

Cleanup and Abatement Order Status Report- PALCO

Site	Site Type	Est. Potential Erosion (Cu.Yards)	Est. Potential Delivery (Cu.Yards & %) Treatment	Priority for Implementation Schedule	Date Completed	Site Description	Treatment
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Project CAO SF Elk 2006

Rd U06 Station 8180 Site C6 ID -1953476828	Falling Crossing	0	0 #Num1	Low	07/31/06	Irregular drainage above the road results in sinkholes above and below the road and fill slope instability.	Irregular drainage above the road results in sinkholes above and below the road and fill slope instability. To improve drainage, excavate from top to bottom flag and install either a subsurface drain or a 24" culvert. Armor catchment basin above inlet and spillway below outlet. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope. Rock armor shall be one quarter ton or larger.
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June 2006

Rd SkidRoad Station 0 Site S1 ID 1149005068	Surface Drainage			High	06/30/06	11/03/06	Skidding activities created areas of bare mineral soil that may be deliverable to watercourses.	Seed and Mulch or otherwise cover areas of bare mineral soil within 50 feet of the center of the drainage area identified.
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July 2006

Rd U06 Station 6810 Site C2 ID 1097698269	Temporary Crossing	31	10	32%	Med	07/31/06	07/19/06	Currently, a falling fill crossing.	Currently, a falling fill crossing. Remove fill material from channel, from top to bottom flags and replace with a 24" culvert. Rock armor inlet and hinge line with quarter ton or larger rip-rap. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope. The rock rip-rap placed at the outlet should extend beyond the outlet by approximately 15'. Armor the catchment basin above the inlet to help prevent headcutting. Side slopes shall be laid back to 2:1 or natural slopes wherever feasible.
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Rd U06 Station 7140 Site P1 ID 1378493402	Rolling Dip	0	100 #Div/01	Low	07/19/06	07/19/06	Sinkhole located within road prism. Dig up sinkhole and repack road surface. Place a rolling dip in this location.	Sinkhole located within road prism. Dig up repack road surface. Place a rolling dip in this location.
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Rd U06 Station 7200 Site S2 ID -2111952557	Surface Erosion	0	100 #Div/01	Low	07/10/06	07/10/06	Three sinkholes located in this segment. Excavate and re-compact.	Three sinkholes located in this segment. Excavate and re-compact.
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Rd U06 Station 7400 Site P2 ID 2046106553	Surface Drainage	0	100 #Div/01	Med	07/21/06	07/21/06	Cutbank slump with large old growth stump on it is located above the road appears to be related to a well vegetated skid trail further upslope. Two sinkholes have also developed at this site. Excavate the slumped material and the stump necessary to allow the passage of heavy equipment. The excavated material can be placed on the road building up the road height an additional 2'. An RPF or RG shall inspect the site when work is being done to determine whether additional buttressing of the cutbank is required.	Cutbank slump with large old growth stump on it is located above the road appears to be related to a well vegetated skid trail further upslope. Two sinkholes have also developed at this site. Excavate the slumped material and the stump necessary to allow the passage of heavy equipment. The excavated material can be placed on the road building up the road height an additional 2'. An RPF or RG shall inspect the site when work is being done to determine whether additional buttressing of the cutbank is required.
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Rd U06 Station 8080 Site C5 ID 1841310863	Surface Drainage	0	100 #Div/01	Low	07/28/06	07/28/06	Sinkholes exist above and below the road. Excavate road from top to bottom flags and install either a subsurface drain or a 24" culvert. Rock armor catchment basin, inlet, and spill way. Side slopes shall be laid back to 2:1 or natural slopes wherever feasible.	Sinkholes exist above and below the road. Excavate road from top to bottom flags and install either a subsurface drain or a 24" culvert. Rock armor catchment basin, inlet, and spill way. Side slopes shall be laid back to 2:1 or natural slopes wherever feasible.
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August 2006

