MINUTE ITEM
This Calendar Item No. 19
was approved as Minute Item
No. 19 by the State Lands
Commission by a vote of 3
to 0 at its 5/28/87
meeting.

CALENDAR ITEM

A 9
S 3

19

05/28/87
W 23964 PRC 7084
Poe

GENERAL PERMIT - ANNUAL SEASONAL DAM

APPLICANT: Waldo Giacomini
P. O. Box 126
Point Reyes Station, California 94956

AREA, TYPE LAND AND LOCATION:
An area of tide and submerged land within the bed of Lagunitas Creek, near the community of Point Reyes Station, Marin County.

LAND USE: Installation of a gravel dam annually during the summer months for the impoundment of fresh water, and prevention of salt water intrusion.

TERMS OF PROPOSED PERMIT:
Initial period: Five years beginning May 1, 1987.

Public liability insurance: Combined single limit coverage of $100,000.

CONSIDERATION: $150 per annum.

BASIS FOR CONSIDERATION:
Pursuant to 2 Cal. Adm. Code 2003.

APPLICANT STATUS:
Applicant is owner of upland.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:
Filing fee has been received.

(PGS. 194-194.35 ADDED 05/20/87)

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STATUTORY AND OTHER REFERENCES:

A P.R.C.: Div. 6, Parts 1 and 2; Div. 13.

B. Cal. Adm. Code: Title 2, Div. 3; Title 14, Div. 6.

AB 884: N/A.

OTHER PERTINENT INFORMATION:

1. The applicant owns and operates a large scale dairy operation on the uplands adjacent to the proposed project site. Historically, the applicant has installed a temporary gravel dam annually across the bed of Lagunitas Creek, near his dairy operation during the summer months to provide a source of fresh water for irrigation and stock water purposes. The gravel dam impounds fresh water and reportedly prevents salt water intrusion up stream of the dam, thereby allowing the pumping of fresh water for these purposes. The gravel material used to construct the dam is obtained from the creekbed at the dam site. The dam is annually washed out, due to heavy winter runoff from the Lagunitas Creek watershed, thereby returning the gravel to the creekbed.

   A permanent fish ladder has been installed at the dam site to protect fish species during spawning runs.

   The North Marin Water District advises staff that it operates deep wells upstream from the dam site, supplying domestic fresh water to the west Marin area. The District states that it depends on the annual gravel dam to prevent salt water intrusion into their water source.

2. The seasonal dam has generated much controversy over the years, primarily from the environmental community. Concerns expressed ranged from the effect on migratory fish species and other aquatic

resources, riparian habitat, water temperature gradients, erosion, sedimentation of streambed and Tomales Bay, to the loss of marsh area and protection of public water supplies.

The Corps of Engineers' (Corps) previous ten-year permit covering the dam is up for renewal. The Corps' Public Notice has served as the means to bring together the various positions regarding the dam - both for and against. In an effort to insure the economic viability of the Giacomini dairy, and yet allow a full investigation of consequences of the dam's continued existence, the Corps has issued a five-year permit during which time thorough studies are to be conducted addressing environmental impacts from its installation. The Corps has enlisted several local, State, and Federal agencies to participate in the study process, of which the staff of the Commission is one.

3. In the spirit of cooperation with other affected agencies, and the Marin County agricultural interests, staff is recommending a five-year General Permit for the proposed seasonal dam. During this period, staff will be working with the Corps and other agencies to resolve the environmental and economic issues surrounding the project. The proposed General Permit requires the permittee to be responsive to requests for study data, and to recognize the need for Permit alteration if completed studies indicate that changes in permit conditions are necessary.

4. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

5. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Adm. Code 15221 and 15225), the staff proposes to utilize a Finding of No Significant Impact (FONSI) prepared by the NEPA Lead Agency, the United States Army Corps of Engineers, in place of a Negative Declaration under CEQA. The FONSI has been recirculated by staff through the State Clearinghouse.

   Based upon said circulation and the comments received in response thereto, there is no substantial evidence that the project will have a significant effect on the environment. (14 Cal. Adm. Code 15074(b))

APPROVALS OBTAINED:
United States Army Corps of Engineers.

FURTHER APPROVALS REQUIRED:
Department of Fish and Game, and United States Fish and Wildlife Service.

EXHIBITS:
A-1 and A-2. Land Description.
B. Location Map.
C. FONSI.

IT IS RECOMMENDED THAT THE COMMISSION:

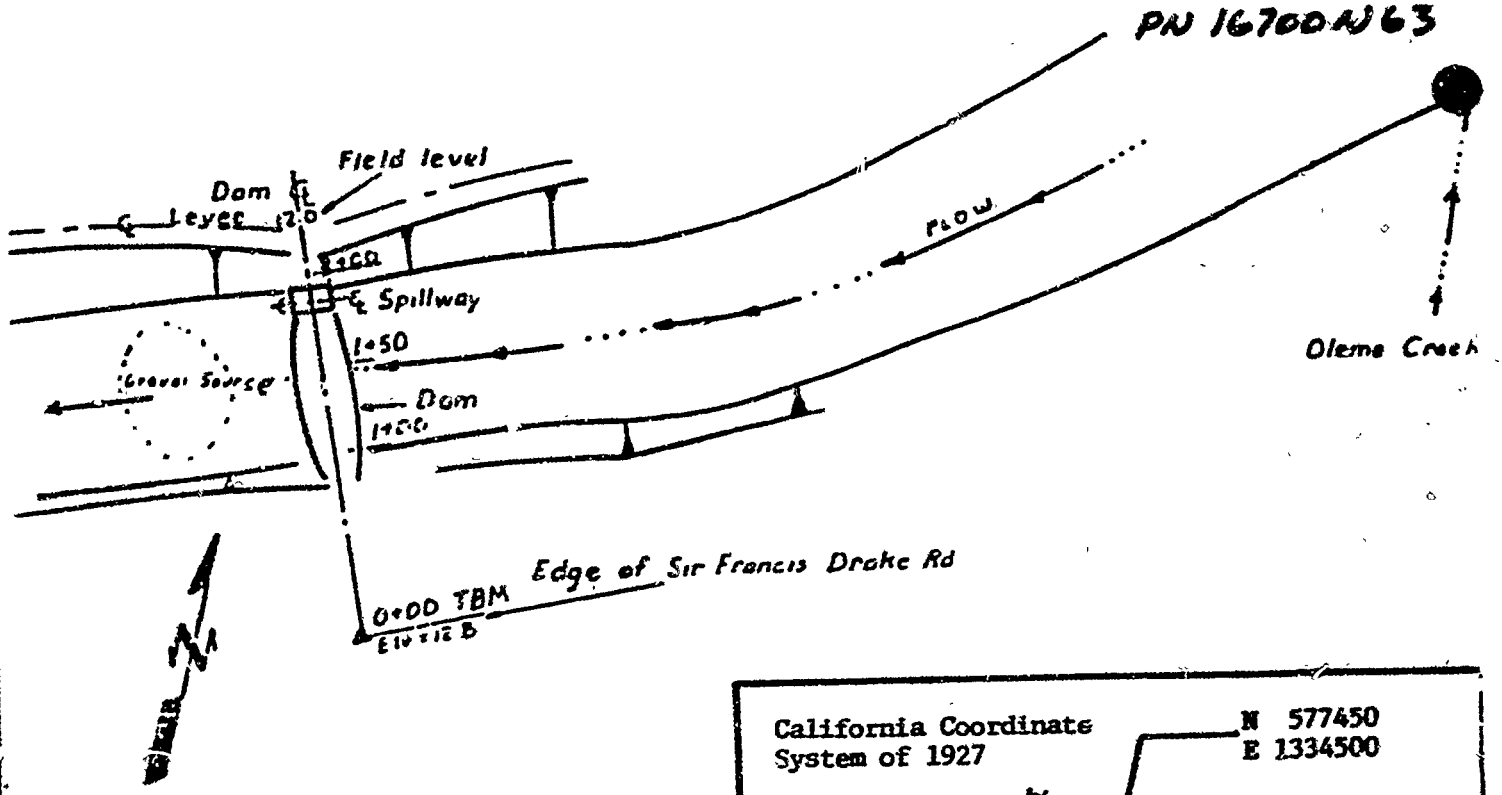
1. CERTIFY THAT A FONSI WAS PREPARED FOR THIS PROJECT BY THE NEPA LEAD AGENCY, THE UNITED STATES ARMY CORPS OF ENGINEERS, AND CIRCULATED THROUGH THE STATE CLEARINGHOUSE (NO. 87051216); THAT SAID DOCUMENT IS BEING USED BY THE COMMISSION IN LIEU OF A NEGATIVE DECLARATION; AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

2. DETERMINE THAT THE PROJECT, AS CONDITIONED AND APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

3. FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED FOR THE LAND PURSUANT TO P.R.C. 6370, ET SEQ.

CALENDAR ITEM NO. 19 (CONT'D)

4. AUTHORIZE ISSUANCE TO WALDO GIACOMINI OF A FIVE-YEAR GENERAL PERMIT AS CONDITIONED - ANNUAL SEASONAL DAM BEGINNING M Y 1, 1987; IN CONSIDERATION OF ANNUAL RENT IN THE AMOUNT OF $150; PROVISION OF PUBLIC LIABILITY INSURANCE FOR COMBINED SINGLE LIMIT COVERAGE OF $100,000; FOR THE ANNUAL INSTALLATION OF A SEASONAL GRAVEL DAM TO IMPOUND FRESH WATER AND PREVENT SALT WATER INTRUSION FOR THE PUMPING OF FRESH WATER FOR IRRIGATION AND STOCK-WATERING PURPOSES ON THE LAND DESCRIBED ON EXHIBIT "A-1 AND A-2" ATTACHED AND BY REFERENCE MADE A PART HEREOF.



