



Humboldt Redwood  
COMPANY, LLC

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February 16, 2009

Ms. Catherine Kuhlman  
California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Blvd, Suite A  
Santa Rosa, CA 95403

Subject: Enrollment of THP 1-06-202 HUM (Units 8 & 9) in the Elk River WWDR, "Tier II"

Dear Ms. Kuhlman:

Attached please find the unit specific ECP for the above mentioned plan and units. The Tier II packages were sent to your office in January, but the Unit specific ECP was not attached. Hopefully this will make the Tier II submittal complete.

Please do not hesitate to contact me should you have any questions or comments regarding this application for enrollment into WWDR (Order No. R1-2006-0039).

Respectfully,

Wayne D. Rice,  
RPF  
Humboldt Redwood Company, LLC

Attachments:  
Unit specific ECP

# Humboldt Redwood Company LLC

## Erosion Control Plan (ECP) for Bridgehead THP 1-06-202HUM

Updated ECP – for purpose of identifying **Tier 2** erosion control sites specific to units 8 & 9 (2009 enrollment requests); No erosion control sites located on the spur road system leading specifically to these units or in these units.

This plan is being included in the THP to partially meet the requirements of the North Coast Regional Water Quality Control Board Watershed-wide Waste Discharge Requirements. (WWDRs)

All operational portions of this ECP that are to be enforced through the Forest Practice Rules have been included in Section II of the THP.

Version 20080930

## Humboldt Redwood Company LLC Erosion Control Plan (ECP)

This document addresses the requirements of the California Regional Water Quality Control Board, North Coast Region Order No. R1-2006-0039 [Elk River] an R1-2006-0041 [Freshwater Creek] for an Erosion Control Plan (ECP) related to timber harvest activities on Non-Federal lands in the North Coast Region (Sec. III D2 and D3). The responsible party for this ECP is Humboldt Redwood Company LLC P.O. Box 712 Scotia, CA 95565 (707) 764-2330.

This ECP is submitted for: THP Name: Bridgehead  
Contact Person: Jon Woessner Phone: (707) 764-4376

The landowner is committed to a wide variety of measures to prevent and minimize the discharge or threatened discharge of sediment from controllable sediment discharge sources as part of this project into the waters of the state in violation of applicable water quality requirements. Prevention and Minimization of Controllable Sediment Discharge Sources associated with this project are identified in the *Controllable Sediment Sources* table. The specific conditions of sediment discharge sources and a summary of prevention and minimization measures (Section I) are identified in the table. General prevention and minimization measures for the project (Section II) are incorporated in the ECP by reference.

The RPF and/or the RPF Designee have conducted an inventory of potential "controllable sediment discharge sources" within the project area. As defined in California Regional Water Quality Control Board Order No. R1-2006-0039 [Elk River] an R1-2006-0041 [Freshwater Creek].

"Controllable sediment discharge source" means sites or locations, both existing and those created by proposed timber harvest activities, within the Project area that meet all the following conditions:

1. is discharging or has the potential to discharge sediment to waters of the state in violation of applicable water quality requirements or other provisions of these WWDRs,
2. was caused or affected by human activity, and
3. may feasibly and reasonably respond to prevention."

Upon guidance of the North Coast Regional Water Quality Control Board (NCRWQCB) staff, discharge from the source must be likely to occur during the life of the Timber Harvesting Plan (THP) and WWDR. (Holly Lundborg, personal communication)

The inventory method consisted of an appurtenant road survey, aerial photos and ground assessments of the harvest units, and a complete ground assessment of all watercourses and associated stream protection zones.

The schedule for implementing the prevention and minimization management measures for the controllable sediment sources will be consistent with the duration of the THP. These measures will be implemented in accordance with the priority level assigned to each site. High priority sites will be addressed first with low priority sites to follow. Work at all sites will be accomplished prior to THP expiration. The general prevention and minimization measures will be implemented concurrent with operations.

### **I. Inventory and Treatment of Controllable Sediment Sources**

Controllable sediment sources that have been identified will be corrected as part of this THP. All controllable sediment sources are listed in the attached "Controllable Sediment Sources" table. These sources have been assigned a treatment priority of low, medium or high based on: 1) potential for significant sediment delivery to a Class I, II or III channel; 2) treatment immediacy (a subjective combination of event probability and sediment delivery); and 3) treatment cost-effectiveness.

The Prioritization for implementing prevention and minimization measures for road-related and non road-related controllable sediment sources is based upon guidance provided in Order No. R1-2006-0039 [Elk River] and R1-2006-0041 [Freshwater Creek]. Highest priority is assigned to the largest sediment discharge sources that discharge to waters that support domestic water supplies or fish. HRC's prioritization method considers this guidance, and combines it with consideration for accessibility and level of imminent risk of significant sediment discharge. Sources that receive a high priority rating will be treated by a date certain as noted in the Controllable Sediment Sources table. Sources that receive a low or medium rating are determined to have a low to moderate risk of imminent discharge and will be treated prior to completion of the THP, or as otherwise indicated.

Non-road related controllable sediment sources can include skid road crossings, yarding furrow, skid road in watercourse, perched skid road fill, skid road rutting, landslide, layouts, railroad grade, incline, etc.

Information specific to Controllable Sediment Discharge Sources is listed in the Controllable Sediment Sources Table, below. An explanation of information provided in that table is provided below.

