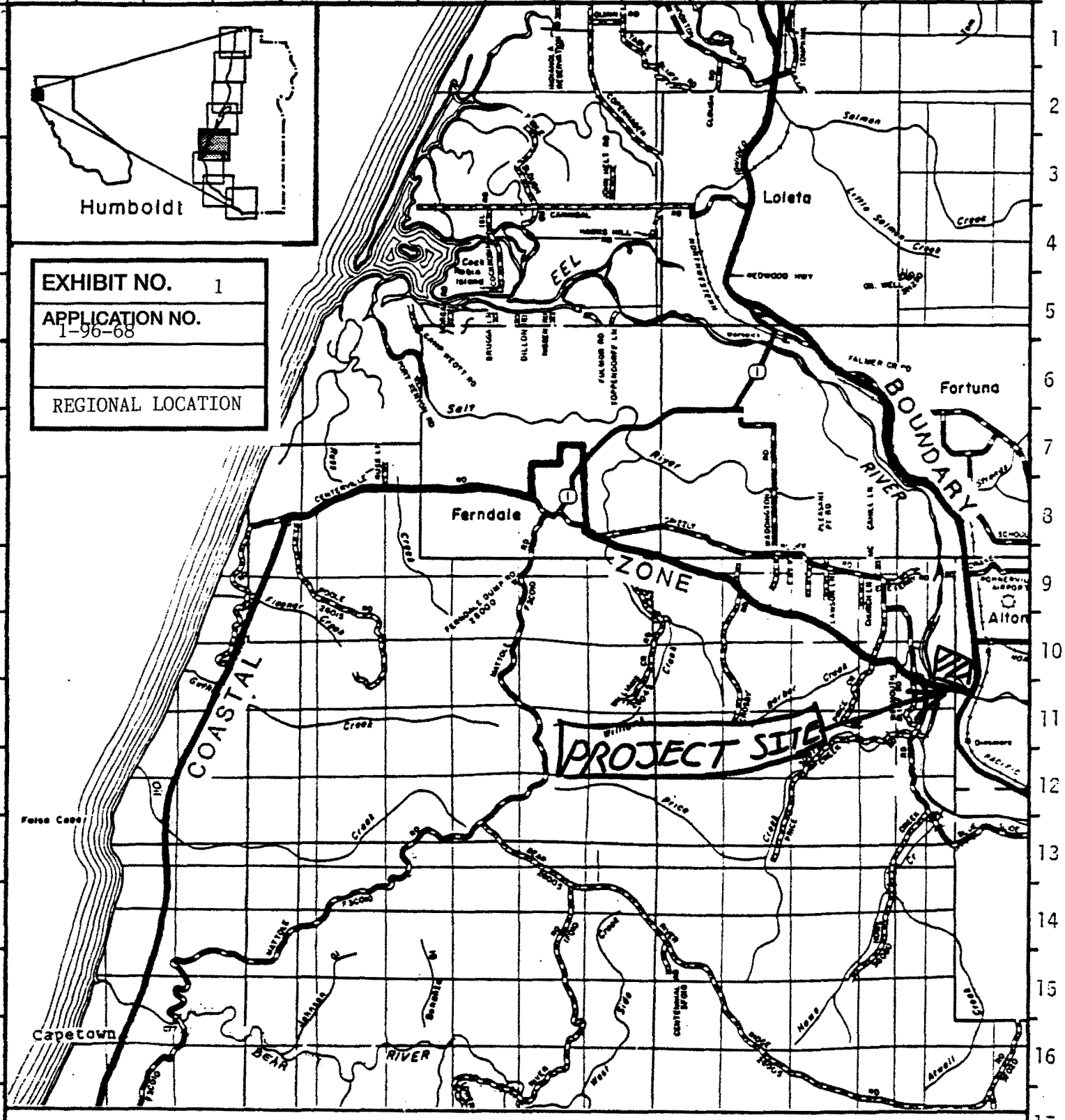


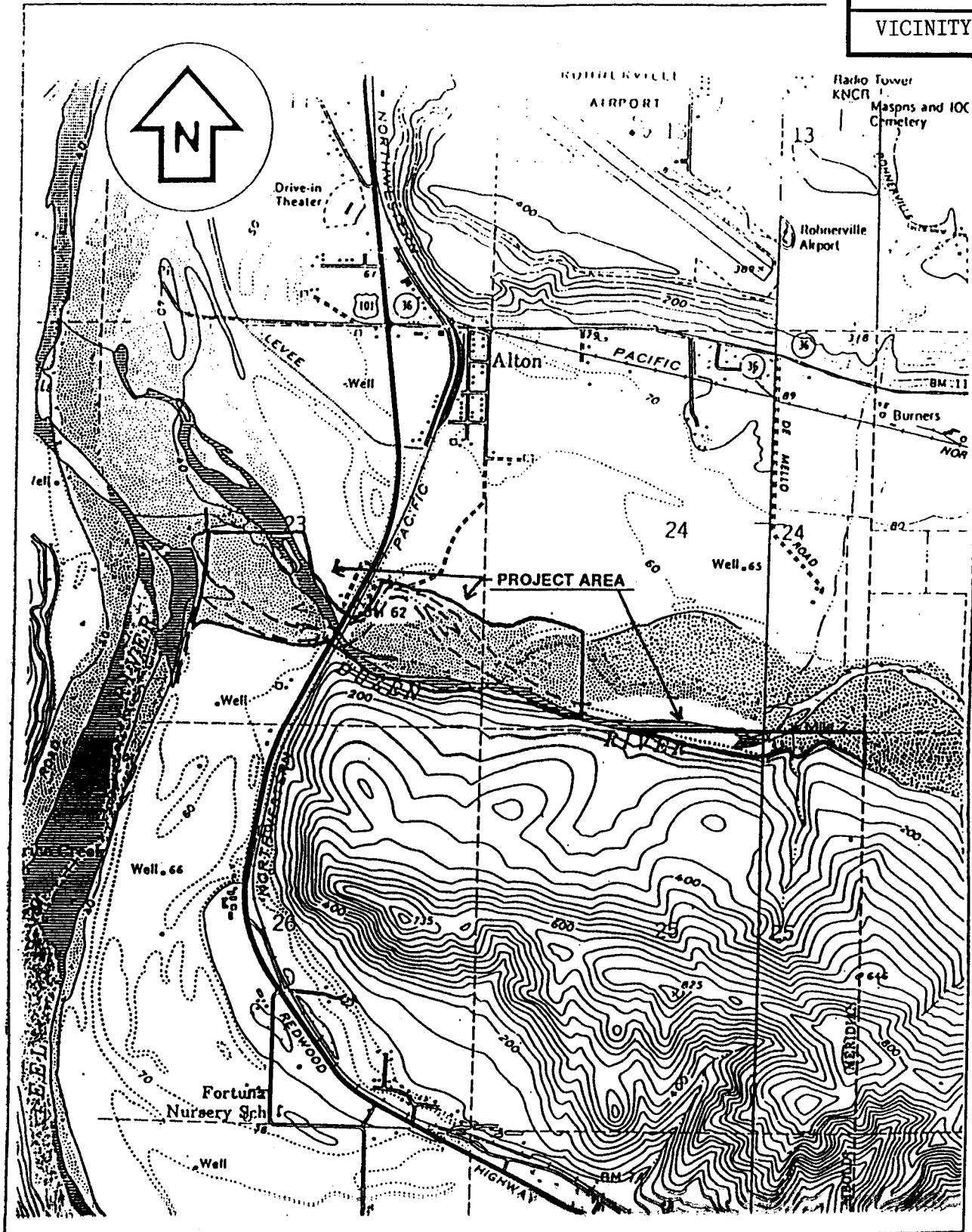
EXHIBIT NO. 1  
APPLICATION NO. 1-96-68  
REGIONAL LOCATION