PLAN
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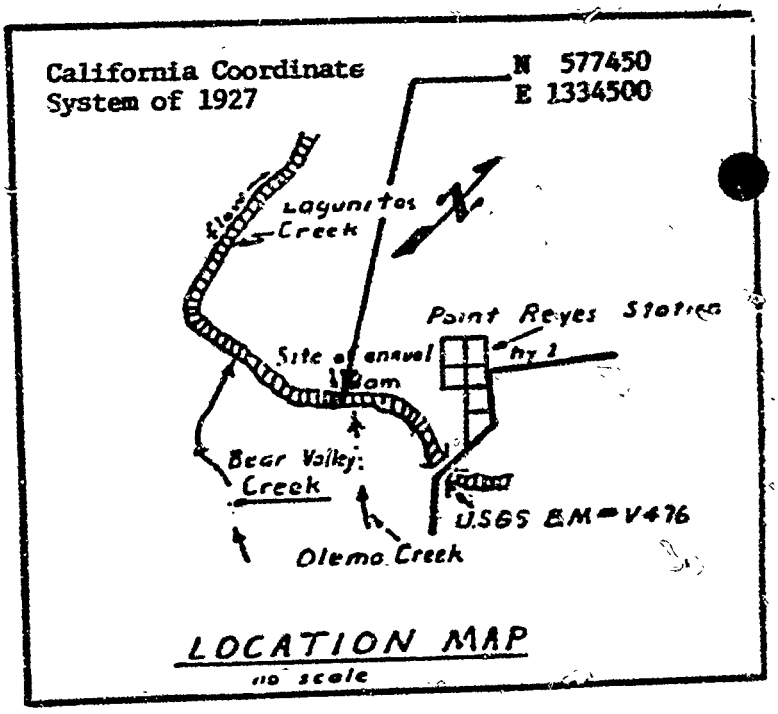

LOCATION MAP
no scale

PROPOSED
ANNUAL GRAVEL DAM
in-LAGUNITAS CREEK
at-POINT REYES STATION
County of-MARIN State-CALIFORNIA
Application by- WALDO GIACOMINI

EXHIBIT "A-1"
LAND DESCRIPTION

SHEET 1 OF 2 FEB 1987

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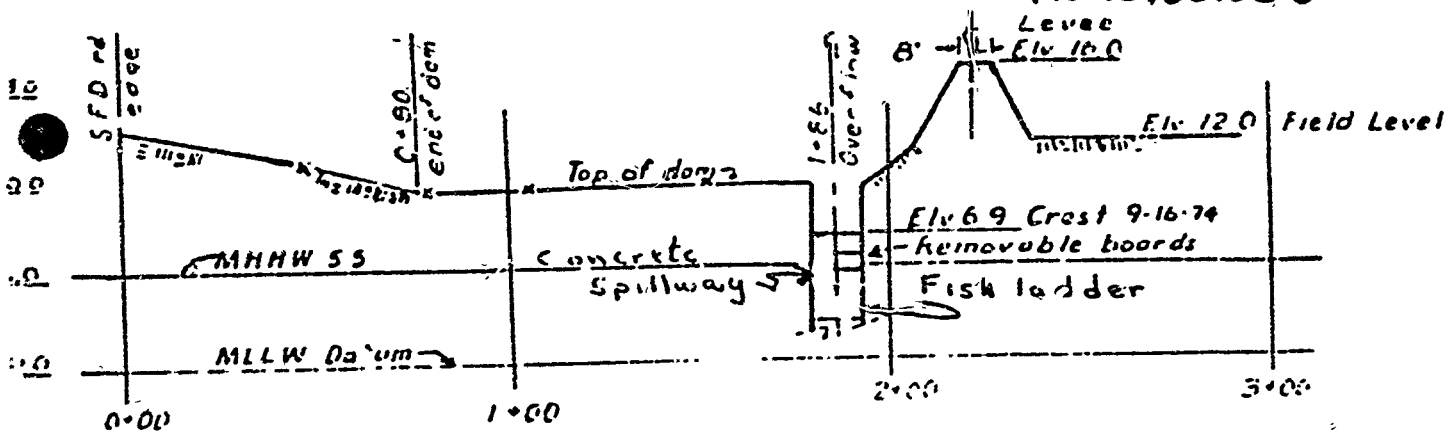
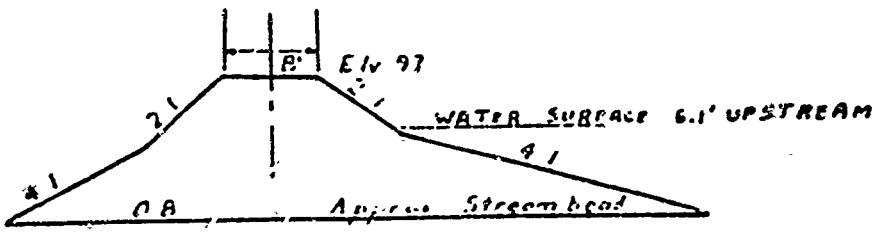
PN 16700N63



PROFILE ON AXIS OF DAM

Scale : Vert 1"=10' - Horz 1"=50'



X-SECTION @ 1+50

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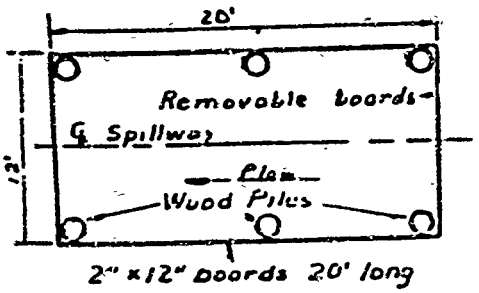

DETAIL OF OVERFLOW

no scale

PROPOSED
ANNUAL GRAVEL DAM
in - LAGUNITAS CREEK
at - POINT REYES STATION
County of - MARIN State - CALIFORNIA
Application by - WALDO GIACOMINI

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EXHIBIT "A-2"
LAND DESCRIPTION

