

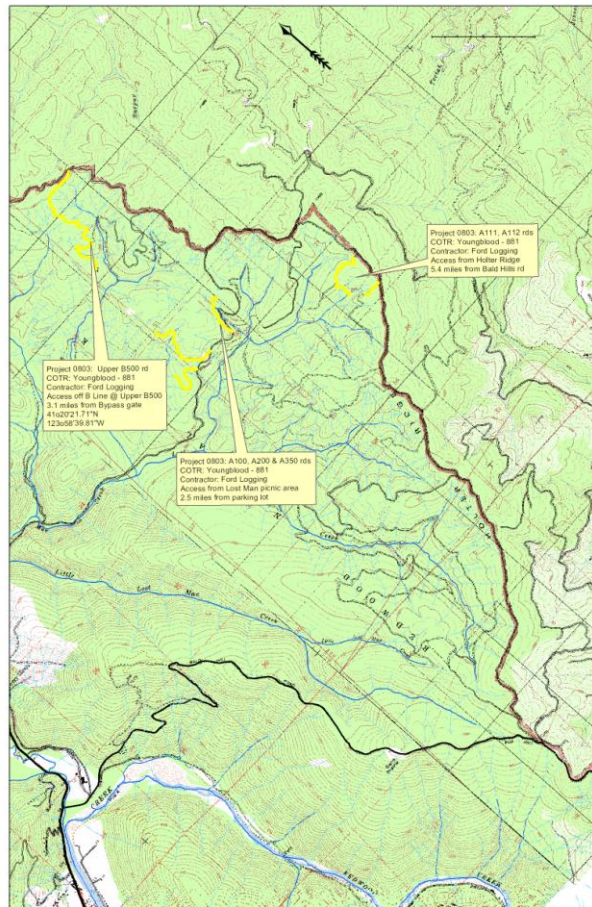
Summary Report

Watershed Restoration Project 08-03:

- Upper B500 – 0803a
- A111 – 0803b
- A112 – 0803c
- A350 – 0803d
- A200 – 0803e
- A100 north – 0803f

INTRODUCTION

Project 0803 was comprised of six separate road segments within the Lost Man Project Area (LMPA). Task Order 8482080024 includes all six roads. The Upper B500, A111 and A200 all picked up where previous road removal work had been suspended. The A112 work treated over half a mile of main haul road and over one quarter mile of a spur road. The A350 was almost three quarters of a mile that looped back to the Geneva road, crossing several headwater drainages along the way. The A100 north was almost one half mile with a short spur, perched above the B550 unit that had been treated in 2000 as part of the 1997 storm damage project.



Yellow lines represent the six road segments removed in project 0803

A total of 166,540 cubic yards of road fill were relocated during this project. Table1 provides a breakdown of total project volumes and costs based on the various treatment prescriptions. Watershed level data is provided in the annual program table in the proceeding 2008 overview section. Individual breakdown for each road in the 0803 project are shown in following tables 1a, 1b, 1c.....

TABLE 1 WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803: REMOVAL OF A PORTION OF THE UPPER B500, A111, A112, A100 NORTH, A200 AND A350 ROADS					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS	40,796 yds ³	12	\$299,800.44	30.1%	\$7.36
EXPORT OUTSLOPING	61,096 yds ³	20	\$359,966.59	36.1%	\$5.89
OUTSLOPE	64,685 yds ³	25	\$261,262.60	26.2%	\$4.04
MISC. BID ITEMS	----	2	\$75,189.74	7.5%	----
<i>TOTAL:</i>	166,540 yds ³	40	\$996,219.37	100%	\$5.98