## **II. General Prevention and Minimization Measures for Controllable Sediment Discharge**

In addition to the site specific measures detailed above, the general measures proposed in this project, either as required by another State or Federal regulating agency, or as a matter of HRC policy, will prevent or minimize future sediment delivery. These measures include, but are not limited to measures incorporated in the THP Section Items as follows:

### **THP Section II:**

- Item 14 – Describes silvicultural prescriptions
  - (i) Site Preparation – Disclosure of selected site preparation treatments and mitigation measures
- Item 16 – Harvesting Practices – Describes yarding systems, equipment utilized, equipment limitations, and drainage facility installation timing
  - Inclusive through (m) – equipment use limitations and mitigation
- Item 18 – Soil Stabilization – waterbreak requirements, mitigation to minimize soil disturbance and sediment transport
- Item 20 – Ground Based Equipment Use Location
- Item 21 – Ground Based Equipment Use in Sensitive Areas – locations, descriptions of operations, limitations and mitigation measures
- Item 22 – Alternative Practices to Harvesting and Erosion Control
- Item 23 – Winter Operations – Provides descriptions of limitations and mitigation measures required during winter period operations and Winter Operating Plan
- Item 24 – Roads and Landings – Describes road and landing construction and reconstruction operations, limitations, drainage relief structure installation, mitigation measures, road maintenance, inspections and wet weather road use restrictions
- Item 25 – Site Specific Measures to Reduce Adverse Impacts and Special Instructions to the LTO
- Item 26 – Watercourse and Lake Protection (WLPZ)
- Item 27 – “In Lieu” WLPZ Practice(s)
- Item 28 – Downstream Water Users Notification and Domestic Water Supply Protection Description of protection measures
- Item 29 – Sensitive Watershed – Identifies whether the plan is located in a designated sensitive watershed and mitigation measures
- Item 29 – 1 Hillslope Management (HCP 6.3.3.7) – Describes HCP hillslope management measures required as per watershed analysis

**THP Section V:**














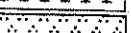




- Sediment Reduction from Roads and THP Sediment Production--Including Table 1 – “Sediment Delivery for Units and Roads for this THP,” references, letter regarding Road related sediment assessment for this THP with the calculations of deliverable net cubic yards of sediment, calculations and PWA information related to the THP project area when available.

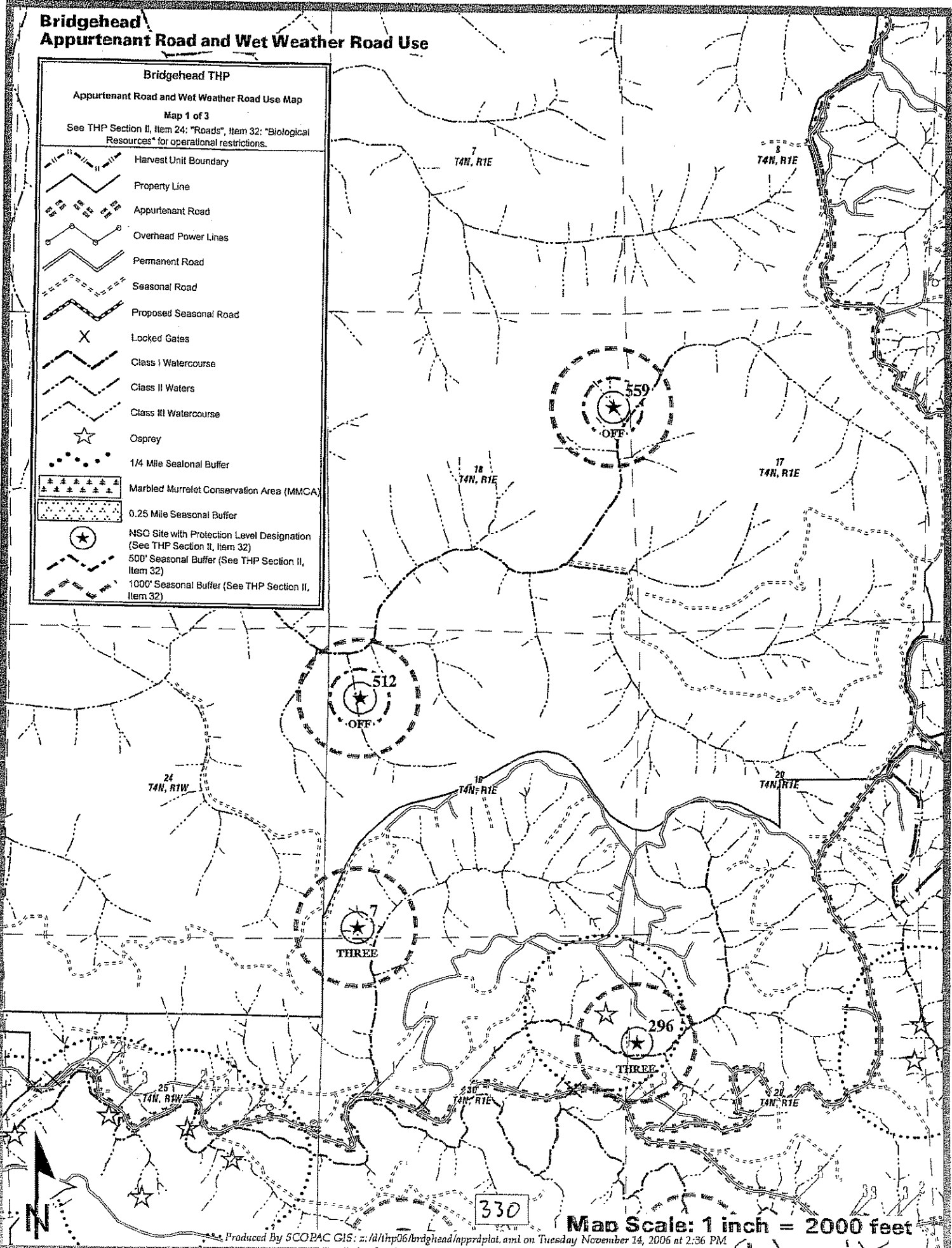
**Maps attached:**

- Appurtenant Road and Wet Weather Road Use maps
- Road Construction Locations/ECP Site Locator Map

# Bridgehead Appurtenant Road and Wet Weather Road Use

**Bridgehead THP**  
**Appurtenant Road and Wet Weather Road Use Map**  
**Map 1 of 3**  
 See THP Section II, Item 24: "Roads", Item 32: "Biological Resources" for operational restrictions.