W 23964

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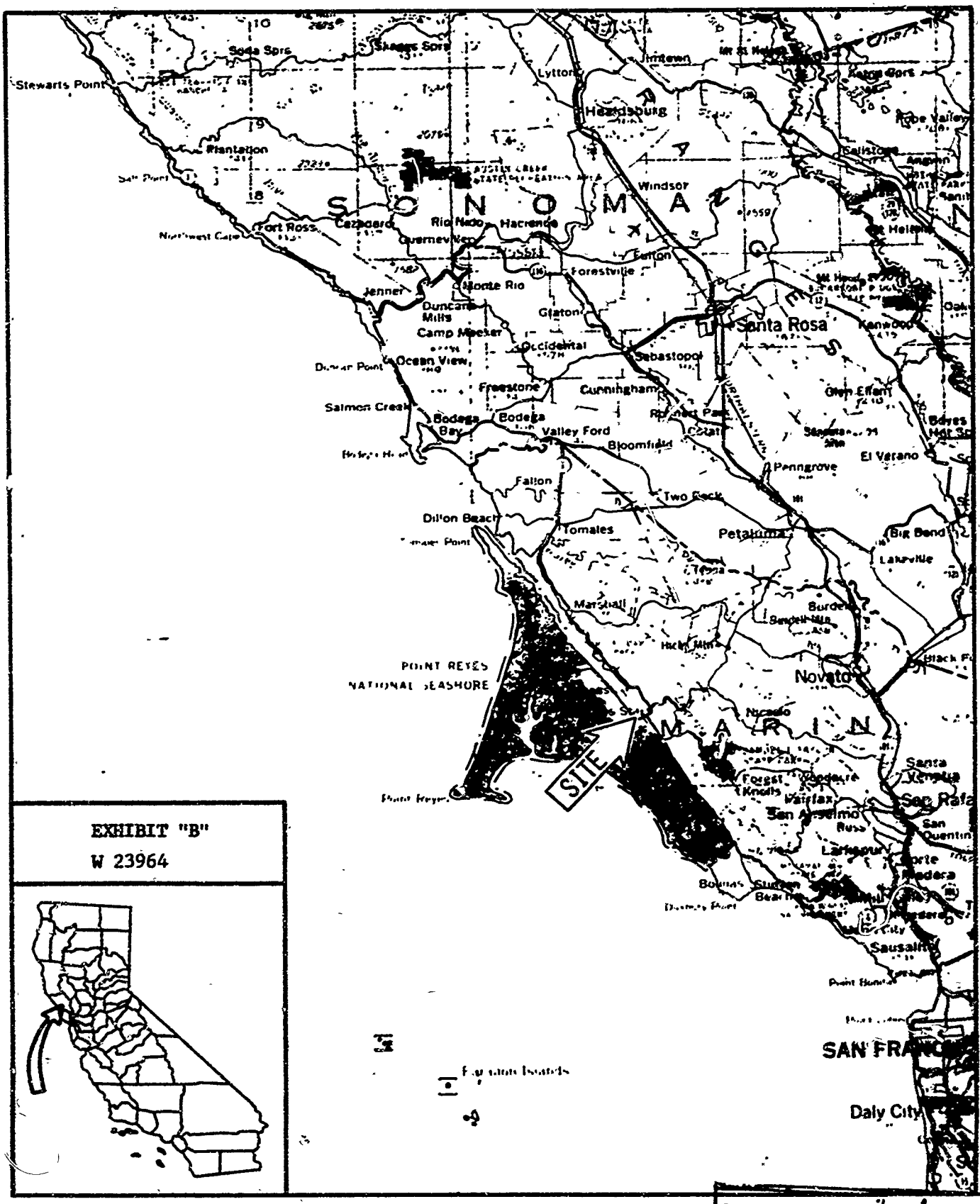

EXHIBIT "B"

W 23964

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EXHIBIT "C"

STATE OF CALIFORNIA — GEORGE DEUKMEJIAN, Governor

STATE LANDS COMMISSION
1807 13TH STREET
SACRAMENTO, CALIFORNIA 95814

87051216

PROPOSED USE OF
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
PREPARED BY
THE U.S. ARMY CORPS OF ENGINEERS (COE)

File Ref.: WP 4931

PROJECT TITLE: Seasonal Dam on Lagunitas Creek

PROJECT PROPONENT: Mr. Waldo Giacomini

PROJECT LOCATION: Point Reyes Station, Marin County, California

PROJECT DESCRIPTION:

The California State Lands Commission (SLC) is the lead agency for the California Environmental Quality Act (CEQA) and the U.S. Army Corps of Engineers (COE) is the lead agency for the National Environmental Policy Act (NEPA) for a proposal by Mr. Waldo Giacomini to install a seasonal summer dam across Lagunitas Creek, near the town of Point Reyes Station, Marin County, California. The COE has circulated Public Notice No. 16700N63 (Attachment A) and has prepared an Environmental Assessment (Attachment B) and Finding of No Significant Impact (FONSI) (Attachment C) for this project.

The staff of the SLC is proposing to utilize the COE Environmental Assessment and FONSI and supporting materials attached hereto pursuant to the provisions of Section 15221 and 15225 of the State CEQA Guidelines. The proposed project as described in the COE Public Notice has been amended by special conditions to the COE permit (Attachment D) and special provisions in the proposed SLC lease (Attachment E) which will avoid potentially significant effects.

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This document is being circulated pursuant to the requirements of the California Environmental Quality Act (Section 21000 et. seq., Public Resources Code), the State CEQA Guidelines (Section 15000 et. seq., Title 14, California Administrative Code), and the State Lands Commission regulations (Section 2901 et. seq., Title 2, California Administrative Code).

The staff of the SLC recommends that the Commission find that:

> Based on the information provided on Attachments A-E, it has been determined that the project, as conditioned and approved, will not have a significant effect on the environment.

CONTACT PERSON: Diana Jacobs TELEPHONE: (916) 445-5034

Your comments are requested by May 27, 1987. Please address your comments to the State Lands Commission office shown above.

1406S
05/13/87

US Army Corps
of Engineers

San Francisco District
211 Main Street
San Francisco, CA 94105

Public Notice

PUBLIC NOTICE NO. 16700N63 DATE: 27 February 1987

REPLY TO: REGULATORY BRANCH

RESPONSE REQUIRED BY: 30 March 1987

1. Mr. Waldo Giacomini, P.O. Box 126, Point Reys Station, California 94956, has applied to the Department of the Army for a permit to install each summer for 10 years a summer dam across Lagunitas Creek. The dam site is located adjacent to Sir Francis Drake Blvd, in Lagunitas Creek, and about 1/2 mile downstream from the intersection of state highway 1 and Sir Francis Drake Blvd., near the town of Point Reyes Station, Marin County, California. This application is being processed pursuant to the provisions of Section 10 of the Rivers and Harbors Act of 1899 (33 U. S. C. 403) and Section 404 of the Clean Water Act (33 U. S. C. 1344).

2. As shown on the attached drawings, the applicant proposes to construct the dam from material borrowed from the streambed directly below the damsite. Approximately 1300 cubic yards of material would be excavated by dragline or bulldozer to form a dam 100-foot long, 8-foot wide at the top, and 60-foot at the base. It would take approximately one day to construct. The dam would butt into a permanent wooden spillway on the north bank. The height of the spillway is 1 1/2-foot above the local high tide elevations. The ponded water behind the dam would extend approximately one mile upstream of the damsite. Normally, when the winter storms begin, Lagunitas Creek overflows the dam, and washes it downstream. The dam has been installed in this manner for 40 years. The purpose of the dam is to provide water for the applicants dairy operation.

3. The applicant has been informed to notify the Regional Water Quality Control Board, San Francisco Bay Region, to determine the need for State water quality certification.

4. In accordance with the requirements of the National Environmental Policy Act of 1969 (Public Law 91-190), and pursuant to Council on Environmental Quality's Regulations 40 CFR 1500-1508 and Engineer Regulation 200-2-2, Appendix B, Corps of Engineers has assessed the environmental impacts of the activity proposed in subject application. The resulting Preliminary Environmental Assessment is presented in the sections that follow. Worksheets and other supporting data used in the preparation of this Environmental Assessment are on file in Impact Analysis Section, Regulatory Branch, San Francisco District. The Preliminary Environmental Assessment resulted in the following findings:

a. IMPACTS ON THE AQUATIC ECOSYSTEM

(1) Physical/Chemical Characteristics and Anticipated Changes

Substrate - To construct the dam the applicant shapes approximately 1300 cy of streambed material into an embankment. This moving and reshaping of the substrate is considered a minor impact.

Public Notice
No. 16700N63

Currents/Circulation Tidal - When the dam is not in place normal tidal influence extends up the creek another three to seven thousand feet, depending upon tides and volume of creek flow. Once the dam is in place tidal circulation stops at the dam.

Streamflow - Construction of the dam restricts the streamflow of Lagunitas Creek from late spring to fall. The creek becomes ponded behind the dam until it reaches the elevation of the fishway. At this point the water spills over into the tidal portion of the creek. Ponding the stream in this manner allows the applicant to pump water out of the stream for pasture irrigation.

Water Supply (Natural) - The natural stream flow in Lagunitas Creek has been altered significantly by the construction of three lakes; Nicasio Reservior on Nicasio Creek, Kent Lake and Alpine Lake on Lagunitas Creek. Releases from these reservoirs are controlled by the Marin Municipal Water District. The State Water Resources Control Board is working with the MMWD to establish minimum stream flows. The applicant holds a permit from the State Water Resources Control Board to direct 2.66 cubic feet per second for storage and use behind the dam.

Water Quality (Temperature, Salinity Patterns etc.) - Salinity intrusion in Lagunitas Creek is the factor that triggers construction of the seasonal dam. Lagunitas Creek in the vicinity of the project site is a tidal estuary. Winter runoff that begins after the fall storms creates a strong hydraulic head that pushes salt water out of the project site. This creates fresh water conditions. As summer approaches the hydraulic head diminishes causing salinity intrusion to occur. Daily high tides bring salt water upstream to the Highway 1 bridge. The applicant monitors this salinity intrusion and installs the dam when electrical conductivity readings approach the threshold for irrigation. water.