Rd U06 Station 7260 Site C3 ID -298986088	Dirt Seasonal Crossing	1949	1949 100%	Med	08/31/06	07/21/06	Disrupted drainage exist above the road due to historic skid trail system and fill crossing at the road.	Disrupted drainage exist above the road due to historic skid trail system and fill crossing at the road. Excavate a broad swale, from top to bottom flags, deep enough to insure capture of the hillside drainage. Taper slopes at the top of the excavation and rock armor to prevent head cutting. Rock armor hinge line and spillway. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fill slope exceeds 50 feet in length, rock armor the base of the hillside. Rock armor shall use one quarter ton rock or larger. Side slopes shall be laid back to 2:1 or natural slopes wherever feasible.
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September 2006

Rd U06 Station 7790 Site C4 ID -1203890810	Permanent Crossing	111	111 100%	Med	09/30/06	07/27/06	Failed culvert from previous landowner.	Failed culvert from previous landowner. Excavate from top to bottom flags and install 24" culvert. Taper back and armor top excavation to prevent head cutting. Rock armor inlet, hinge line, and spill way with one quarter ton or larger. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fill slope exceeds 50 feet in length, rock armor the base of the hillside. Side slopes shall be laid back to 2:1 or natural slopes wherever feasible.
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Rd U06 Station 8380 Site C7 ID 1148731733	Permanent Crossing	251	20 8%	Med	09/30/06	08/02/06	Failed CMP watercourse crossing. Subsurface flow undermined the undersized culvert and caused several sinkholes below the road.	Failed CMP watercourse crossing. Subsurface flow undermined the undersized culvert and caused several sinkholes below the road. Excavate from top to bottom flag and install a 30" culvert. Armor catchment basin and spillway below the outlet for the entire distance of excavation and with one quarter ton, or larger, rip-rap or large woody debris. Taper excavation at the top and armor with LWD or one quarter ton or greater rip-rap. Armor inlet. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope.
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Rd U06 Station 8600 Site C8 ID -2146051598	Dirt Seasonal Crossing	408	20 5%	Med	09/30/06	08/06/06	Failed fill crossing.	Failed fill crossing. Excavate from top to bottom flag and install a 30" culvert. Armor the hinge line and spillway to bottom of excavation. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope. Taper the top excavation and armor with rock or large woody debris. Rock armor the inlet.