-  Harvest Unit Boundary
-  Property Line
-  Appurtenant Road
-  Overhead Power Lines
-  Permanent Road
-  Seasonal Road
-  Proposed Seasonal Road
-  Locked Gates
-  Class I Watercourse
-  Class II Waters
-  Class III Watercourse
-  Osprey
-  1/4 Mile Seasonal Buffer
-  Marbled Murrelet Conservation Area (MMCA)
-  0.25 Mile Seasonal Buffer
-  NSO Site with Protection Level Designation (See THP Section II, Item 32)
-  500' Seasonal Buffer (See THP Section II, Item 32)
-  1000' Seasonal Buffer (See THP Section II, Item 32)

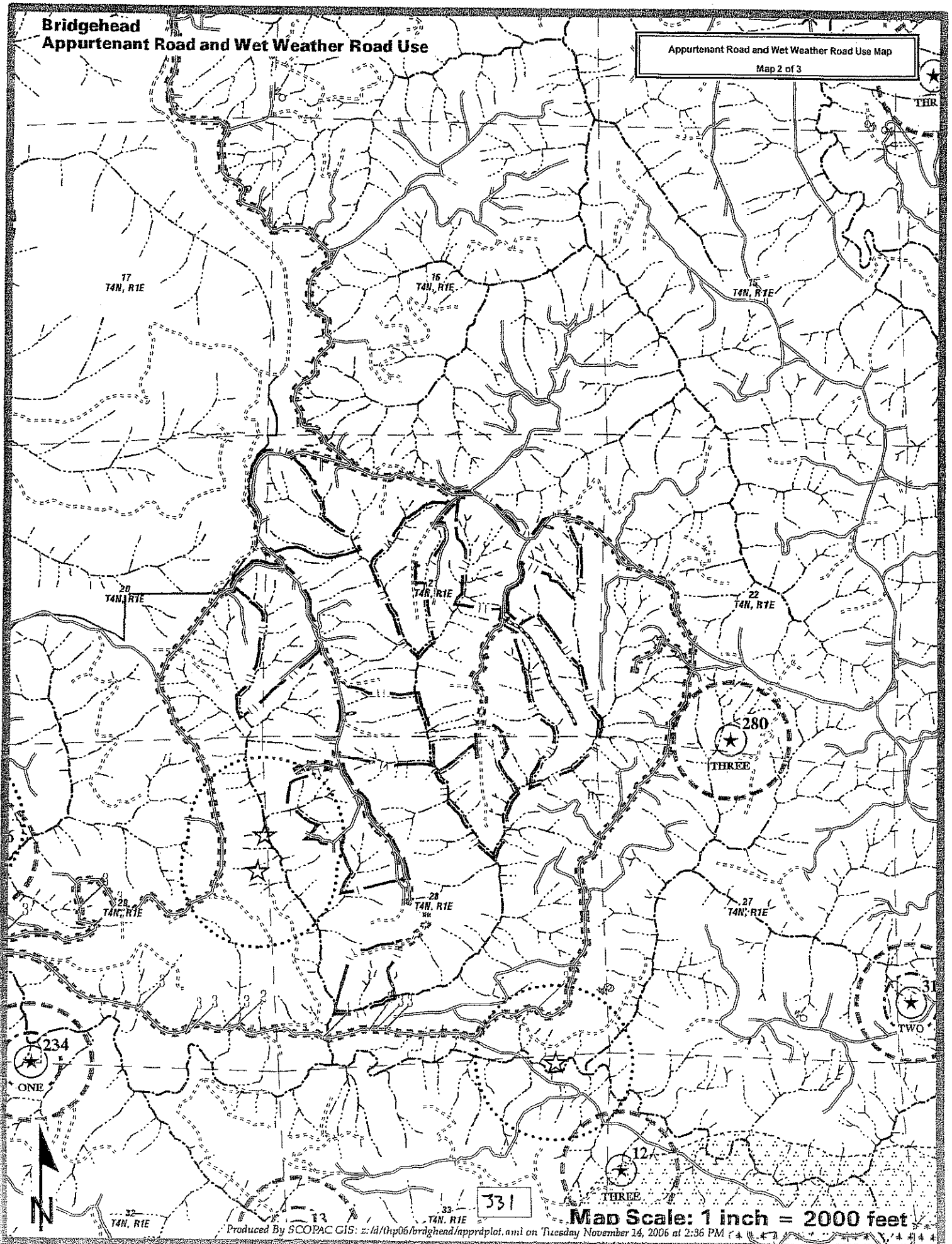


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**Map Scale: 1 inch = 2000 feet**