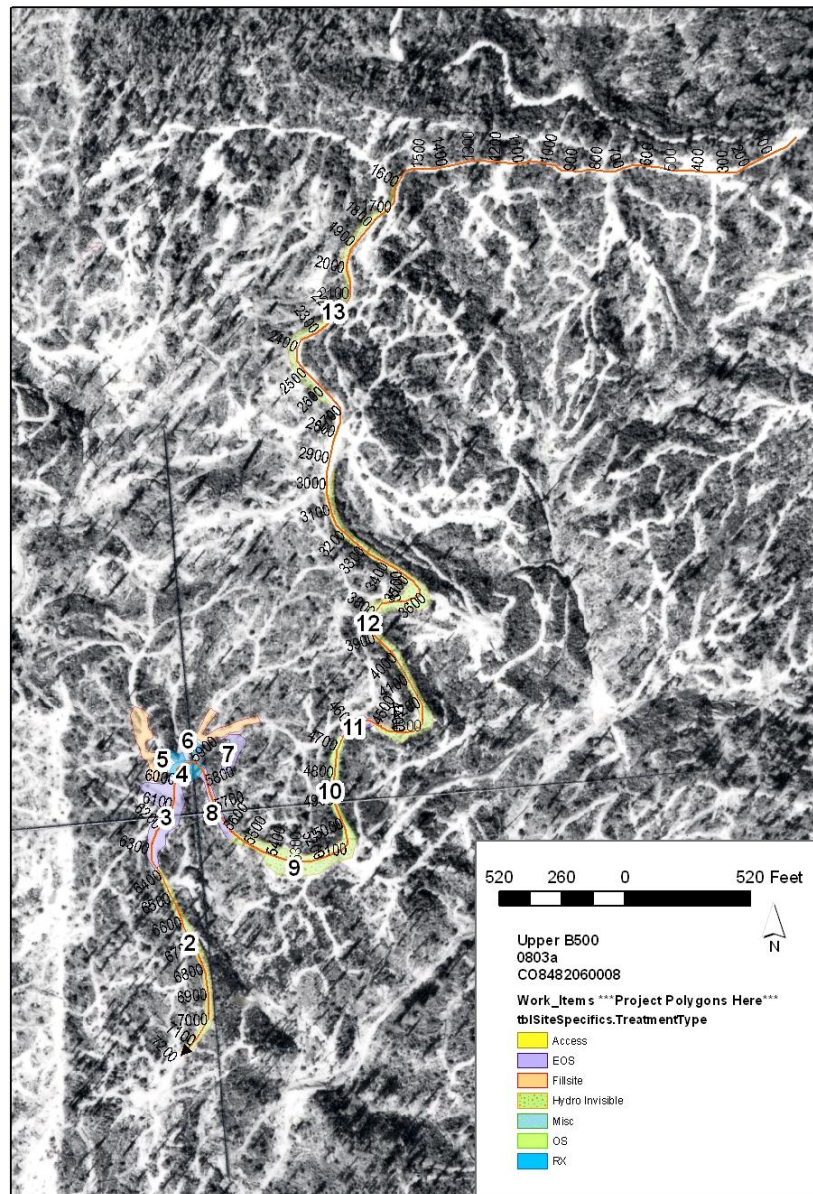
Past reports (prior to 2007) have included tables showing production rates for the various work items based on the equipments required for each prescription. Due to budgetary / management goals, park representation on the project sites was reduced in 2007. Documentation of equipment hours on specific work items was limited to the point where accurate accounting of production rates was compromised and therefore not felt to be presentable in the formal reporting tables.

WORK SCHEDULE AND HEAVY EQUIPMENT OPERATIONS

Project 0803 was contracted to Ford Logging of McKinleyville, CA. Work initiated on June 18 and was completed on October 24. Ford Logging opted to begin with the Upper B500 in order to utilize additional equipment availability early in the season. By early July, much of their equipment had been moved to the Mill Creek Acquisition project with California State Parks in Del Norte County. July through September ran on a traditional dozer and excavator team (Komatsu PC350 and a CAT D7G). They opted to leave a smaller excavator (Komatsu PC270), and brought in a pair of 10 yard dump trucks for end hauling on an 'as needed' basis.

By mid September, the equipment working in the State Parks was released and returned to Lost Man to help finish the season. At this point there were four excavators and four dozers. Off highway dump trucks were brought in to do some more end hauling – some that had been planned and some that became necessary due to higher levels of soil moisture than had been anticipated. As is common with heavy equipment operations, breakdowns occurred. Fords had anticipated the utility of an onsite mechanic and were thereby, were able to minimize the down time when breakdowns occurred.

Upper B500, 0803A
June 16 to July 17



The Upper B500 was constructed in the headwaters of the North Branch of the North Fork of Lost Man Creek. The terminal landing at the end of the Upper B500 was treated in 2007 as a fillsite for the North

Branch North Fork landing (0703b, Work Item 2). The 2008 work focused on 5000 feet of the remaining 7000 feet of road. Most of the road features along the treated portion of the B500 were perched road fills above stream channels. Three small stream crossings and three swales were restored in this phase of the project. A total of 29,278 cubic yards of road fill was excavated in the combined treatments. Additionally, approximately 1500 cubic yards of road surface rock was end hauled off site (approximately 2000 linear feet, 2 feet deep by 14 feet wide). The rock was removed due to its inconsistency and relative volume with the native soils. The material was stockpiled off site for reuse in future road maintenance work.

Prescriptions and Treatments

The remaining portion the Upper B500 was prioritized for treatment based on a main haul road crossing located immediately below the confluence of three head water drainages, a large perched fill constructed in a swale and a series of relatively steep road fills along an otherwise apparently benign reach of road.