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Rd U06 Station 8880 Site S3 ID 1747368843	Failing Fill	260	260 100%	Med	09/30/06	08/1/06	Failing Road Prism.	Fill material has failed along outside edge of road. Remove remaining perched material and slope back to 1.5:1. The perched fill material will be removed from the road edge resulting in side slopes of 65%. The road may have to be cut into the inboard bank to allow for truck passage. See the Figures 1 and 2 for an illustration of the existing conditions and estimated end conditions.
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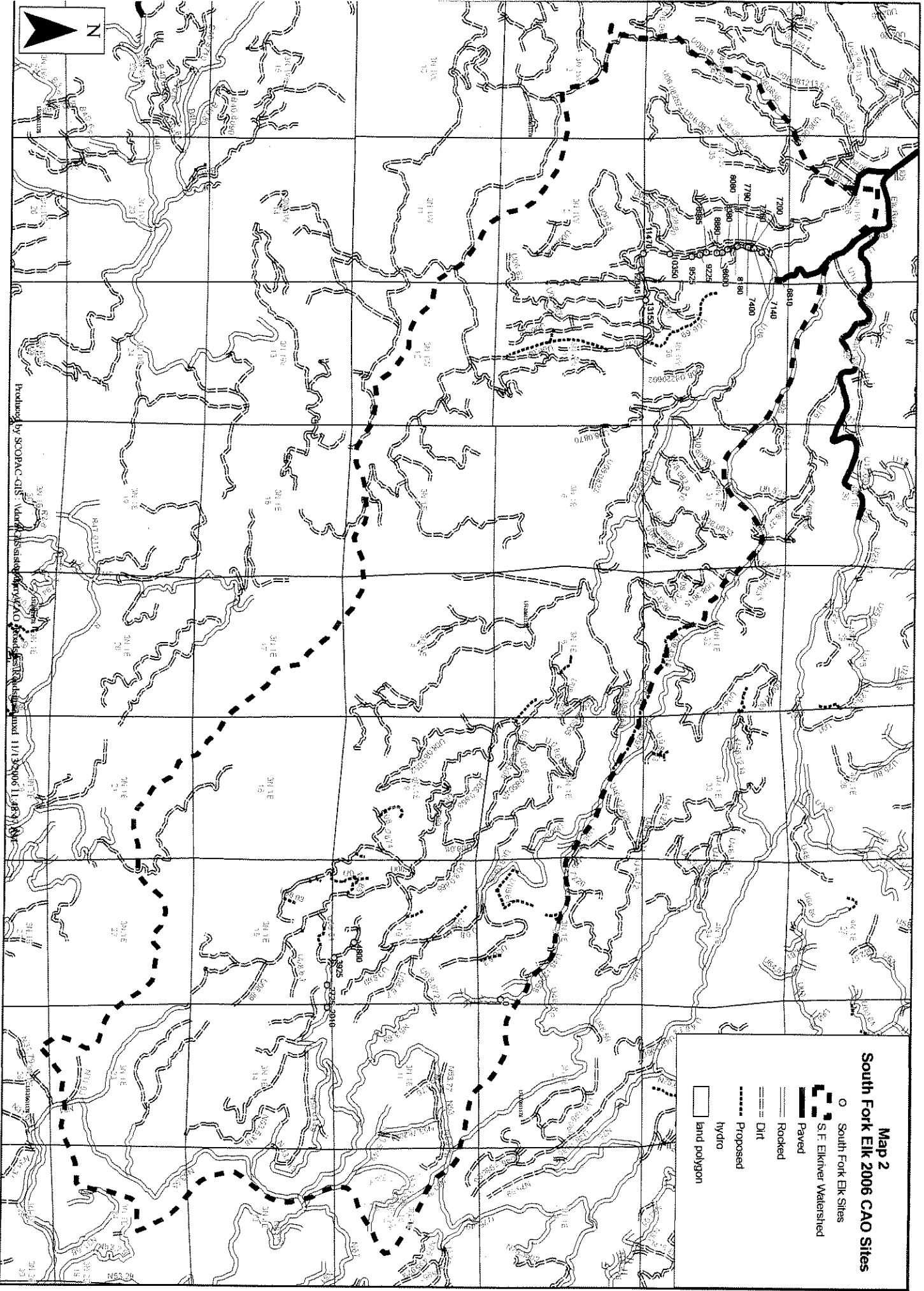
Rd U06 Station 8985 Site C9 ID -2029135504	Permanent Crossing	274	5 2%	Med	09/30/06	08/15/06	Failing watercourse crossing due to undersized culvert. Culvert will be replaced with a 36" pipe.	Failing watercourse crossing due to undersized culvert. Excavate from top (the top flag is located just above a skid trail that is located above the road) to bottom flag. Armor hinge line and spillway below crossing. TRM (Turf Reinforcement Matting) may be used on the outboard edge fill in place of rip rap. If the outboard fill slope exceeds 50 feet in length, rock armor the base of the fill slope. Spillway should utilize half ton or larger rip-rap adjacent to class 1 stream channel. Armor the inlet of the crossing. Taper the head cut and armor to prevent head cutting. A large (approximately 6 feet in diameter and 50 feet long) old growth log rests in the channel. During high flows the log directs water directly at the base of this crossing. A section of this log (approximately 5 feet) shall be notched, from start to end flags, to create a wier like structure. The notch shall allow high flows to travel over the log reducing the flow of the water concentrated on the bank. This notch may also allow for the creation of a scour pool without reducing the benefits that the log currently provides habitat and in stream structure. The armoring combined with the reduce water velocity (because of the notch) shall provide increased protection to the base of the crossing. See the Figures 1 and 2 for an illustration of the existing conditions and estimated end conditions.
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Rd U06 Station 9225 Site C10 ID 1523177649	Permanent Crossing	69	2 3%	Low	09/30/06	08/17/06	Undersized culvert.	Replace 15" culvert with 24" culvert. Rock armor inlet and hinge line. TRM (Turf Reinforcement Matting) maybe used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope.