# LOCATION MAP



EXHIBIT NO.	2
APPLICATION NO.	1-96-68
VICINITY MAP	



PURPOSE: VICINITY MAP

APPLICANT: LELAND ROCK/CHARLES DWELLEY

DATUM: NGVD

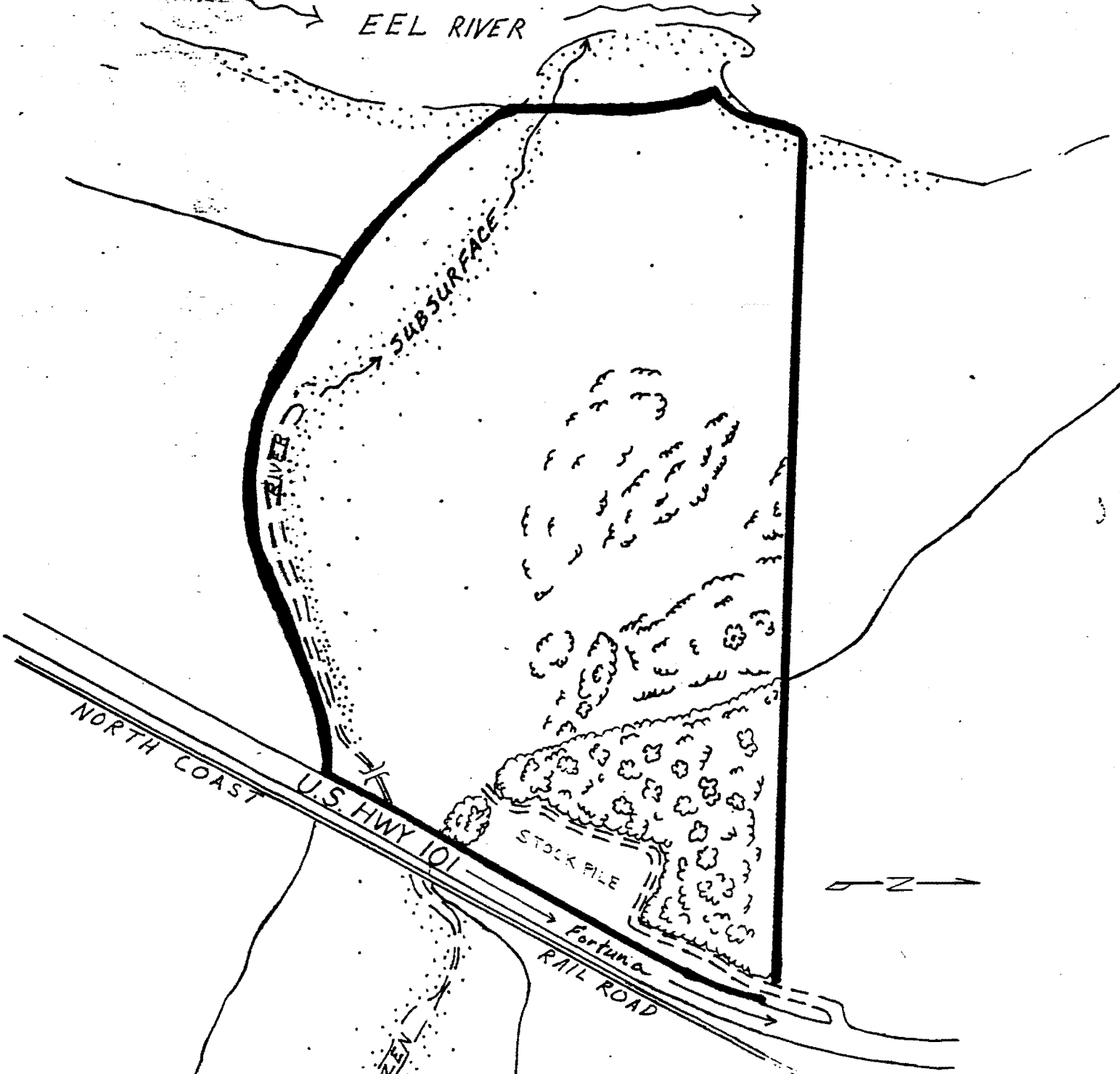
AT: VAN DUZEN & EEL RIVERS

NOTES:

SEC. 23 & 24, T2N, R1W HUMB. MER.

FORTUNA QUADRANGLE  
CALIFORNIA - HUMBOLDT COUNTY  
7.5 MINUTE SERIES



NEAR: ALTON  
COUNTY: HUMBOLDT STATE CA



<b>EXHIBIT NO.</b>	3
<b>APPLICATION NO.</b>	1-96-68
<b>COASTAL JURISDICTION OVER SITE</b>	

**ROCK - PROJECT AREA**  
**LELAND ROCK MINING PLAN MAP 1B**

Scale 1"= 500'

-  Ownership within Coastal Jurisdiction
-  Typical Summer Bridge Crossing Location

(Planimetric map delineates typical summer bridge location and represents actual channel configuration during 1996 season)

PLANIMETRIC MAP BASED ON AERIAL PHOTO  
 FORTUNA QUADRANGLE  
 CALIFORNIA-HUMBOLDT CO.  
 SEC. 22 & 23, T2N R1W HUMB. MER.  
 DATE PHOTO MAY 6, 1996



**LELAND ROCK MINING PLAN MAP 1A**

Scale 1"= 500'



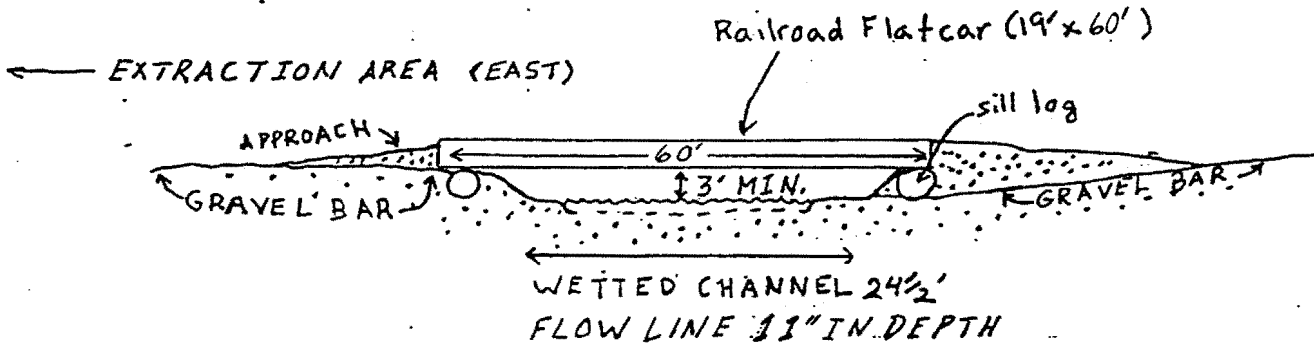
- ..... PROJECT AREA BOUNDARY
- MINING AREA BOUNDARYS
- X — X - SECTIONS
- ||||| PRIVATE PAVED ROAD
- ||||| ROCKED RANCH ROAD
- D PROPOSED STOCK PILE