TABLE 1a WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803a: REMOVAL OF UPPER B500 ROAD					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS	5315 yds ³	3	\$37,597.75	21.6%	\$7.07
EXPORT OUTSLOPING	11966 yds ³	4	\$81,484.56	46.9%	\$6.81
OUTSLOPE	11997 yds ³	5	\$54,828.24	31.5%	\$4.57
MISC. BID ITEMS	----	----	0	0.0%	----
<i>TOTAL:</i>	29278 yds ³	----	\$173,910.55	100%	\$5.94

The first couple of work items addressed a series of swales and springs along a slope above the north branch of the north fork. Work item A4 addressed a stream crossing on the main haul road, while items A5 through A7 treated a series on smaller crossings above Work Item A4. Work item A8 focused on a steep slope with a spring where road fill was perched above the left bank, downstream of the crossing excavation at work item A4. The remaining treatments (work items A9 to A13) focused on removing pockets of perched fill above seasonal tributaries to the north branch of the north fork from station 55+00 to station 15+00. The remaining 1500 feet of the Upper B500 was left to re-vegetate without treatment due to the low potential for erosion and sediment delivery.

During the excavation of the early work items, a heavy layer of surface rock, not native to the area was encountered. For the removal of the later road reaches, the surface rock layer was end hauled to an off site location to allow for enhanced re-integration of the outsloped soils.



Photo 1A, Work Item A3 following initial vegetation removal.



Photo 2A, Work Item A3 from same view following excavation.

TABLE 2a AREAS AFFECTED BY RESTORATION UNIT 08-03a: REMOVAL OF UPPER B500 ROAD			
TOTAL	RIPARIAN	WILDLIFE HABITAT ACRES DISTURBED	TOTAL

ACRES DISTURBED	BUFFER ACRES DISTURBED	START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	ACRES RESTORED ⁵
4.5	1.0	6/18/07	0.3	0.5	0	142

¹ These statistics are actual “as built” acreages.

² Marbled Murrelet habitat degraded.

³ Marbled Murrelet habitat subject to potential increased corvid threat.

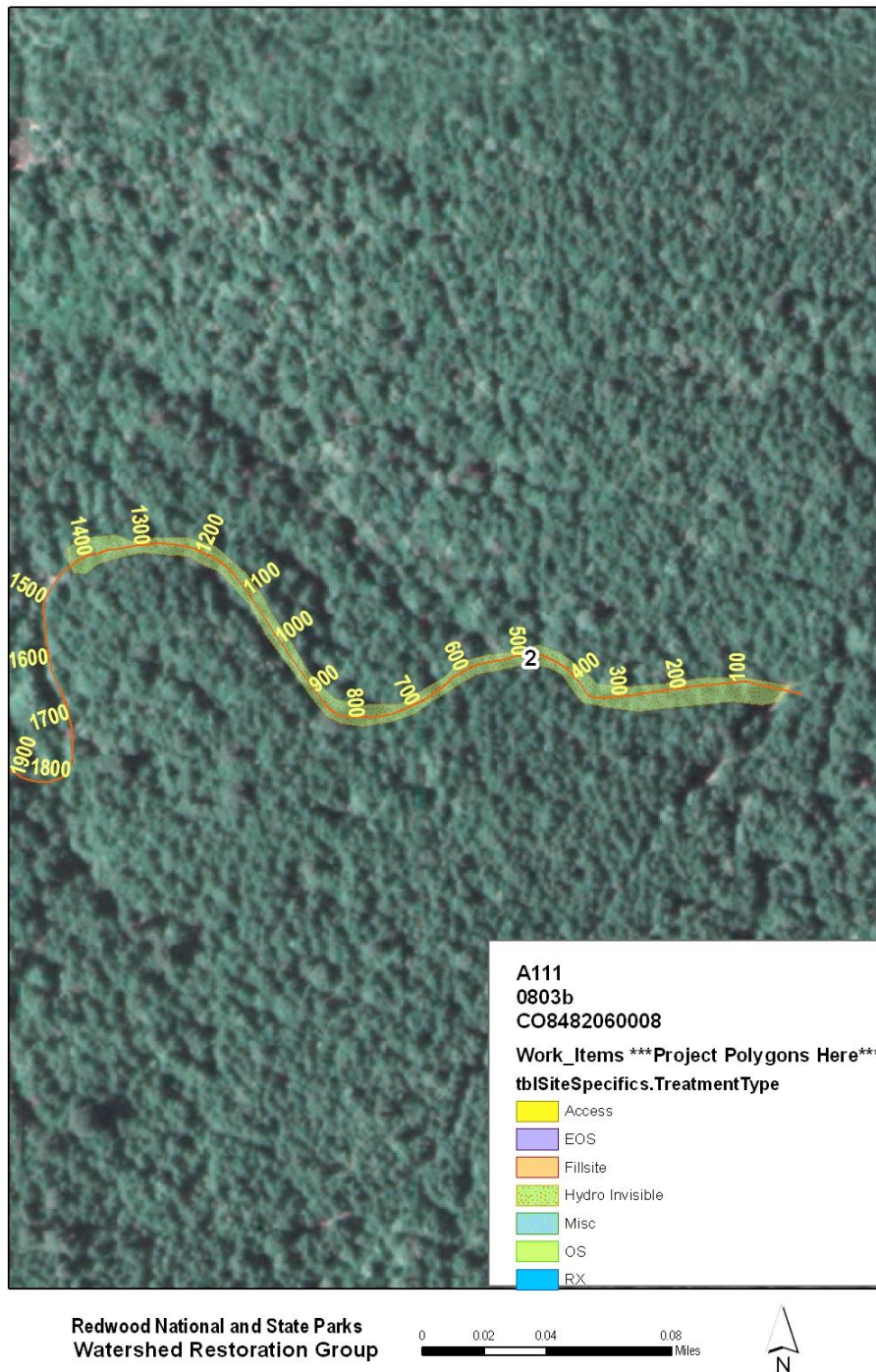
⁴ Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