Rd U06 Station 9525 Site C11 ID -982901474	Permanent Crossing	59	5 8%	Low	09/30/06	08/21/06	Rusted culvert.	Replace rusted 24" culvert and replace with 30" culvert. Armor inlet and hinge line. TRM (Turf Reinforcement Matting) maybe used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope.
Rd U06 Station 10350 Site C14 ID 880967117	Temporary Crossing	180	20 11%	Med	09/30/06	08/25/06	Failing fill crossing.	Failing fill crossing. Excavate from top to bottom flags and install a 42" culvert. At top, taper cut and armor to help prevent head cutting. Rock armor inlet and hinge line, including catchment basin and spillway. TRM (Turf Reinforcement Matting) maybe used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope.
Rd U06 Station 11470 Site C15 ID -589525847	Permanent Crossing	114	5 4%	Med	09/30/06	09/06/06	Failing undersized culvert.	Failing undersized culvert. Excavate from top to bottom flag and replace with 30" culvert. Taper and armor top excavation (large woody debris is available). Armor hinge line and spillway for the entire distance of the excavation below the road. TRM (Turf Reinforcement Matting) maybe used on the outboard edge fill in place of rip rap. If the outboard fillslope exceeds 50 feet in length, rock armor the base of the fillslope. Rock armor inside ditch leading into the inlet.
Rd U06 Station 12045 Site C16 ID -1471494401	Dirt Seasonal Crossing	118	5 4%	Low	09/30/06	09/15/06	Existing fill crossing.	Existing fill crossing. Excavate from top to bottom flags and install a 24" culvert. Taper the top cut and armor to prevent head cutting.
October 2006								
Rd NS3.61 Station 2010 Site C1 ID 1524241727	Crossing	184	184 100%	Med	10/15/06	09/26/06	Install Culvert	Pull existing 18" culv. and Humboldt crossing that exists beneath it. Excavate channel to natural grade top to bottom. Lay back slopes 2:1 where possible, or natural grade. If head cutting can occur, or side slopes become over steepened, use rip-rap as needed to stabilize.
Rd NS3.61 Station 2725 Site 2725 ID 1008285722	Crossing	1269	1269 100%	High	10/15/06	09/28/06	Remove Humboldt Crossing and Install Culvert	SEDIMENT SAVING SITE: To the nearest extent feasible excavate natural channel from white "TOP" flag to white "BOTTOM" flag. Excavated sideslopes will be 2:1, or natural hillslope. Use rock armoring as necessary for stabilization.
Rd NS3.61 Station 3925 Site 3925 ID 1008287114	Humboldt	156	156 100%		10/15/06	09/23/06	Remove Humboldt Crossing	SEDIMENT SAVING SITE: To the nearest extent feasible excavate natural channel from white "TOP" flag to white "BOTTOM" flag. Excavated sideslopes will be 2:1, or natural hillslope, or stabilized by armoring. Pull existing CMP which was placed over old humboldt crossing to natural stream gradient. 5' min. channel width would be appropriate.