Construction of the dam changes the salinity gradient very abruptly. Upstream of the dam is fresh water while downstream waters become increasingly saline. This continues until the dam washes out or is breached in the Fall. After breaching the creek becomes a mixture of salt and fresh water up to the Highway 1 bridge and beyond, depending on tidal elevations.

(2) Biological Characteristics and Anticipated Changes

Endangered & Threatened Species - Construction of the dam potentially impacts two candidate species for endangered species protection. The California freshwater shrimp, Syncaris pacifica, is found in Lagunitas Creek. The shrimp occurs primarily in pool areas away from the main streamflow. The shrimp's status is in the process of changing to a proposed species for listing under the act. To determine the impacts of this project on the shrimp the Corps will initiate a conference with the Endangered Species Office.

The Tidewater Gobi, Eucyclogobius newberryi, is a candidate species for listing. Tidewater gobis have been known to exist in the estuaries of Tomales Bay. Status of the current population is unknown. The Corps will work with the Endangered Species Office to determine what action is necessary.

Habitat for Fish and Other Aquatic Organisms - the dam effects the aquatic habitat by reducing the size of the estuary, abruptly altering salinity levels, and creating a physical barrier to passage. These impacts in turn affect fish and aquatic life in the stream. Fish of major concern are the silver salmon, steelhead trout, sturgeon, and tidewater gobi. Important aquatic life includes the neomycis shrimp and the California freshwater shrimp.

The dam reduces the size of the estuary by blocking the movement of salt water. Without the dam the salt water would extend a minimum of 3,000' further upstream, creating a much larger area for the mixing of salt and fresh water. Tidal water can extend further up Lagunitas Creek depending on the tidal level and volume of fresh water flow. A small estuary will generally be less productive than a larger one.

It is very likely that downstream salinity levels are abnormally high due to construction of the dam and formation of the freshwater pool. The gradual gradient of saline water to fresh water is absent or sharply reduced in size. Changes in the chemical composition of the water would determine what organisms can live there. Highly saline waters are generally less productive. An important part of the diet of juvenile salmon is the neomycis shrimp. This shrimp prefers brackish waters and cannot survive in highly saline waters. Changes in salinity

levels brought about by construction of the dam may be reducing the numbers of shrimp. This reduction in shrimp could adversely impact the downmigrating smolts. Field observations would be necessary to determine the specific effects of dam construction on aquatic life.

Because estuaries serve as important spawning and nursery ground adverse impacts to food organisms can effect the productivity of Tomales Bay and the ocean. The salinity changes brought about by construction of the dam are considered a major adverse impact.

The dam blocks the movement of sturgeon in the creek. Every summer sturgeon are seen nosing the base of the dam. This impact is not mitigated as the sturgeon cannot use the fish ladder.

Lagunitas Creek, upstream of the dam is used as a spawning ground by silver salmon and steelhead trout. These fish move into the creek to spawn in the fall. The applicant's dam generally remains in place until it washes out from heavy rains. This year, due to scant rainfall, the Department of Fish and Game (DFG) nad the applicant breach the dam on Nov 18, 1986. Adult salmon in the estuary where thus able to move upstream. When the dam is in place fish can move above the dam by using a fish ladder. However, there are adult anadramous fish that will not use a fish ladder. These fish congregate below the dam where they can fall prey to predators or stress related diseases. This adverse impact appears to be partially mitigated by the applicant working with the DFG to breach the dam.

The dam also acts as a barrier to downstream summer migration of juvenile salmon and steelhead. This adverse impact has been mitigated slightly by the applicant installing the dam at the lastest possible date into the summer.

b. IMPACTS ON OTHER ENVIRONMENTAL COMPONENTS

1. Socioeconomic Environment

Agricultural Activity - The applicant operates a 400-acre dairy farm. Construction of the dam and formation of the freshwater pool in Lagunitas Creek allows the applicant to withdraw water and irrigate the pasture lands. The water is also used as drinking water for the cattle. The water intake pipe is located in the streambed directly above the summer dam site.

Economics - Diversion of water from Lagunitas Creek allows the applicant to operate an economically viable dairy ranch. Operation of the dairy ranch benefits the applicant by generating personal income.

Water Supply (M&I) - The North Marin Water District operates water supply wells located approximately 4,700-feet upstream from the applicant's dam. These wells are the public water supply for Pt. Reyes Station, Olema, Inverness Park and adjacent areas. The wells draw water from the gravel aquifer adjacent to the creek. The NMWD is somewhat reliant on the applicant's dam for maintaining high quality drinking water.

When the applicant's dam is out in the winter months the normal winter rainfall runoff is sufficient to keep salt water from intruding up Lagunitas Creek. Low flows in the summer and in dry winters result in increasing salinity levels further up the creek. The water district measures salinity intrusion in terms of the chloride ion concentration. This fall, when the applicant's dam was removed in November, streamflows of 6 cfs were at first sufficient to minimize salt water intrusion. This stream flow was not adequate for the high tides occuring in December. Salinity levels in the creek increased resulting in the gradual intrusion of saline water into the aquifer. The NMWD notified customers of the water quality change by placing a notice in the Point Reyes Light, December 23, 1986. The notice informed customers of chloride ion concentration change from a normal of 15 mg/l to 99 mg/l as of 12/18/86. The higher chloride ion concentrations were not a health risk but could be detectable by taste. The water quality criteria for chloride is 250 mg/l.

Changes in the drinking water salinity also require increased monitoring at the water treatment plant. As salinities increase, the treatment process becomes more difficult and complex. The NMWD is concerned that, in a drought year, very little water would be diverted from the Marin Municipal Water District reservoirs into Lagunitas Creek. Without the applicant's dam in place tidal waters would move up the estuary resulting in salinity intrusion in the well water. This fear is supported by chloride levels experienced during the 1976-77 drought. Chloride levels remained normal while the dam was in place. When the dam was out for one month chloride levels fluctuated erratically as salinity rose. Eventually a maximum of over 400 mg/l was reached.

It is difficult to judge the beneficial impacts of dam construction on the water quality of the NMWD. A great deal depends on two factors: high tide elevations and fresh water inflow. Under conditions present during 1986 the dam appears to have had minor beneficial impacts. When the dam was out in November and December chloride ion concentration increased but not to an unhealthy level. Under drought conditions it is forseeable that the dam could prevent major water quality problems.

Business and Industrial Activity - Within the NMWD service area is a commercial plant grower. High chloride ion levels impact his business by adversely impacting plant growth.

2. Historic Cultural Environment

A Corps of Engineer's archaeologist is currently conducting a cultural resources assessment of the permit area, involving review of published and unpublished data on file with city, state, and federal agencies. If, based upon the assessment results, a field inspection of the permit area is warranted, and cultural properties listed or eligible for listing on the National Register of Historic Places are identified within the inspection, the Corps will coordinate with the State Historic Preservation Officer to take into account any project effects on such properties.

c. SUMMARY OF INDIRECT IMPACTS

The project has benefical impacts on agriculture, economics, business activity, and municial water supply.

d. SUMMARY OF CUMULATIVE IMPACTS

No additional construction effecting fresh water inflows to Tomales Bay is anticipated. Therefore, no cumulative impacts have been identified.

e. Conclusions and Recommendations:

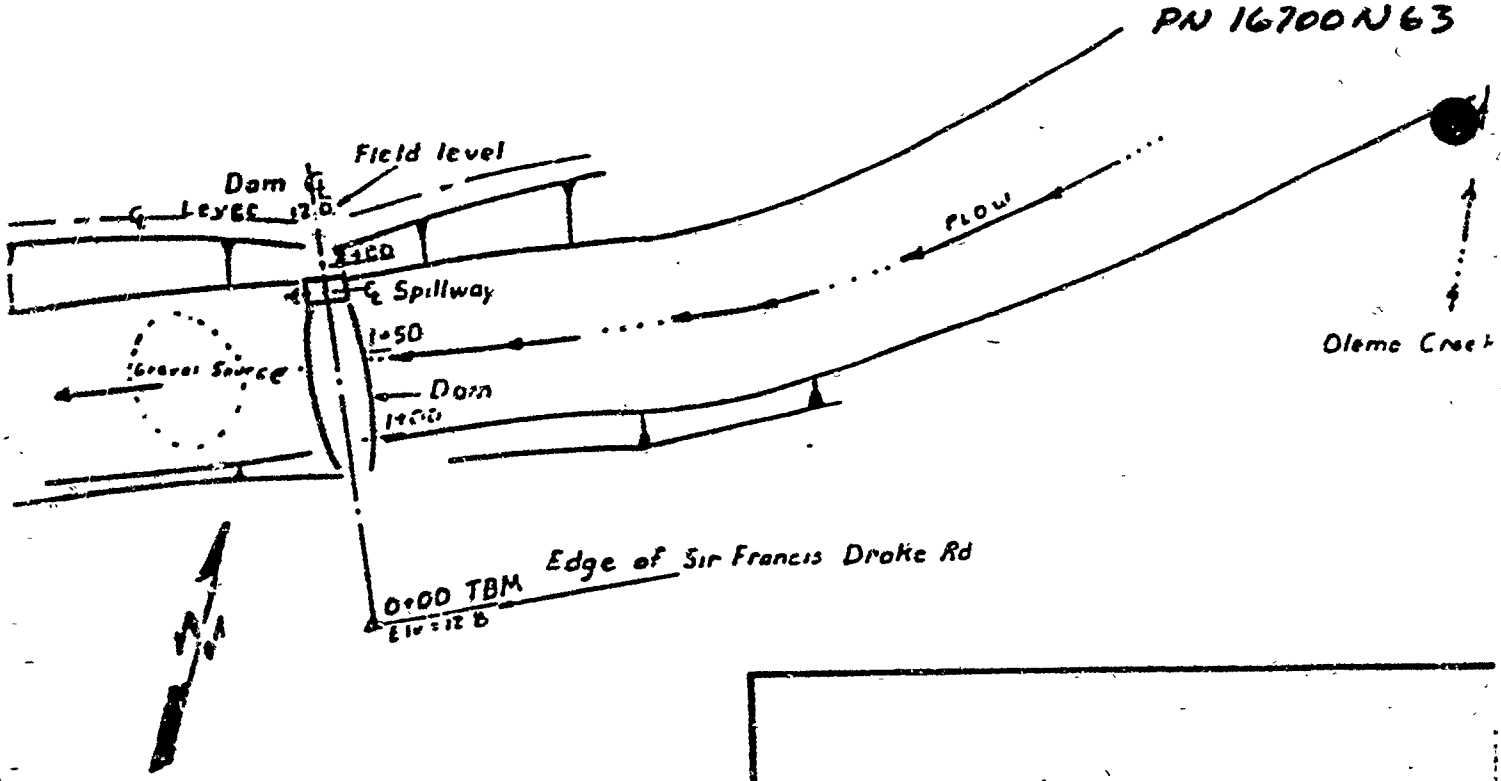
Based on an analysis of the above identified impacts, a preliminary determination has been made that it will not be necessary for the Corps of Engineers to prepare an Environmental Impact Statement (EIS). The Environmental Assessment (EA) for the proposed action has not yet been finalized and this preliminary determination may be reconsidered if additional information is developed.

5. Evaluation of this activity's impacts includes application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). An evaluation was made by this office under the 404(b)(1) Guidelines and it was determined that the proposed project is water dependent.

6. The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision will reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership, and, in general, the needs and welfare of the people.

7. Interested parties may submit in writing any comments concerning this activity. Comments should include the applicant's name, the number, and the date of this notice and should be forwarded so as to reach this office within the comment period specified on page one of this notice. Comments should be sent to: Lieutenant Colonel Andrew M. Perkins, Jr., District Engineer, Attention: Regulatory Branch. It is Corps policy to forward any such comments which include objections to the applicant for resolution or rebuttal. Any person may request, in writing, within the comment period of this notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose address is indicated in the first paragraph of this notice, or by contacting Ken Maynard of our office (telephone 415-974-0421). Details on any changes of a minor nature which are made in the final permit action will be provided on request.

PN 16700N63



PLAN
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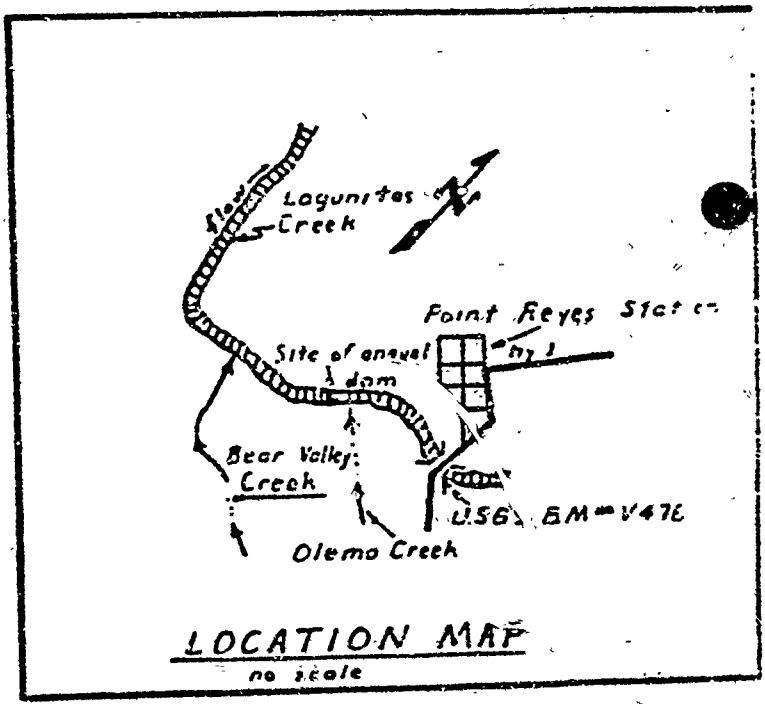

LOCATION MAP
no scale

PROPOSED
ANNUAL GRAVEL DAM
in-LAGUNITAS CREEK
at-POINT REYES STATION
County of-MARIN State-CALIFORNIA
Application by- WALDO GIACOMINI

SHEET 1 OF 2 FEB 1967

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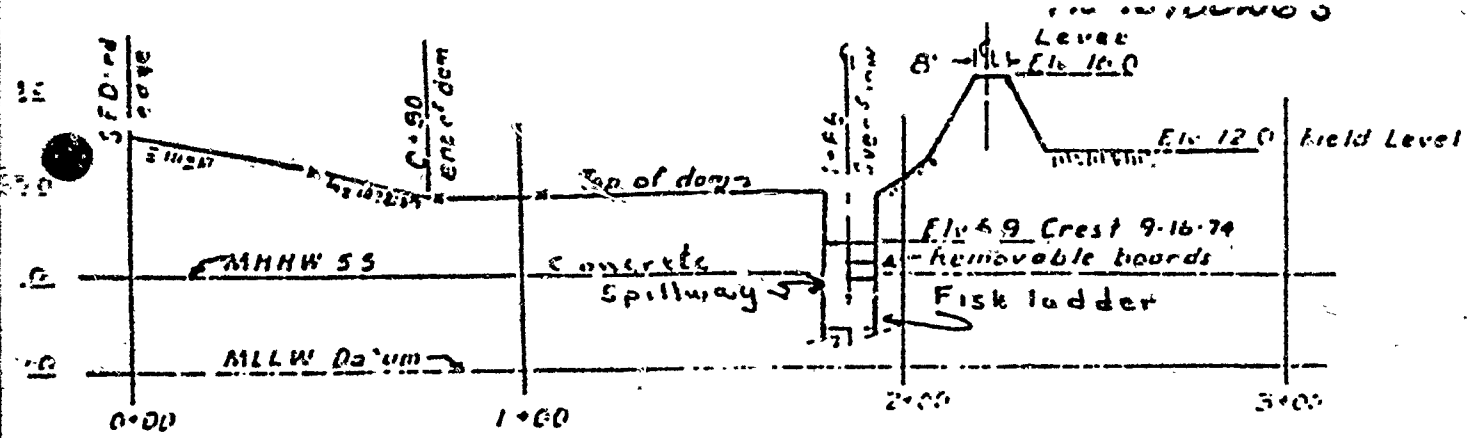
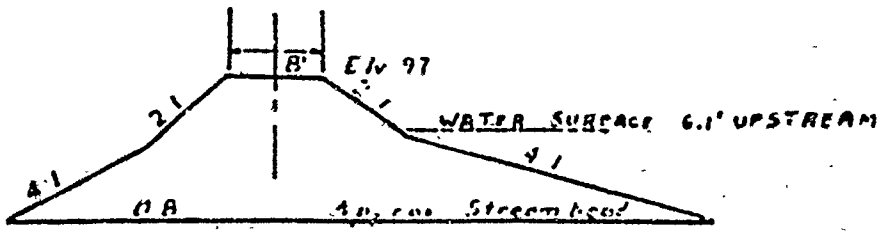


PROFILE ON AXIS OF DAM

Scale : Vert 1"=10' - Horz 1"=50'