# Bridgehead Appurtenant Road and Wet Weather Road Use

Appurtenant Road and Wet Weather Road Use Map  
Map 2 of 3

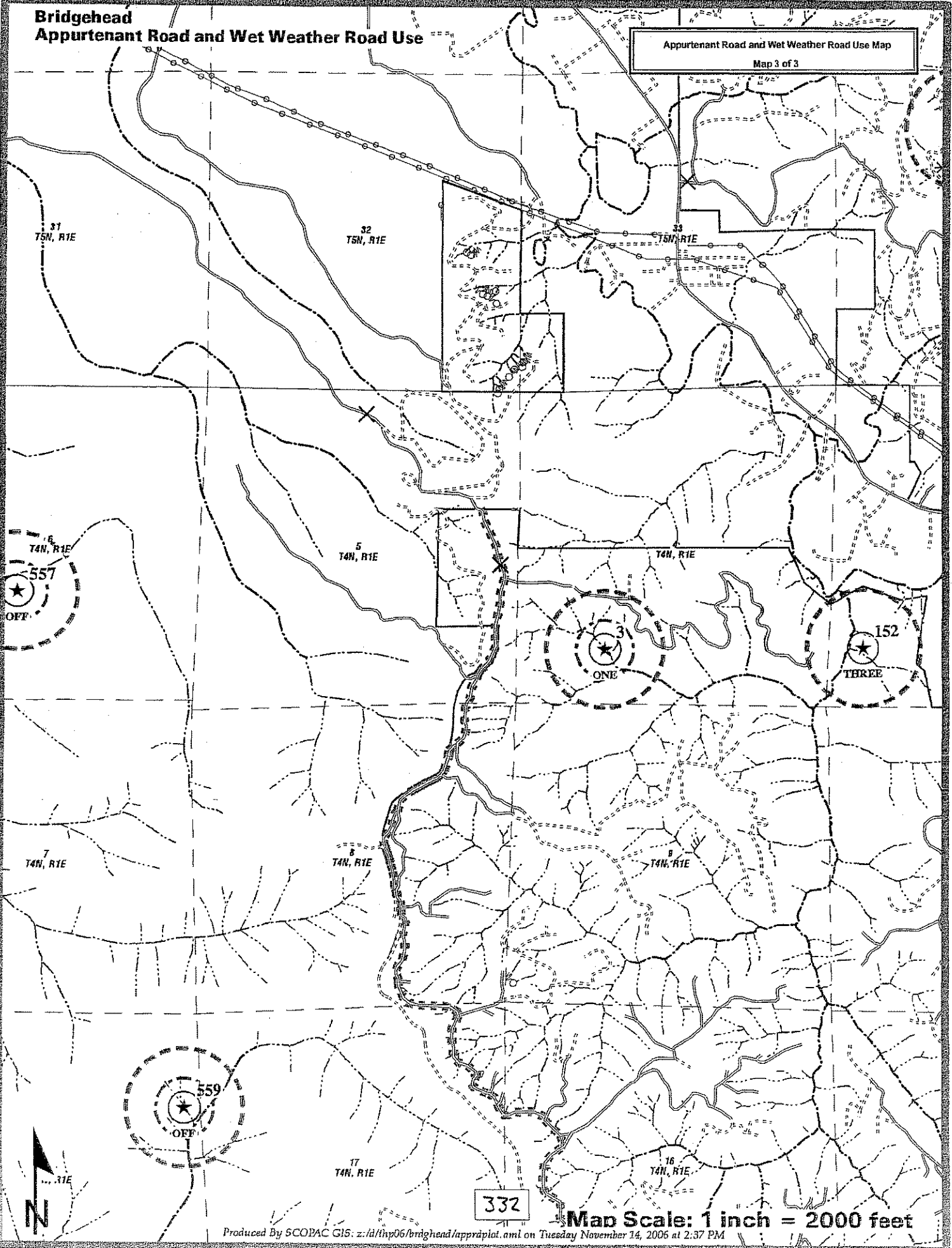


Map Scale: 1 inch = 2000 feet

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# Bridgehead Appurtenant Road and Wet Weather Road Use

Appurtenant Road and Wet Weather Road Use Map  
Map 3 of 3



Map Scale: 1 inch = 2000 feet



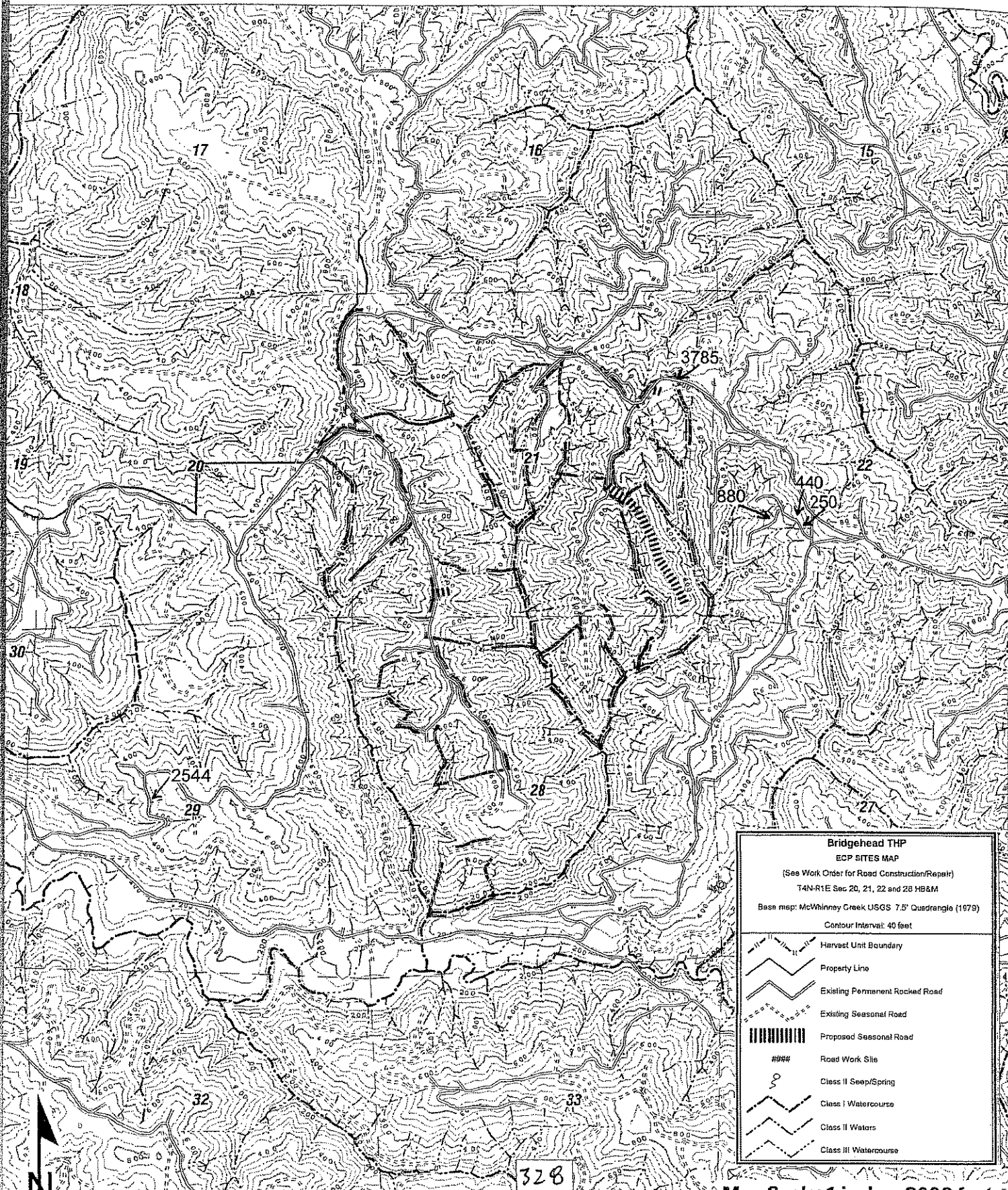
# Bridgehead Road Construction Specifications