⁵ Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

TABLE 3a NOAA STATISTICS FOR RESTORATION UNIT 08-03a: REMOVAL OF UPPER B500 ROAD				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY
STREAM XING	3	5315 yds ³	13,119 yds ³	6,768 yds ³
ROAD REACH	4,800 ft.	22163 yds ³	21790 yds ³	18548 yds ³
	TOTAL	42,142 yds ³	42,142 yds ³	26,667 yds ³

¹ For road reaches, the number of sites is the length of road (ft).

A111
July 18 to July 23



The A111 portion of project 0803 treated the remaining segment of the road where work had been suspended in 2007. This reach of road consisted of moderate to minor outslowing treatment to address perched fill and re-establish hydrologic connectivity above a tributary to the middle fork.

Prescriptions and Treatments

The treatment for the remaining reach of the A111 consisted of a single outslope prescription, work item B2. The reach was just over 1400 feet in length from Holter Ridge road to the termination of the project 0701 work. A ridge landing at station 14+00 had some steep, perched fill with a high threat of failure into a tributary that was being treated by the A112 removal effort. Otherwise, the majority of the A111 removal simply restored hydrologic integrity to the headwater slopes.

TABLE 1b WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803b: REMOVAL OF THE A111					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS	0	0	0	0	0
EXPORT OUTSLOPING	0	0	0	0	0
OUTSLOPE*	2,935 yds ³	1	\$11,505	88.5%	\$3.92
MISC. BID ITEMS	----	1	\$1,500	11.5%	----
<i>TOTAL:</i>	2,935 yds ³	----	\$13,005	100%	\$4.43

*Outslopes for this Task Order were prescribed as partial outsloping for hydrologic invisibility due to limited fillspace

TABLE 2b AREAS AFFECTED BY RESTORATION UNIT 08-03b: REMOVAL OF THE A111						
TOTAL ACRES DISTURBED	RIPARIAN BUFFER ACRES DISTURBED	WILDLIFE HABITAT ACRES DISTURBED				TOTAL ACRES RESTORED ⁵
		START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	
10.3	5.5	7/20/07	0.7	3.1	0	21

¹ These statistics are actual "as built" acreages.

² Marbled Murrelet habitat degraded.

³ Marbled Murrelet habitat subject to potential increased corvid threat.