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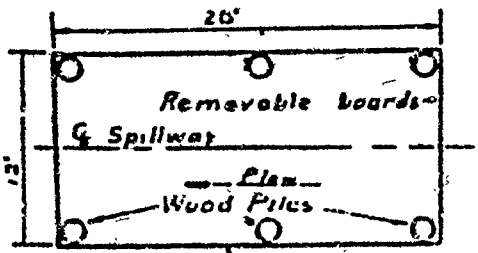

2" x 12" boards 20' long

DETAIL OF OVERFLOW

no scale

PROPOSED
ANNUAL GRAVEL DAM
in- LAGUNITAS CREEK
at- POINT REYES STATION
County of- MARIN State- CALIFORNIA
Application by- WALDO GIACOMINI

SHEET 2 OF 2 FEB 1987

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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO
211 Main Street
San Francisco, California 94105-1905

FIRST-CLASS MAIL
POSTAGE & FEES PAID
DEPARTMENT OF THE ARMY
PERMIT No. G-5

STATE LANDS COMMISSION
ATTN: P.N. COORDINATOR
1807 13TH STREET
SACRAMENTO, CA 95814

845

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ATTACHMENT B

DEPARTMENT OF THE ARMY PERMIT EVALUATION
AND DECISION DOCUMENT

Applicant: Waldo Giacomini Application No. 16700N63

This document constitutes my Environmental Assessment, Statement of Findings, and review and compliance determination according to the 404(b)(1) guidelines for the proposed work (applicant's preferred alternative) described in the attached Public Notice.

I. Proposed Project: The location and description of work are described in the attached Public Notice.

II Environmental and Public Interest Factors Considered:

A. Purposed and Need: The applicant states that the purpose and need for this project is to supply fresh water to his dairy. The applicant pumps water from Lagunitas Creek all year. Dring the summer months, fresh water flour deminish, and this allows saltwater in cursion. The dam would impound water for sufficient depth and quantity for pumping, and bar the saltwater from poluting the impounded fresh water. A secondary need would be that the dam keeps the salt water from intruding upstream and entering into the ground water, and eventually poluting the water well of the North Marin County Water District.

B. Alternatives (33 CFR 320.4(b)(4), 40 CFR 230.10):

1. No Action

This alternative assumes that the permit application would be denied by Corps of Engineers and thatno plan would be implemented.

a. Impacts of Alternative.

currents/circulation Tidal - Without the dam, normal tidal influence would be maintained throughout the year.

Streamflow - Without the impoundment in the stream, normal streamflow would be maintained throughout the year.

Water Supply (Natural) - Without the extraction of 1,200 gallons per minute of fresh water from Lagunitas Creek the natural water supply in the stream would remain. It should be noted, however, that the stream would be under tidal influence for an additional three to seven thousand feet upstream.

Water Supply (M&I) & Water Quality - The North Marin Water District operates wells for public water supply for Pt. Reyes Station, Olema, Inverness Park and adjacent areas. These wells draw water from a grave aquifer adjacent to the creek. The NMWD are reliant on the Giacomini Dam for maintaining high quality drinking water. According to the NMWD, this is accomplished by impounding fresh water upstream of the dam and thus reducing salt water intrusion into the aquifer. Under the No

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Action Alternative, increased salt water intrusion can be expected. The degree to which the municipal water water supply would be degraded cannot be determined at this time.

Endangered and Threatened Species - No effect

Habitat for Fish and Other Aquatic Organisms - The No Action Alternative would increase the actual size of the estuary by allowing tidal influence to extend for an additional three to seven thousand feet upstream. This would increase the productivity of the habitat somewhat. Without any obstruction in the creek a normal gradient from fresh to saline water would be maintained all year. This would benefit fish and aquatic organisms.

Agricultural Activity - If the applicant's permit were denied, his ranching operations would cease or it would be curtailed to a significant degree.

Economics - With a reduction or cessation of ranching on the applicant's property, he would suffer an economic loss the degree of wich cannot be determined at this time. The community would also supper economic losses since some sectors of the community are dependent upon the Giacomini Ranch for their livelihood.

2. Upstream Water Diversion Alternative

This plan was formulated by Trout Unlimited and submitted to the Corps of Engineers as a viable alternative to the applicant's proposal. Under this plan, a small weir would be constructed in Lagunitas Creek approximately 4,000 feet upstream from the site of the Giacomini dam. Associated with this weir would be a water intake structure that would extract water from the creek and convey it in a pipeline across the U.S. Coast Guard property, State of California property and onto the Giacomini Ranch. This alternative is designed to provide 1,000 gallons per minute of fresh water to the Giacomini Ranch.

Impacts of the Alternative

Substrate - To construct this weir, an unknown amount of substrate material would be used. The amount would, however, be less than for the Giacomini Dam so the impact on substrate is expected to be minor.

Currents/Tidal Circulation - Construction of a weir approximately 4,000 feet upstream from the Giacomini Dam Site may interfere with tidal influence for some stages.

Streamflow - The weir itself is nor expected to have any major impact on streamflow in Lagunitas Creek. The intake of 1,000 gallons of water/minute from the stream would reduce the fresh water volume downstream of the intake point. The significance of this reduction in freshwater flows for the 4,000-foot reach downstream cannot be determined at this time.

Water Supply - The supply of water in lagunitas Creek would

not be altered any major degree. Approximately the same volume of water would be in the stream with this alternative as with the applicant's. There will be a reduction in fresh water supply in the 4,000-foot reach between the applicant's dam site and the site of weir.

Water Quality - Without a dam at the applicant's site, it is expected that salinity intrusion would occur to a greater degree than presently since less freshwater would be present in the stream. How severe will be cannot be determined. This like other quality questions will be subject to futher scientific studies during the five-year life of the permit.

Water Supply (M&I) - North Marin Water District has expressed concern about the adverse impact that this alternative would have upon its upstream wells through saline intrusion into the aquifer.

Endangered & Threatened Species - No effect

Habitat for Fish and other Aquatic Organisms - The alternative would increase the estuarine area thus increasing the productivity of the habitat. Since this alternative presently only exists in a conceptual form, the impact of the weir upon fish passage cannot be determined until more details become available.

Agricultural Activity - This alternative would provide the Giacomini Ranch with 1,000 gallons of fresh water per minute. This compares with the 1,200 gallons per minute that is provided by the applicant's plan. The 1,000 gallons/minute rate is not sufficient to sustain the ranch operations at the present level.

Economics - The alternative would allow Mr. Giacumini to continue to operate his ranch, although at somewhat lower levels due to less water being provided for the ranch operations. This would in turn lower the economic yields of the ranch. The degree of this impact cannot be determined.

3. Ground Water Supply Alternative.

This alternative was proposed by Trout Unlimited. The basic concept of this alternative is that the Giacomini Ranch would be provided with water by pumping it from the aquifer. This proposal was analyzed by North Marin Water District which stated that the applicant has drilled three walls on his property and found brackish water in all three. NMWD further stated that numerous other wells have been drilled in the general area and none even camed close to producing the water that would be needed by the applicant. Based on this information it does not seem that this is a feasible alternative.

ATTACHMENT C

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

1. Incorporated by reference is the Environmental Assessment for Permit Application No. 16700N63 dated 7 May 1967

2. Factors considered in this FONSI were fish and wildlife resources including threatened and endangered species, water quality, wetlands, cultural resources, land use plans, agency policies as well as navigation.

3. Based on information during preparation of the environmental assessment and from other cooperating Federal agencies having jurisdiction by law or special expertise and the interested public, it is concluded that an Environmental Impact Statement will not be prepared.

Date

Andrew M. Perkins, Jr.
LTC, Corps of Engineers
District Engineer

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ENVIRONMENTAL IMPACT ANALYSIS WORKSHEET VI
SECTION 404(b)(1) IMPACT ASSESSMENT*
AND ENVIRONMENTAL IMPACT ASSESSMENT

Applicant: Giacomini, Waldo ADP Number: 16700N65

Permit Manager: Maynard Date: 7 May 1987

EA Coordinator: Coleman

II. ENVIRONMENTAL AND PUBLIC INTEREST FACTORS CONSIDERED

C. IMPACTS ON THE AQUATIC ECOSYSTEM

1. Physical/Chemical Characteristics and Anticipated Changes

(X) Substrate - To construct the dam the applicant shapes approximately 1300 cy of streambed material into an embankment. This moving and reshaping of the substrate is considered a minor impact.

(X) Currents/Circulation Tidal - When the dam is not in place normal tidal influence extends up the creek another three to seven thousand feet, depending upon tides and volume of creek flow. Once the dam is in place tidal circulation stops at the dam.