Data as of November 15, 2006



Cut and Fill Construction  
1/2 Cut and 1/2 Fill

"777"—Road Point Location  
See Road Work Order for Details



**Bridgehead THP**  
ECP SITES MAP  
(See Work Order for Road Construction/Repair)  
T4N-R1E Sec 20, 21, 22 and 28 HB&M  
Base map: McWhinney Creek USGS 7.5' Quadrangle (1979)  
Contour Interval: 40 feet

- Harvest Unit Boundary
- Property Line
- Existing Permanent Rocked Road
- Existing Seasonal Road
- Proposed Seasonal Road
- Road Work Site
- Class II Seep/Spring
- Class I Watercourse
- Class II Waters
- Class III Watercourse

Map Scale: 1 inch = 2000 feet

# Erosion Control Plan For General Waste Discharge Requirements R1-2004-0030

Site	Site Type	Est. Potential Erosion (Cu.Yards)	Est. Potential Delivery (Cu.Yards & %)	Priority for Treatment	Implementation Schedule	Site Description	Treatment
<b>Project Bridgehead</b>							
Rd U25 Station 2544 Site C1 ID 1161270933	Crossing	80	80 100%	Med	Prior to THP Final Completion.	road prism failing from out board edge, CIII watercourse below road headcutting into road prism.	DRC set off center of swale, possible humboldt, class III below road. Excavate swale/humboldt to natural grade. Disconnect from ditch on both sides and install critical dip. Rock armor outboard and inboard edge as needed, rock headcut to prevent head cutting.
Rd U57 Station 3785 Site C2 ID 1161725966	Crossing	70	70 100%	Med	Prior to THP Final Completion.	road prism failing from out board edge, CIII watercourse below road headcutting into road prism.	OBR fill failing, watercourse below road, install pipe to grade rock armor as needed. Disconnect from inboard ditch.
Rd U57.01 Station 250 Site PWA629 ID 5858	Dirt Seasonal Crossing	10	10 100%	Low	Prior to THP Final Completion.	pulled crossing, watercourse downcutting through excavation.	EXCAVATE STREAMCROSSING DOWN TO BASE OF FILL/ STREAM. LAY BACK SIDE SLOPES 2:1 STOCKPILE LOCALLY. INSTALL WATERBAR UP ROAD TO DEWATER DITCH.
Rd U57.01 Station 440 Site PWA628 ID 5857	Dirt Seasonal Crossing	67	67 100%	Low	Prior to THP Final Completion.	pulled crossing, watercourse downcutting through excavation.	PULL CROSSING PROPERLY DOWN TO NATURAL CHANNEL. LAY BACK SIDE SLOPES TO 2:1 FROM TOP TO BOT. STOCKPILE LOCALLY.
Rd U57.01 Station 880 Site PWA625 ID 5854	Dirt Seasonal Crossing	22	22 100%	Low	Prior to THP Final Completion.	pulled crossing, watercourse downcutting through excavation.	PULL CROSSING PROPERLY, DOWN TO NATURAL CHANNEL LEAVING NO HUMPS IN THE FILL. LAY BACK SIDE SLOPES 2:1. STOCKPILE LOCALLY.
<b>Total Estimated Yards</b>		249	249				

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### III Inspection Plan and Reporting Requirements

#### A. Inspection Plan

The Inspection Plan is designed to ensure that all required management measures are installed and functioning prior to rainfall events; that the management measures are effective in controlling sediment discharge sources throughout the winter period; and that no new controllable sediment discharge sources developed.

B. Qualified and trained professionals will conduct all specified inspections of the project site to identify areas causing or contributing to a violation of the applicable water quality requirements or other provisions of these WWDRs. The responsible party for inspection and reporting is Jon Woessner (707) 489-1373.

C. No inspections are required in Project Areas where Timber Harvest Activities have not yet commenced.

D. Project Areas where Timber Harvest Activities have commenced and no winter period Timber Harvest Activities have occurred inspections will be conducted each year and throughout the duration of the Project while Timber Harvest Activities occur.

- a. The Project is covered under WWDRs and the following inspection requirements will begin at the startup of timber harvest activities within the Project area:
  - i. By November 15 to assure Project Areas are secure for the winter period;
  - ii. Once following ten (10) inches of cumulative rainfall commencing on November 15 and prior to March 1, as worker safety and access allows; and
  - iii. After April 1 and before June 15 to assess the effectiveness of management measures designed to address controllable sediment discharges and to determine if any new controllable sediment discharges sources have developed.
- b. Project Areas with Winter Period Timber Harvest Activities will conduct inspections of such Project Areas while Timber Harvesting Activities occur and the Project is covered under the WWDRs as follows:
  - i. Immediately following cessation of winter period Timber Harvest Activities to assure areas with winter Timber Harvest Activities are secure for the winter;
  - ii. Once following ten (10) inches of cumulative rainfall commencing on November 15 and prior to March 1, as worker safety and access allows; and
  - iii. After April 1 and before June 15 to assess the effectiveness of management measures designed to address controllable sediment discharges and to determine if any new controllable sediment discharges sources have developed.
- c. Inspection reports will identify where management measures have been ineffective and when repairs and design changes will be implemented to correct management measure failures.
- d. After completing the required inspections, and when it has been determined new controllable sediment discharges sources have developed, the ECP, implementation schedule, and inspection plan will be updated, if required, consistent with the WWDRs and submit the updated documents to the Regional Water Board to maintain coverage under the WWDRs. If the approved amendment is found to be out of compliance with the WWDRs, the Project will be amended to be consistent with the provisions of the WWDR within 30 days, or coverage under the WWDRs will be terminated. The Project will then be required to seek Project coverage under an individual WDR.