AERIAL PHOTO LOCATION  
 FORTUNA QUADRANGLE  
 CALIFORNIA-HUMBOLDT CO.  
 SEC. 22 & 23, T2N R1W HUMB. MER.  
 DATE PHOTO JUNE 11,1995

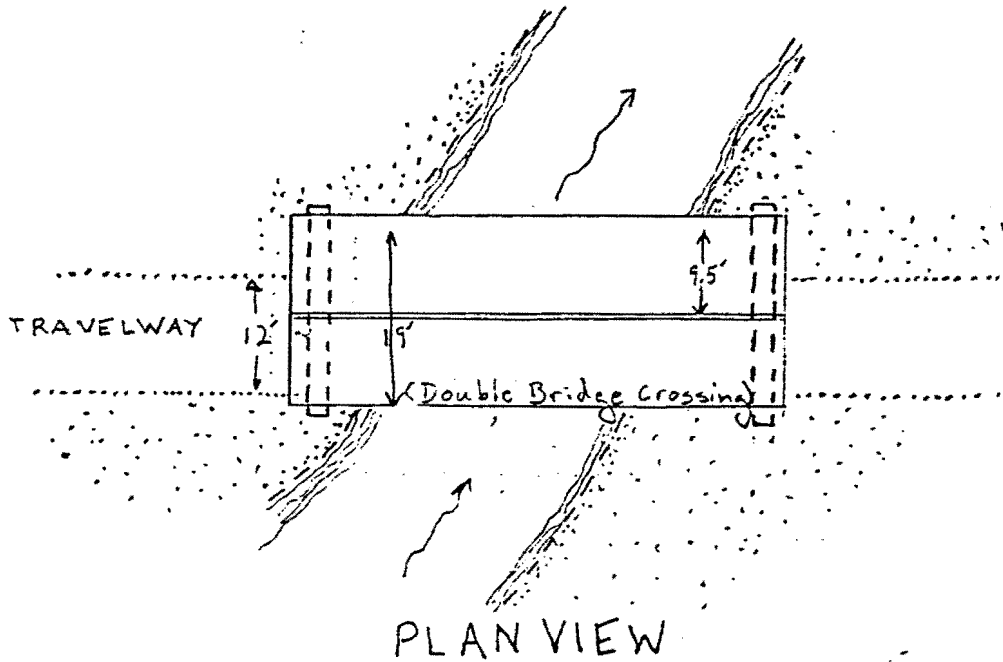
EXHIBIT NO.	4
APPLICATION NO.	1-96-68
MINING AREAS	

# Typical Summer Bridge Crossing Dimensions

(Actual conditions existing during 1996 extraction season)



## SECTIONAL VIEW



## PLAN VIEW

EXHIBIT NO.	5
APPLICATION NO.	1-96-68
SUMMER CROSSING	

APPENDIX E

**WESTERN SNOWY PLOVER OPERATING REQUIREMENTS FOR PROJECTS LOCATED ON THE EEL RIVER BELOW THE CONFLUENCE OF THE SOUTH FORK EEL RIVER NEEDED FOR A "NOT LIKELY TO ADVERSELY AFFECT" DETERMINATION**

Projects located on the Eel River, downstream from the confluence of the South Fork Eel River, are not likely to adversely affect the western snowy plover if:

1. Gravel extraction commences after September 15; or
2. Gravel extraction commences on or after August 16, and an USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, and not found western snowy plover nests and/or chicks; or
3. Gravel extraction commences on or after August 16, where a USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, found western snowy plover nests and/or chicks, and the operator:
  - a. has the bar surveyed each morning, by an USFWS approved biologist, to locate the discovered nests and/or chicks prior to gravel extraction; and
  - b. maintains a 300 meter buffer between the nests and/or chicks morning location and operations; and
  - c. halts operations the first day no nests or chicks are found on the bar; and
  - d. continues surveying for two more consecutive days to locate chicks. Surveys can stop on the third consecutive day of not finding chicks. Gravel extraction operations, however, can resume on the second consecutive day.

EXHIBIT NO.	6
APPLICATION NO.	1-96-68
USFWS SNOWY PLOVER	
RECOMMENDATION	