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Rd N53.61 Station 4800 Site P1 ID 1009538580	Humboldt	278	278 100%	Med	10/15/06	09/20/06	Remove Humboldt Crossing	Pull 18" culv. and humboldt crossing that lies beneath it. Excavate from top to bot and lay back slopes to 2:1 or natural slope. Try to achieve 4' channel width.
Rd U06 Station 13155 Site C17 ID 1098199037	Temporary Crossing	289	10 3%	Med	10/15/06	09/13/06	Failing fill crossing.	Failing fill crossing. Excavate from top to bottom flag. Taper back and armor top excavation to help prevent future head cutting. Several large rootwads are located within the channel above the crossing. Clean out the rootwads and organic material up to the top flag. Install a 36" culvert. Slash pack side slopes upstream of the proposed permanent culvert. If slash will provide inadequate protection TRM (Turf Reinforcement Matting) may be used.
Total Estimated Yards		6000	4709					

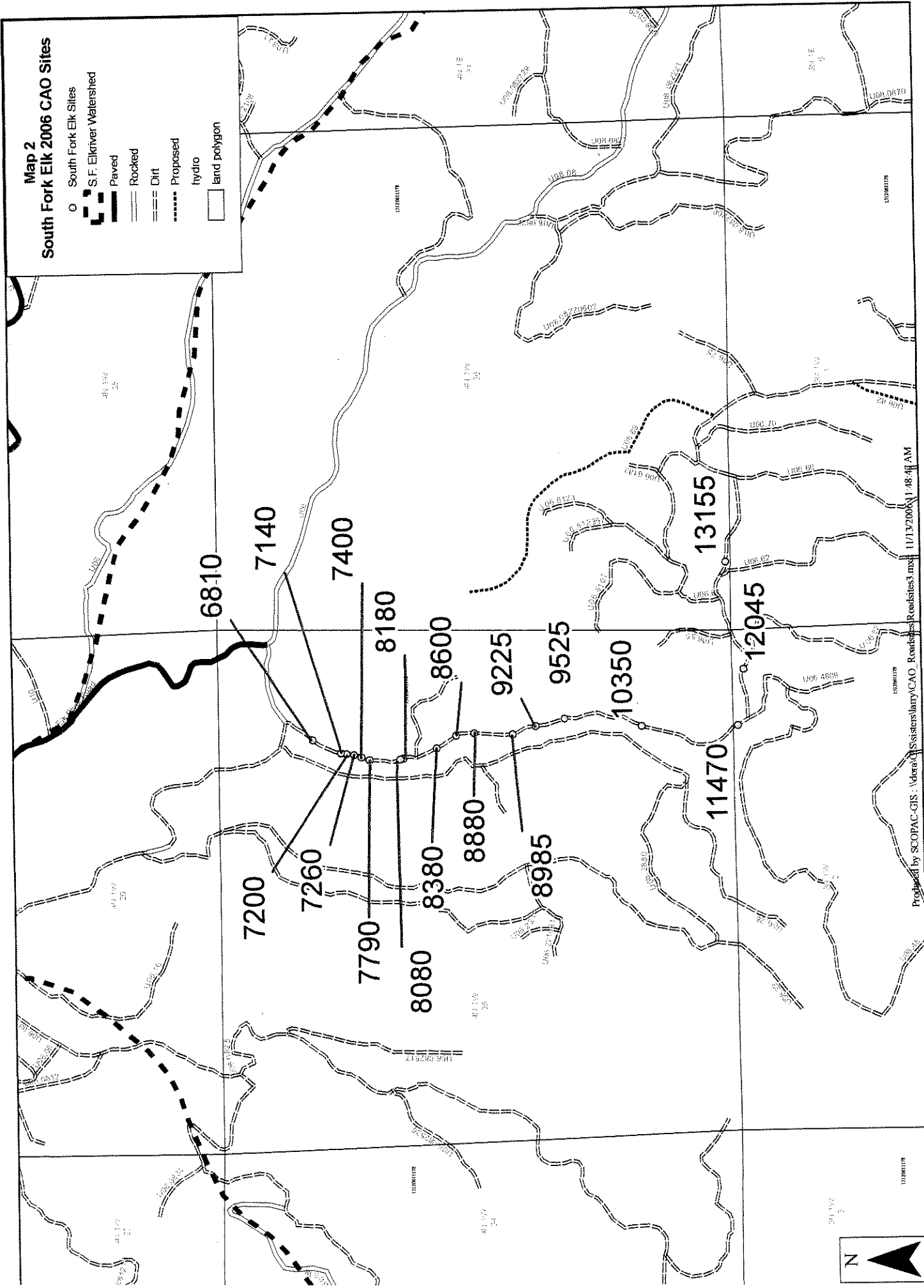
Map 2
South Fork Elk 2006 CAO Sites

- South Fork Elk Sites
- ▣ S. F. Elkriver Watershed
- ▬ Paved
- ▬ Rooked
- ▬ DIRT
- ▬ Proposed
- ▬ hydro
- ▭ land polygon