- e. Equipment, materials, and workers will be available for rapid response to failures and emergencies, implement, as feasible, emergency management measures depending upon field conditions and worker safety for access.
- D. If during the inspection or during the course of conducting timber harvest activities, a violation of an applicable water quality requirement or conditions of WWDRs is discovered, the following procedures will be followed:
- a. When it has been determined that discharges are causing or contributing to a violation or an exceedence of an applicable water quality requirement or a violation of a WWDR prohibition:
    - i. Corrective measures will be implemented immediately following the discovery that applicable water quality requirements were exceeded or a prohibition violated, followed by notification to the Regional Board by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. The notification will be followed by a report within 14 days to the Regional Board, unless otherwise directed by the Executive Officer, that includes:
      - 1. the date the violation was discovered;
      - 2. the name and title of the person(s) discovering the violation;
      - 3. a map showing the location of the violation site;
      - 4. a description of recent weather conditions prior to discovering the violation;
      - 5. the nature and cause of the water quality requirement violation or exceedence or WWDR prohibition violation;
      - 6. photos of the site characterizing the violation;
      - 7. the management measure(s) currently being implemented;
      - 8. any maintenance or repair of management measures;
      - 9. any additional management measures which will be implemented to prevent or reduce discharges that are causing or contributing to the violation or exceedence of applicable water quality requirements or WWDR prohibition violation; and,
      - 10. The signature and title of the person preparing the report.
      - 11. The report will include an implementation schedule for corrective actions and describe the actions taken to reduce the discharges causing or contributing to violation or exceedence of applicable water quality requirements or WWDR prohibition violation.
- E. For other inspections conducted where violations are not discovered, a summary report will be submitted to Executive Officer by June 30<sup>th</sup> for each year of coverage under the WWDRs or upon termination of coverage. The summary report, at a minimum will include the date of inspections, the inspector's name, the location of each inspection, and the title and name of the person submitting the summary report

Explanation of Information Included in the Controllable Sediment Sources Table	
Column Heading	Explanation
Site No.	Site identification unique to project area
Site Type	A description of the existing site. Example: Humboldt Crossing; Culvert Crossing; Unstable Fill; Unstable Cut Slope; Diversion Potential.
Estimate of Potential Erosion	A quantitative estimate of the volume, in cubic yards, of the total amount of potential erosion/displacement of soil that will occur should the site entirely fail. HRC often uses a methodology developed by Pacific Watershed Associates to estimate erosion, which assumes 100% delivery of calculated volume—use of this method for individual sites is noted in Site Description.
Potential Sediment Delivery Percent	An estimate of the relative potential for sediment delivery expressed as a percent of the total amount of Potential Erosion that will be discharged to waters of the State should the site fail.
Sediment Prevention Volume	The volume, in cubic yards, of sediment discharge estimated to be prevented by implementation of the prescribed treatment. Volume represents the Estimate of Potential Erosion multiplied by the Potential Sediment Delivery Percent.
Priority for Treatment	Treatment priority reflects the immediacy of sediment discharge and the relative risk to the receptor, should the site fail. Low priority sites are ones that will not likely deliver significant amounts of sediment during the life of the WWDR permit, and will be treated prior to filing of THP work completion report, which does not exceed 5-years following THP approval date. Medium or high priority sites indicate potentially imminent discharge, and the timing of treatment is indicated in Implementation Schedule column.
Implementation Schedule	Indicates the timing of implementing the prevention and minimization measures listed in the Treatment column.
Site Description	Provides sufficient information that describes the existing condition of the site and factors that inform the chosen treatment methods and implementation schedule. This information will include a description of how the existing condition of the site (ie. stable or unstable) will be affected by different storm events, and whether sediment discharge is imminent. For example, an unstable site could easily discharge significant amounts of sediment in a small storm, thus the treatment priority should be higher. Conversely, a stable site that may take one or more very large storms to trigger discharge could be lower treatment priority. If PWA method is used to calculate erosion/delivery volumes, it will be noted here.
Treatment	Sediment discharge prevention and minimization measures that will be implemented at the site, including treatment specifications if necessary.



## FUEL SPILL PREVENTION AND CLEANUP PLAN FOR COLUMBIA HELICOPTERS FIELD OPERATIONS

### Scope

This plan has been prepared by Columbia Helicopters, Inc. (CHI) to meet the requirements set forth by the Federal, State and Local rules that apply to fuel storage.

The procedures and/or plans have been designed to minimize the hazards to human health and the environment from fires, explosions, and hazardous spills. All affected CHI employees and our contractors are charged with the compliance of the provisions of this plan from a maintenance standpoint and whenever there is an emergency. All CHI field mechanics have been instructed and trained in carrying out the plan, and the appropriate techniques of fuel spill prevention and cleanup.

### Preparedness and Prevention

CHI maintains and operates its job sites to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste/material or hazardous waste/material constituents to air, soil or surface water which could threaten human health or the environment.

### Emergency Command Structure

CHI has a field emergency command structure on all of its job sites. The Primary Emergency Coordinator is the Project Manager, with the Crew Chief or Logging Trainer as alternates. See CHI form CHI-S-31A (enclosed) which is located in the maintenance van for a list of applicable personnel and emergency phone numbers. CHI Field Mechanics are responsible to act as initial responders.

### Emergency Coordinators Duties

At all times, there is at least one employee either at the job site or on call with the responsibility for coordinating all emergency response measures. The Emergency Coordinator is thoroughly familiar with all aspects of CHI's Fuel Spill Prevention and Cleanup Plan, all aspects of operations and activities, location and usage of emergency equipment at the job site, and which persons or agencies to notify immediately in the event of an emergency. This person has the authority to commit the resources needed to carry out this Spill Prevention and Cleanup Plan.