Drainage Patterns - No effect

(X) Streamflow - Construction of the dam restricts the streamflow of Lagunitas Creek from late spring to fall. The creek becomes ponded behind the dam until it reaches the elevation of the fishway. At this point the water spills over into the tidal portion of the creek. Ponding the stream in this manner allows the applicant to pump water out of the stream for pasture irrigation.

Flood Control Function - No effect

(X) Water Supply - The natural stream flow in Lagunitas Creek has been altered significantly by the construction of three lakes: Nicasio Reservoir on Nicasio Creek, Kent Lake and Alpine Lake on Lagunitas Creek. Releases from these reservoirs are controlled by the Marin Municipal Water District. The State Water Resources Control Board is working with the MMWD to establish minimum stream flows. The applicant holds a permit from the State Water Resources Control Board to direct 2.66 cubic feet per second for storage and use behind the dam.

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Aquifer Recharge - No effect

Baseflow - No effect

Storm, Wave, and Erosion Buffer - No effect

Erosion/Sedimentation - No effect

Water Quality (Suspended Particulates & Turbidity) - No effect

(X) Water Quality (Temperature, Salinity patterns etc.) - Salinity intrusion in Lagunitas Creek is the factor that triggers construction of the seasonal dam. Lagunitas Creek in the vicinity of the project site is a tidal estuary. Winter runoff that begins after the fall storms creates a stong hydraulic head that pushes salt water out of the project site. This creates fresh water conditions. As summer approaches the hydraulic head diminishes causing salinity intrusion to occur. Daily high tides bring salt water upstream to the Highway 1 bridge. The applicant monitors this salinity intrusion and installs the dam when electrical conductivity readings approach the threshold for irrigation water.

Construction of the dam changes the salinity gradient very abruptly. Upstream of the dam is fresh water while downstream waters become increasingly saline. This continues until the dam washes out or is breached in the Fall. After breaching the creek becomes a mixture of salt and fresh water up to the Highway 1 bridge and beyond, depending on tidal elevations.

During the comment period questions arose concerning high water temperatures behind the dam. To fully assess the impact of the dam on water temperatures the applicant will be required to submit to the DE all available information on surface and bottom temperatures of the impounded water behind the dam.

Additionally for project involving the discharge of dredged material:

Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification; discharge vessel speed and direction; rate of discharge; dredged material characteristics; number of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing. - No effect

2. Biological Characteristics and Anticipated Changes (Aquatic Ecosystem)

Wetlands (Special Aquatic Site) - No effect

Mudflats (Special Aquatic Site) - No effect

Vegetated Shallows (Special Aquatic Site) - No effect

Pool & Riffle Areas (Special Aquatic Site) - No effect

Coral Reefs (Special Aquatic Site) - No effect

(X) Endangered & Threatened Species - Two candidate species for endangered species protection are found in Lagunitas Creek: Syncaris pacifica, the California freshwater shrimp, and Eucyclogobius newberryi, the Tidewater Goby.

The Corps has conducted informal consultation with the Endangered Species Office of USFWS for both species. The Service concluded that the installation of a seasonal dam on lower Lagunitas Creek is not likely to affect the California freshwater shrimp. The shrimp occurs in Lagunitas Creek but is known only from stream reaches upstream of tidal influence.

The USFWS has requested that a survey of Lagunitas Creek be conducted to determine if the tidewater goby is still present in the stream and estuary. Past surveys collected low numbers of gobys near the mouth of Lagunitas Creek. The goby is capable of surviving in waters that range from completely fresh to brackish. It is very possible that a small population may live in Lagunitas Creek and Tomales Bay. If the goby is still present, the best management action for conserving it would be to restore the stream and estuary to as natural a condition as possible.

The USFWS has recommended that the permit for the proposed dam not be issued before surveys are conducted to determine the status of the tidewater goby in the vicinity of the proposed damsite, or before the significance of the dam's impact on this remnant population, if it still persists, can be ascertained.

The proposed dam will be constructed in 1987 prior to any surveys or studies. The applicant will be required to submit to the Corps all available information on the life history and population data of the Tidewater Goby. After consulting with the wildlife agencies the Corps will determine if the 1988 permit needs modification or if further studies are required to get adequate information on the tidewater goby.

(X) Habitat for Fish and Other Aquatic Organisms - The dam effects the aquatic habitat by reducing the size of the estuary, abruptly altering salinity levels, and creating a physical barrier to passage. These impacts in turn affect fish and aquatic life in the stream. Fish of major concern are the silver salmon, steelhead trout, sturgeon, and Tidewater goby. Important aquatic life includes the neomycis shrimp and the California freshwater shrimp.

The dam reduces the size of the estuary by blocking the movement of salt water. Without the dam the salt water would extend a minimum of 3,000' further upstream, creating a much larger area for the mixing of salt and fresh water. Tidal water can extend further up Lagunitas Creek depending on the tidal level and volume of fresh water flow. A small estuary will generally be less productive than a larger one.

It is very likely that downstream salinity levels are abnormally high due to construction of the dam and formation of the freshwater pool. The gradual gradient of saline water to fresh water is absent or sharply reduced in size. Changes in the chemical composition of the water would determine what organisms can live there. Highly saline waters are generally less productive. An important part of the diet of juvenile salmon is the neomycis shrimp. This shrimp prefers brackish waters and cannot survive in highly saline waters. Changes in salinity levels brought about by construction of the dam may be reducing the numbers of shrimp. This reduction in shrimp could adversely impact the downmigrating smolts. Field observations would be necessary to determine the specific effects of dam construction on aquatic life.

Because estuaries serve as important spawning and nursery grounds adverse impacts to food organisms can effect the productivity of Tomales Bay and the ocean. The salinity changes brought about by construction of the dam are considered a major adverse impact.

The dam blocks the movement of sturgeon in the creek. Every summer sturgeon are seen nosing the base of the dam. This impact is not mitigated as the sturgeon cannot use the fish ladder.

Lagunitas Creek, upstream of the dam is used as a spawning ground by silver salmon and steelhead trout. These fish move into the creek to spawn in the fall. The applicant's dam generally remains in place until it washes out from heavy rains. This year, due to scant rainfall, the

Department of Fish and Game (DFG) had the applicant breach the dam on Nov 18, 1986. Adult salmon in the estuary where thus able to move upstream. When the dam is in place fish can move above the dam by using a fish ladder. However, there are adult anadramous fish that will not use a fish ladder. These fish congregate below the dam where they can fall prey to predators or stress related diseases. This adverse impact appears to be partially mitigated by the applicant working with the DFG to breach the dam.

The dam also acts as a barrier to downstream summer migration of juvenile salmon and steelhead. This adverse impact has been mitigated slightly by the applicant installing the dam at the latest possible date into the summer.

To assess the effects of the dam on aquatic life the applicant will be required to submit additional information. The task force will then review this information and determine if additional studies or permit modifications are necessary.

The permit will be conditioned to include set dates for the installation and removal of the dam. To minimize the loss of immature fish the screen over the intake structure shall be no larger than 1/4 inch. The permit will also be conditioned to include operation and maintenance of the Denil fishway.

Habitat for Other Wildlife - No effect

Other Biological Factors - No effect

Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistant pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities or other sources. - No effect

D. IMPACTS ON ENVIRONMENTAL RESOURCES OUTSIDE THE AQUATIC ECOSYSTEM

1. Physical Characteristics and Anticipated Changes

Air Quality - No effect

Noise Conditions - No effect

Geologic Hazards - No effect

Other Physical Factors - No effect

2. Biological Characteristics and Anticipated Changes (Outside Aquatic Ecosystem)

Terrestrial Habitat - No effect

Special Wildlife Habitats - No effect

Other Terrestrial Biological Factors - No effect

3. Socioeconomic Characteristics and Anticipated Changes

— Aesthetic Quality - No effect

(X) Agricultural Activity - The applicant operates a 400-acre dairy farm. Construction of the dam and formation of the freshwater pool in Lagunitas Creek allows the applicant to withdraw water and irrigate the pasture lands. The water is also used as drinking water for the cattle. The water intake pipe is located in the streambed directly above the [illegible] dam site.

(X) Business and Industrial Activity - Within the MMWD service area is a commercial plant grower. High chloride ion levels impact his business by adversely impacting plant growth.

Commercial Fishing - No effect

Community Cohension - No effect

(X) Economics - Diversion of water from Lagunitas Creek allows the applicant to operate an economically viable dairy ranch. Operation of the dairy ranch benefits the applicant by generating personal income.