⁴ Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

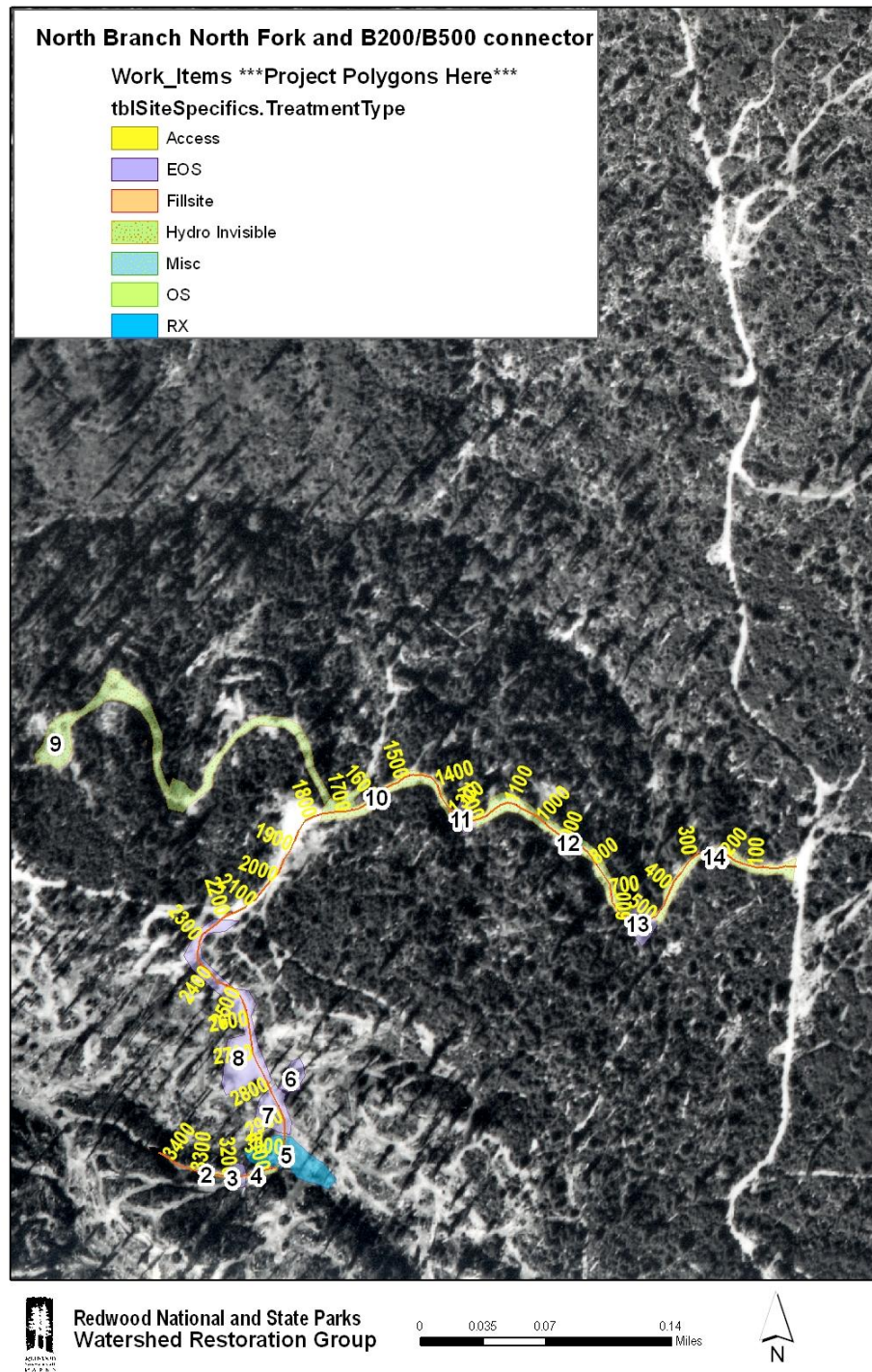
⁵ Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

TABLE 3b NOAA STATISTICS FOR RESTORATION UNIT 08-03b: REMOVAL OF THE A111				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY
STREAM XING	0	0 yds ³	0 yds ³	0 yds ³

ROAD REACH	1,400 ft.	2,935 yds ³	4,625 yds ³	4,359 yds ³
	TOTAL	2,935 yds ³	26,637 yds ³	26,371 yds ³

¹ For road reaches, the number of sites is the length of road (ft).

A112
July 21 to September 5



A112 As Built map shows work items completed for 08-03C

The A112 road was constructed in the headwaters of the middle fork of Lost Man Creek. The main haul road ran from Holter Ridge to a landing 2800 feet to the west. A moderate stream crossing a few hundred feet past this landing was the major incentive for removing the A112. Additionally, a spur road at station 17+50 was treated to address erosion threats from a steep ridge landing and a headwater swale. The remaining portions of the A112 were relative benign aside from a couple headwater swale crossings near Holter Ridge and some steep pockets of perched fill. In total, 44,759 cubic yards of road fill relocated in the road removal process.

Prescriptions and Treatments

TABLE 1c WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803c: REMOVAL OF THE A112 rd					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS ^(a)	7,228 yds ³	1	\$54,177.60	24.2%	\$7.50
EXPORT OUTSLOPING	15035 yds ³	6	\$83,694.28	35.5%	\$5.26
OUTSLOPE	22,496 yds ³	6	\$85,248.27	38.1%	\$3.94
MISC. BID ITEMS ^(b)	----	1	\$500.00	0.2%	----
<i>TOTAL:</i>	44,759yds ³	13	\$223,620.15	100%	\$5.00

TABLE 2c AREAS AFFECTED BY RESTORATION UNIT 08-03c: REMOVAL OF THE A112 ROAD						
TOTAL ACRES DISTURBED	RIPARIAN BUFFER ACRES DISTURBED	WILDLIFE HABITAT ACRES DISTURBED				TOTAL ACRES RESTORED ⁵
		START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	
3.18	0.23	9/21/07	0	0.1	0	26

¹These statistics are actual “as built” acreages.

²Marbled Murrelet habitat degraded.

³Marbled Murrelet habitat subject to potential increased corvid threat.

⁴Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

⁵Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

TABLE 3c NOAA STATISTICS FOR RESTORATION UNIT 08-03c: REMOVAL OF THE A112 ROAD				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY
STREAM XING	1	7,228 yds ³	0 yds ³	0 yds ³

ROAD REACH	1,500 ft.	12,461 yds ³	28,445 yds ³	25,779 yds ³
	TOTAL	12,461 yds ³	28,445 yds ³	25,779 yds ³

¹ For road reaches, the number of sites is the length of road (ft).