### Field Mechanics Duties

CHI Field Mechanics are responsible for contacting the Emergency Coordinator immediately and acting as initial responders in the event of a fuel spill. The primary objective of the initial response is to keep the fuel out of waterways, stabilize or contain the fuel to prevent further spillage, and begin the cleanup process.

## **Emergency Equipment**

CHI maintains an adequate supply of absorbent pads, shovels, pumps and hoses, drums, visqueen, fire extinguishers, first aid equipment, etc. in the maintenance vans in the event of an emergency. The fueling area maintains a smaller supply of absorbent pads, shovels, fire extinguishers, first aid equipment and secondary containment around fuel tanks. Nurse trucks when used for remote fueling will also carry a fire extinguisher, first aid kit, and a small supply of absorbent pads. Absorbent pads may be wrung out and reused. See Spill Containment Plan for diagram of secondary containment system for fuel tanks. CHI is capable of obtaining other emergency equipment from a variety of other sources, such as: local fire and police departments and Riedel Environmental Services, Inc. or another private emergency response contractor.

## **Emergency Procedures**

Whenever there is an imminent or actual emergency situation, the Emergency Coordinator must immediately notify all field maintenance personnel and/or visitors, contractors, CHI management, state and local agencies, and other necessary persons, if needed, then assess the incident, then control or contain the release, if possible, and then if necessary call the National Response Center, 1-800-424-8802. See CHI form CHI-S-31A in maintenance van for phone numbers. The National Response Center, State and Local agencies must be provided with the following information:

- Name and telephone number of the person making the report.
- Name and address or location of the job site.
- Time and type of the incident.
- Name and quantity of the material(s) involved to the extent possible.
- Extent of any injuries known.
- Possible hazards to human health and the environment, outside of job site.

Personnel who cause or observe a spill or release of hazardous materials must immediately call the Emergency Coordinator. If the material(s) come in contact with your skin, wash it off immediately with copious amounts water. If the material(s) come into contact with your clothes, remove the clothes at the best available time and then wash your skin off with copious amounts of water.

Personnel who cause or observe small localized fires or explosions may try to extinguish the fire by using one of the available extinguishers. As soon as the fire is extinguished, contact your supervisor and the Emergency Coordinator.

The Emergency Coordinator will do everything in their power to keep the release from entering surface or ground water. This may include diking or berming, or using absorbents. Once contained or controlled put the material(s) solids/semi solids into open top 17H DOT drums and liquids into closed top 17E metal or poly drums or other approved storage devices that are compatible with the spilled material(s). Immediately label the drums with the words "Hazardous Waste" or words describing the contents of the waste. Also put an

accumulation date on the label. Then contact CHI's Hazardous Materials Manager to arrange for proper waste disposal.

If the spill or release reaches a stream, river, lake or is greater than the Reportable Quantity listed in 40 CFR 302.4 (for non-petroleum products), then the National Response Center must be notified of the release/spill. See CHI form CHI-0-31 in the maintenance van for the telephone number of the National Response Center. If fuel/oil is spilled in quantities greater than 42 gallons, in Oregon only, the Oregon Emergency Response Service must be called at 1-800-452-0311.

If the spill/release is determined to be greater than CHI personnel are able to handle or cleanup, an environmental cleanup contractor will be called to handle that portion of the remediation activities. Foss Environmental Services, Inc. can be reached 24 hour a day at 1-800-337-7455 or 503-283-1150.

Immediately after the spill the Emergency Coordinator will provide for the treatment, storage or disposal of the recovered waste, contaminated soil, surface water or any other material that results from a release, fire or explosion at the job site.

#### **Follow Up**

The Emergency Coordinator will ensure that affected area(s) of the job site have no waste which is incompatible with the released material that is treated, stored or disposed of until cleanup procedures are completed, e.g. flammables and oxidizers, and acids and bases. All emergency equipment will be cleaned and fit for its intended use before operations will resume.

#### **Required Reports**

CHI will notify the EPA Regional Administrator and the state environmental agency that the job site is in compliance with 40 CFR 265.56 (h) before operations are resumed in the affected area(s) of the job site.

CHI will note in a memorandum the time, date and details of any incident that requires implementation of this plan. Also, CHI will, within 15 days after the incident, submit a written report on the incident to the Regional Administrator. The report will include the following:

- Name, address and telephone number of CHI.
- Date, time and type of incident.
- Name and quantity of the material(s) involved.
- The extent of the injuries, if any.
- An assessment of actual or potential hazards to human health and the environment, where this is applicable.
- Estimated quantity and disposition of the recovered material.



### General Purpose Decontamination Solutions/Procedures

<u>Type of Hazard Suspected</u>	<u>Solution</u>	<u>Directions for Preparation</u>
1. Inorganic acids, metal processing wastes.	A	To 10 gallons of water add 4 lbs of sodium carbonate (soda lime) and 4 lbs of trisodium phosphate. Stir until evenly mixed.
2. Heavy metals: chrome, lead, cadmium, etc.	A	Same as item 1
3. Pesticides, fungicides, chlorinated phenols, and dioxins.	B	To 10 gallons of water add 8 lbs of calcium hypochlorite. Stir with wooden or plastic stirrer until evenly mixed.
4. Cyanides, ammonia, and other non-acidic inorganic wastes.	B	Same as item 3
5. Solvents and organic compound such as trichloroethane and toluene.	C or A	To 10 gallons of water add 4 lbs of trisodium phosphate. Stir until evenly mixed.
6. PCB's and oily, greasy wastes.	C or A	Same as item 5
7. Inorganic bases, alkali and caustic waste.	D	To 10 gallons of water add 1 pint of concentrated hydrochloric acid. Stir with a wooden or plastic stirrer.

CHI equipment that is contaminated will be thoroughly decontaminated with the above solutions for the appropriate contaminate. The rinse waters are to be captured to determine if they are hazardous or not. Personnel decontaminating equipment will wear the proper protective equipment such as goggles, face shield, rubber gloves and boots, a splash suit and air purifying respirator, if necessary.