Employment - No effect

Energy Conservation/Consumption/Generation - No effect

Land Use - No effect

Mineral Resources - No effect

Population/Growth Inducement - No effect

Prime & Unique Agricultural Lands - No effect

Private Property Rights - No effect

Public Facilities and Services - No effect

Public Health and Safety - No effect

Recreational Opportunities - No effect

Recreational Fishing - No effect

Silviculture - No effect

Traffic Conditions - No effect

Transportation - No effect

Transportation - Navigation - No effect

(X) Water Supply (M&I) - The North Marin Water District operates water supply wells located approximately 4,700-feet upstream from the applicant's dam. These wells are the public water supply for Pt. Reyes Station, Olema, Inverness Park and adjacent areas. The wells draw water from the gravel aquifer adjacent to the creek. The NMWD is somewhat reliant on the applicant's dam for maintaining highly quality drinking water.

When the applicant's dam is out in the winter months the normal winter rainfall is sufficient to keep salt water from intruding up Lagunitas Creek. Low flows in the summer and in dry winters result in increasing salinity levels further up the creek. The water district measures salinity intrusion in terms of the chloride ion concentration. This fall, when the applicant's dam was removed in November, streamflows of 6 cfs were at first sufficient to minimize salt water intrusion. This stream flow was not adequate for the high tides occuring in December. Salinity levels in the creek increased resulting in the gradual intrusion of saline water into the aquifer. The NMWD notified customers of the water quality change by placing a notice in the Point Reyes Light, Dec. 23, 1986 notice informed customers of a chloride ion concentration change from a normal of 15 mg/l to 99 mg/l as of 12-18/86. The higher chloride ion concentrations were not a health risk but could be detectable by taste. The water quality criteria for chloride is 250 mg/l.

Changes in the drinking water salinity also require increased monitoring at the water treatment plant. As salinities increase, the treatment process becomes more difficult and complex. The MMWD is concerned that, in a drought year, very little water would be diverted from the Marin Municipal Water District reservoirs into Lagunitas Creek. Without the applicant's dam in place tidal waters would move up the estuary resulting in salinity intrusion in the well water. This fear is supported by chloride levels experienced during the 1976-1977 drought. Chloride levels remained normal while the dam was in place. When the dam was out for one month chloride levels fluctuated erratically as salinity rose. Eventually a maximum of over 400 mg/l was reached.

It is difficult to judge the beneficial impacts of dam construction on the water quality of the MMWD. A great deal depends on two factors: high tide elvations and fresh water inflow. Under conditions present during 1986 the dam appears to have had minor beneficial impacts. When the dam was out in November and December chloride ion concentration increased but not to an unhealthy level. Under drought conditions it is foreseable that the dam could prevent major water quality problems.

Wild and Scenic Rivers - No effect

4. Historic-Cultural Characteristics and Anticipated Changes

Archaeological Resources - No effect

Historic Resources - No effect

National Register Properties - No effect

Native American Concerns - No effect

E. SUMMARY OF INDIRECT IMPACTS

The project has beneficial impacts on agriculture, economics, business activity, and municipal water supply.

F. SUMMARY OF CUMULATIVE IMPACTS

No additional construction effecting fresh water inflows to Tomales Bay is planned. Therefore, no cumulative impacts have been identified.

G. CONCLUSIONS AND RECOMMENDATIONS REGARDING THE NEED FOR AN EIS

Based on an analysis of the Environmental Assessment (EA), it has been determined that it will not be necessary for the Corps of Engineers to prepare an Environmental Impact Statement (EIS) since the proposed action would not have a significant impact upon the quality of the human environment.

Recommended by: Virgie Ellis Coleman 7 May 87
EA Coordinator Date

Concur with Recommendation: [signature] 7 May 87
Chief, Impact Analysis Section Date

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ATTACHMENT D

SPECIAL PERMIT CONDITIONS NO. 16700N02

1. The dam shall be constructed no earlier than May 15 of each year to allow adult migrating salmon and steelhead trout sufficient time for passage. Consideration will be given to installation earlier than May 15 based on approval of the District Engineer, the California Fish and Game, and U.S. Fish and Wildlife Service. Gravel dam construction shall be limited to hours of low tides (an approximate 4-hour period from the last two hours of an outgoing tide and up to the first two hours of an incoming tide).

2. If the dam is not naturally breached by high water flows by November 1 of each year then the permittee may be required to breach the dam upon notification by the District Engineer. Such a decision will be based on consultation with the permittee, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the North Marin Water District.

3. Special conditions 1 and 2. above, shall be subject to review on an annual basis upon the request of either the permittee, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Game, and North Marin Water District. Request for review may be initiated either prior to October 1 (concerning removal) or prior to April 1 (concerning installation). Requests for modification of the above conditions on a case-by-case basis shall be considered if submitted by the above specified dates.

4. For the 1987 season, the screen over the intake structure shall be no larger than 1/4 inch. The intake screen may be redesigned in accordance with the criteria of the National Marine Fisheries Service and the California Department of Fish and Game. Upon approval by the District Engineer, the new intake screen design shall be constructed and used in subsequent years by the permittee.

5. The permittee shall operate and maintain the existing Denil fishway in a functional condition at all times, and at the direction of the District Engineer in consultation with the California Department of Fish and Game. Downstream fish passage shall be provided for from the bottom of the fishway into the channel of the stream on outgoing and low tide conditions.

6. The permittee shall submit to the District Engineer a study of alternatives for the dam. Alternatives analyzed should include, but not limited to: different upstream locations, different impoundment structures, different dam designs, use of wells, and other alternative sources of water to accommodate your dairy operation. This study is to be submitted to the District Engineer by December 1, 1987. This analysis shall provide sufficient information to determine which alternative is the least damaging to fish and wildlife resources. The level of detail must satisfy the environmental assessment requirements of the California Environmental Quality Act and the National Environmental Policy Act.

7. The permittee shall submit to the District Engineer, available information on: (a) surface and bottom temperature data of the impounded water behind the dam, (b) salinity data, (c) the life history, in/out migration periods, and population data for the steelhead trout, salmon and sturgeon as they pertain to Lagunitas Creek, (d) the life history and population data of the tidewater goby, (e) the neomysis shrimp in Lagunitas Creek Estuary, and (f) predation of juvenile steelhead trout and salmon behind the dam. Available information submitted should include, but not be limited to, information from the Marin Municipal Water District, North Marin Water District and California Department of Fish and Game. All information shall be submitted to the District Engineer by December 1, 1987, which will be used to assess the effects of the dam on Lagunitas Creek's aquatic life.

8. After consulting with the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Agency, National Marine Fisheries Service and the California Fish and Game, but not later then April 1, 1988, the District Engineer will determine if, (a) the subject permit requires modification for the 1985 season, and (b) studies are necessary to determine impacts of the dam on specific aquatic resources not adequately addressed by the information submitted under Special Condition No. 7, above.

9. If the District Engineer determines that a study is necessary, the permittee shall submit a scope of study to address the specific impacts in question by August 1, 1988. The scope of study shall include:

a. A detailed description of the study method to determine the effects of the dam on the specific aquatic resource.

b. Criteria that will be applied to the study results to determine whether the dam is causing an unacceptable impact on that aquatic resource.

10. Depending on the nature and length of the study, the District Engineer will use the results of the study and other available information, in consultation with agencies mentioned above, to determine if modification of the permit is necessary.

ATTACHMENT E

CONSIDERATION: $150 per annum; subject to modification by Lessor as specified in Paragraph 2(b) of Section 4.

AUTHORIZED IMPROVEMENTS. Annual Seasonal gravel Dam

[ ] **EXISTING:** N/A

[ ] **TO BE CONSTRUCTED; CONSTRUCTION MUST BEGIN BY:** N/A

AND BE COMPLETED BY: N/A

LIABILITY INSURANCE: $100,000 Combined Single Limit

SURETY BOND OR OTHER SECURITY: N/A

SECTION 2
SPECIAL PROVISIONS

BEFORE THE EXECUTION OF THIS LEASE, ITS PROVISIONS ARE AMENDED, REVISED OR SUPPLEMENTED AS FOLLOWS:

1. Lessee agrees that the annual gravel Dam shall be constructed no earlier than May 15th of each calendar year; Permission for construction earlier than May 15th may be obtained with the written permission of the United States Army Corps of Engineers - District Engineer, California Department of Fish and Game and the State Lands Commission.

2. It is understood by and between the Lessor and Lessee that Lessee shall have the right to enter upon the bed of Lagunitas Creek at such times as necessary to accomplish the installation and breaching of the annual gravel Dam.

3. Lessee agrees to furnish to Lessor copies of any and all studies, reports and data that are submitted to other permitting or regulatory agencies at the time of said submittals.

4. Lessee agrees to notify Lessor of any and all modifications of their Corps of Engineers Permit as required by the Corps District Engineer and shall provide copies of any written material relating to said modifications; Lessee acknowledges that any such modifications of the Corps of Engineers Permit may require some modification of this Lease.

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