Photo C1, the upper portion of Work Item C5 RX excavation

Following the 2007 season, the stream diversion practices were somewhat upgraded. Photo C1 shows an excavator working just below the drafting pond at the stream crossing excavation labeled as work item C5. The red hose, visible just upslope from the excavator, is carrying the stream flow around the work site allowing excavation work anywhere within the isolated channel reach. One of the key factors for effective diversion of channel flow requires capturing all upstream water. This typically means that the drafting hole will be below original channel grade to ensure that all woody debris or other elements that might participate in subsurface routing of water are eliminated.



Photo C2, the completed Work Item C5

The stump visible in the photo C2 is the same stump that is downslope of the excavator in photo C1. Most of the mud from this excavation was end hauled to a ridge road approximately one quarter of mile away.

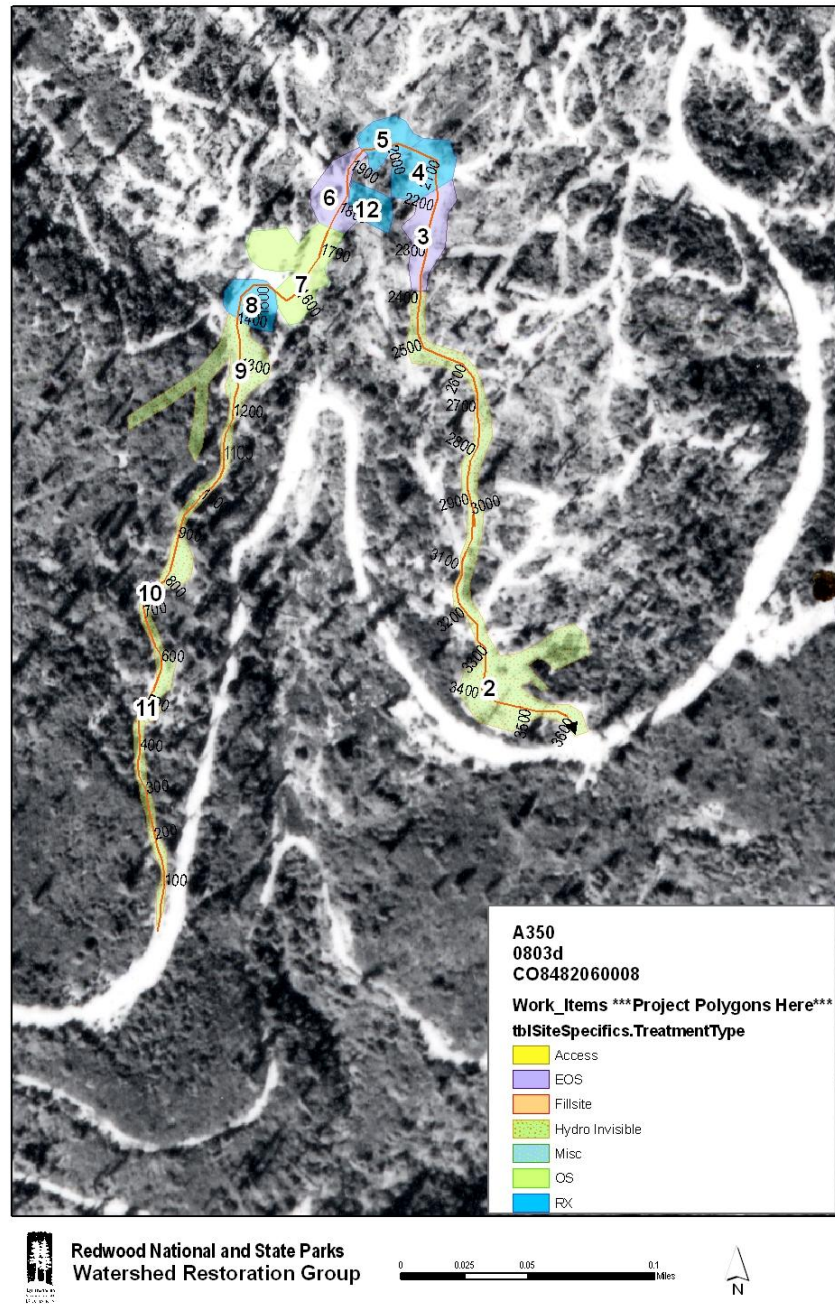
Following the large crossing and swale excavations (C5 and C7) was a segment of road that had prescribed as a mild outslope or 'hydrologic invisibility' reach (Work item C8). While cleaning up the edge of a ridge landing between C7 and C8 that was being used as a fill site for the earlier crossing and swale fill, a headwater swale became apparent requiring a more extensive excavation the slope. The final outslope product was beautiful, but generated an extra week of work at the site.