Note: The decontamination chemicals listed above can be purchased at most feed and hardware stores.

## Revisions

This plan will be amended or reviewed if applicable regulations change, the plan fails in an emergency, the job site changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions or releases of hazardous wastes or hazardous constituents, or changes in the response necessary in an emergency, the list of emergency coordinators changes or the list of emergency equipment changes.

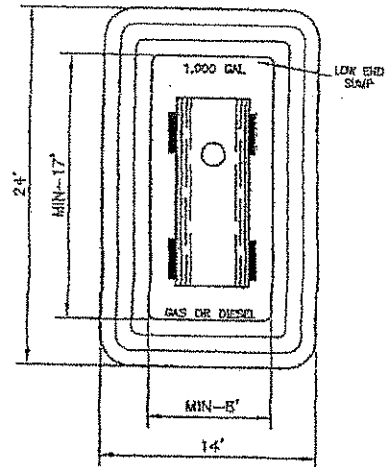
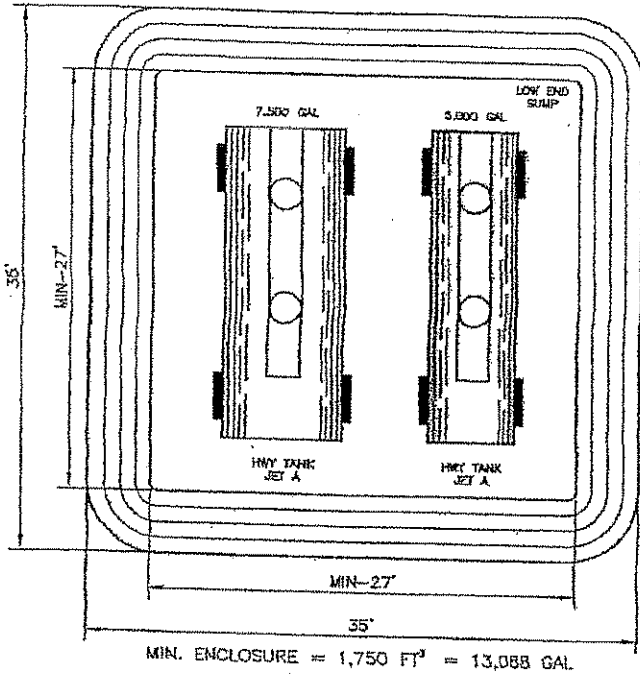
**COLUMBIA HELICOPTERS, INC.  
OIL SPILLAGE PROCEDURES**

**\* POST IN SERVICE VAN \***

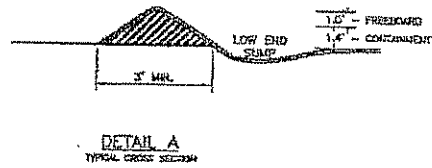
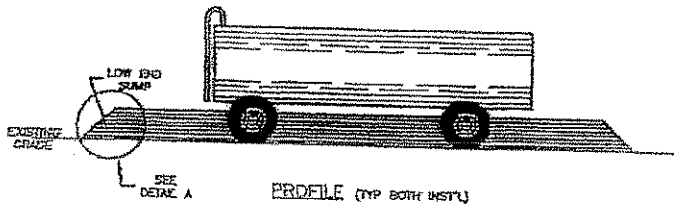
In the event of fuel or oil spillage, immediately contact the Aurora office.

1. Project Manager \_\_\_\_\_ or
2. Crew Chief \_\_\_\_\_ or
3. Logging Trainer \_\_\_\_\_
4. Aurora Office 503-678-1222
5. U.S. Coast Guard 1-800-242-8602  
(National Response Center)
6. Oregon DEQ 1-800-452-0311  
Washington DEQ 1-800-256-5990  
California EPA 916-262-1621 or in-state 1-800-645-7911  
Idaho DEQ 208-373-0502 or in-state 1-800-632-8000  
Alaska DEQ (Juneau) 907-485-5340 or after hours 1-800-478-9300
7. Local Bulk Commodities Common Carrier:  
\_\_\_\_\_
8. Clean-up Services/Environmental Emergency Services  
Foss Environmental Services 1-800-337-7455
9. If appropriate, use oil absorbent pads located at service van.

(DRAWING NOT TO SCALE)



MIN. ENCLOSURE = 326 FT<sup>3</sup> = 2,441 GAL

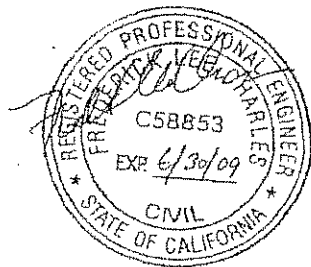


**NOTES**

1. Blade fuel containment area clean of all brush, debris, stones and loose soil. Rake and shovel clean soil base (or sump liner). Provide slight slope to 8" deep sump at corner.
2. Sump liner to be Keptax VCR 2801 25 MIL PVC Fiberglass mesh reinforced fuel pit liner or equivalent. Lay liner over prepared base with edges folded back to allow berm construction. Construct berm to shape shown using soil (or equivalent) free of rock and debris which could puncture or abraid the liner. Roll liner over berm and secure. Volume of finished cell to be adequate to contain volume of largest single tank plus sufficient freeboard to allow for precipitation.
3. Minor holes and tears may be repaired using patches of PVC plastic with adhesives or mastics resistant to Jet A fuel.

Date: 10/27/04  
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SECONDARY CONTAINMENT FACILITIES SHOWN IN THIS DRAWING CONFORM TO EPA 40 CFR PART 112.8(c)(2)



THE PACIFIC LUMBER COMPANY HELICOPTER LOGGING OPERATIONS	
FIGURE 1	
SECONDARY CONTAINMENT DESIGN FOR PETROLEUM STORAGE TANKS	
PROJECT: 240033	DATE: 10/22/04
REV:	BY: MH   CHECKED: FC
MFG, Inc. <i>consulting scientists and engineers</i>	