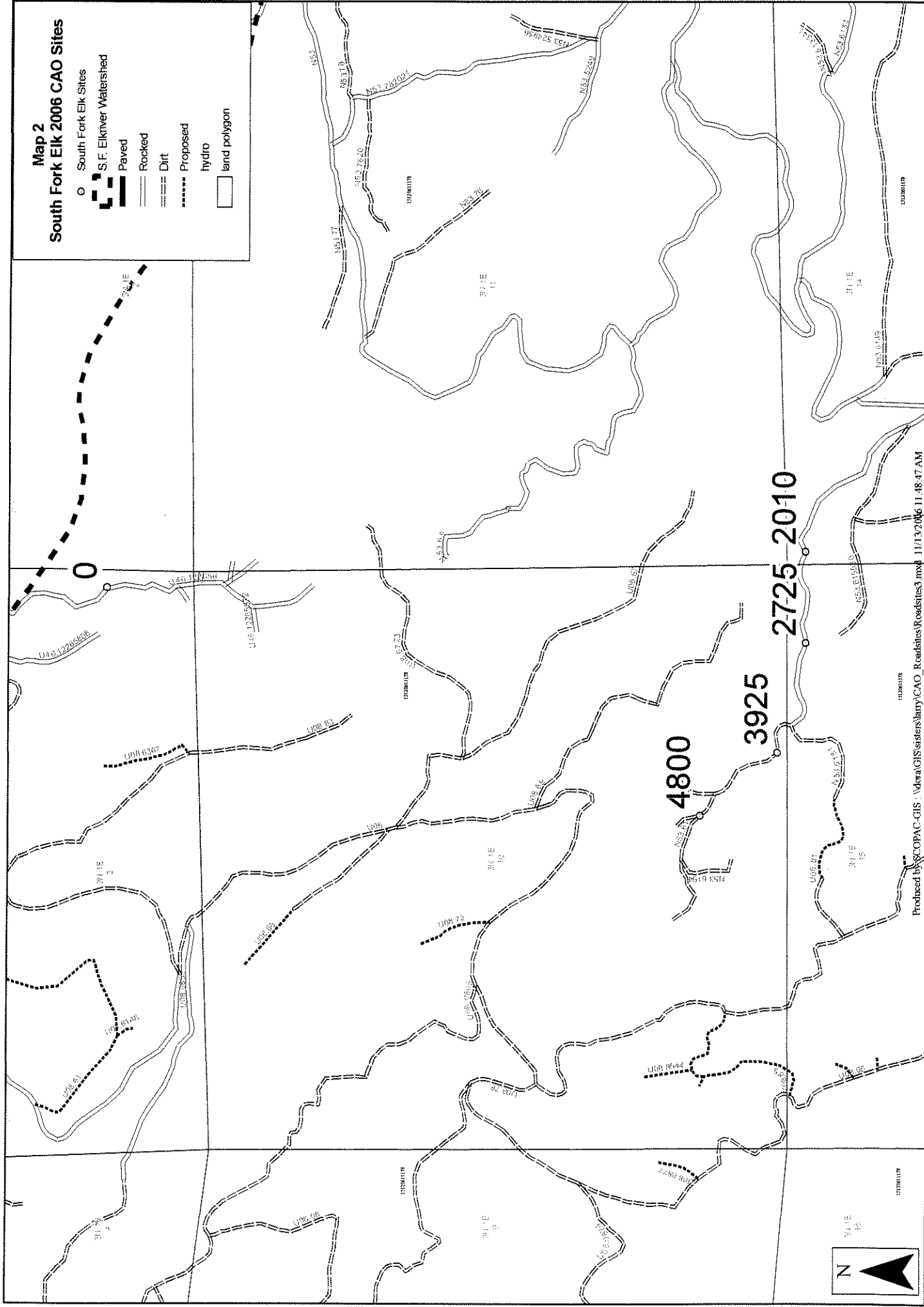
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November 15, 2006

Catherine Kuhlman, Executive Officer
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

RE: South Fork Elk River CAO, No. R1-2004-0028, Summary of 2006 work plan

Dear Ms. Kuhlman:

PALCO completed all but one of the 18 sites identified in our proposed annual work plan for South Fork Elk River, first submitted on March 31, 2006. As time and resources allowed we were able to complete an additional six sites. Many of these sites were relatively minor in scope, however, through discussions with Joelle Geppert of your staff, we agreed that any site that may discharge sediment if left untreated should be accounted for under the CAO. The one site that was not completed from the original submittal of the work plan was a Class II culvert replacement which was the last site to be fixed on the way out of the Tom Gulch project. Given the extent of the sites in this project, we simply ran out of time with the available equipment to adequately complete this project prior to October 15, 2006.

We have continually provided updated work plans as part of the required monthly reporting process. This final report is intended to document the work completed and summarize variations that occurred during the conduct of operations through out the operating season.

Sincerely,



Scotia Pacific Company, L.L.C.
Adrian W. Miller
Senior Operations Forester