Work Item C9 turned out to be a similar story to Work Item C8. The goal at C9 was to address some perched fill at a ridge landing along a small spur that left the A112 at station 17+50. A small swale midway down the spur was the other targeted feature along the spur. During excavation a number of stumps were encountered that established a much steeper slope than the estimated survey data, which would have left significant road fill directly above and in the channel. Complete excavation of the additional fill increased the total volume from 2263 yd³s to 14309 yd³s. The additional material encountered at this added another two weeks of work, which prompted the contractor to bring in more equipment in the interest of completing the projected work load. The additional equipment and personnel picked up the pace. The A112 was completed near the beginning of September and the whole show moved over to the Geneva cluster.



Photo C3, looking back at the ridge landing that instigated the additional excavation volume for work item C8.

0803D: A350



The A350 was a rock haul road to station 17+00. Major skid roads fed the area up station of the terminal landing. These skid roads crossed several headwater drainages. A series of skid roads were re-connected

to provide end hauling for the road removal project to a small landing at station 34+00. The original project plan was to only haul material from a seepy spring at work item 3. The road was brushed open in mid September exposing much more surface moisture than had been hoped for that point in the season. Additional hauling was required, increasing the final cost of this part of the project.

Prescriptions and Treatments

TABLE 1d WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803d: REMOVAL OF THE A350 rd					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS ^(a)	9814 yds ³	4	\$70,518.99	45.0%	\$10.35
EXPORT OUTSLOPING	8,708 yds ³	3	\$57,946.28	37.1%	\$6.67
OUTSLOPE	6,876 yds ³	4	\$26,610.12	17.0%	3.87
MISC. BID ITEMS ^(b)	----	1	\$1,501.94	0.1%	----
<i>TOTAL:</i>	22,398yds ³	12	\$156,577.33	100%	\$6.99

TABLE 2d AREAS AFFECTED BY RESTORATION UNIT 08-03d: REMOVAL OF THE A350 ROAD						
TOTAL ACRES DISTURBED	RIPARIAN BUFFER ACRES DISTURBED	WILDLIFE HABITAT ACRES DISTURBED				TOTAL ACRES RESTORED ⁵
		START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	
3.18	0.23	9/21/07	0	0.1	0	26

¹These statistics are actual “as built” acreages.

²Marbled Murrelet habitat degraded.

³Marbled Murrelet habitat subject to potential increased corvid threat.

⁴Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

⁵Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

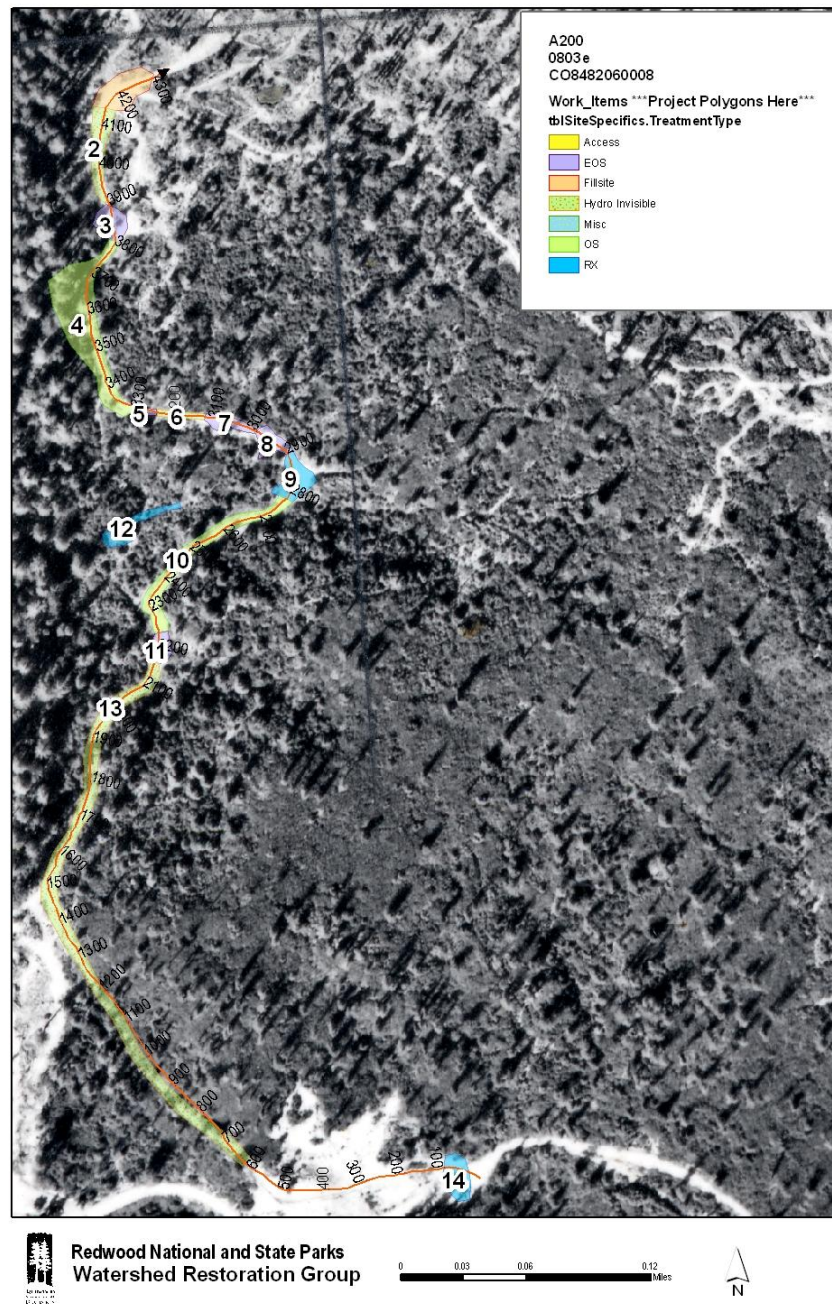
TABLE 3d NOAA STATISTICS FOR RESTORATION UNIT 08-03d: REMOVAL OF THE A350 ROAD				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY

STREAM XING	4	9814 yds ³	0 yds ³	0 yds ³
ROAD REACH	1,500 ft.	12,461 yds ³	28,445 yds ³	25,779 yds ³
	TOTAL	12,461 yds ³	28,445 yds ³	25,779 yds ³

¹ For road reaches, the number of sites is the length of road (ft).

The pre-season plan for the A350 was to tie a skid road network together along the east side of the drainage to access a small landing that would be used as a fillsite for a very wet swale (Work Item D3). The swale contained 2444 yd³s of saturated fill. Off highway trucks were anticipated for the haul. As the road was being brushed open for access, additional springs and surface moisture were encountered. The presence of this late season moisture prohibited using some of the planned fillsites and equipment, requiring additional end hauling for several of the work items (D4, D5, D6 & D12). The additional end hauling added approximately 16% to the final cost of the A350 removal.

0803E: A200



The A200 road removal treatments picked up where work ended in the 2000 season. Several swales, two stream crossings and many reaches of steep slopes were treated. An old rock pit near the beginning of the road was utilized for spoiling excavated crossing fill from a major swale at the junction with the Geneva

road (a permanent road / bicycle trail). Sluff rock from the abandoned pit was removed prior to backfilling the site. The salvaged rock was utilized to hard surface some soft spots on Geneva road.



Photo E1, work item E14 where over 12,000 cubic yards of road fill was excavated and a new rock fjord crossing was installed on the Geneva road.

A portion of the Geneva road had to re-routed for a 12,000 yd³s channel excavation. The portion of Geneva had shown signs of failure over the recent decade. In 2006, during a culvert replacement, some of the fill had been relocated with the intention of lessening the resource threat from the site. The re-aligned segment of Geneva now crosses the channel with a small rock ford.



Photo E2, completed work item E14 with rock ford crossing.

Prescriptions and Treatments

TABLE 1e WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803e: REMOVAL OF THE A200 rd					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS ^(a)	18,608 yds ³	3	\$121,155.35	42.7%	\$6.51
EXPORT OUTSLOPING	9,109 yds ³	5	\$48,197.65	17.0%	\$5.29
OUTSLOPE	16,971 yds ³	7	\$66,487.82	23.5%	\$3.92
MISC. BID ITEMS ^(b)	----	2	\$47,593.00	16.8%	----
<i>TOTAL:</i>	44,688yds ³	13	\$283,433.82	100%	\$6.34

TABLE 2e

AREAS AFFECTED BY RESTORATION UNIT 08-03e: REMOVAL OF THE A200 ROAD						
TOTAL ACRES DISTURBED	RIPARIAN BUFFER ACRES DISTURBED	WILDLIFE HABITAT ACRES DISTURBED				TOTAL ACRES RESTORED ⁵
		START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	
3.18	0.23	9/21/07	0	0.1	0	26

¹ These statistics are actual “as built” acreages.

² Marbled Murrelet habitat degraded.

³ Marbled Murrelet habitat subject to potential increased corvid threat.

⁴ Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

⁵ Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

TABLE 3e NOAA STATISTICS FOR RESTORATION UNIT 08-03e: REMOVAL OF THE A200 ROAD				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY
STREAM XING	3	18,608 yds ³	0 yds ³	0 yds ³
ROAD REACH	1,500 ft.	12,461 yds ³	28,445 yds ³	25,779 yds ³
	TOTAL	12,461 yds ³	28,445 yds ³	25,779 yds ³

¹ For road reaches, the number of sites is the length of road (ft).

The terminal point of the 2000 work season left a large ridge landing. The outboard edge of fill around this landing was pulled and the remaining space used as a fill site for fill from the swale at Work Item E3.

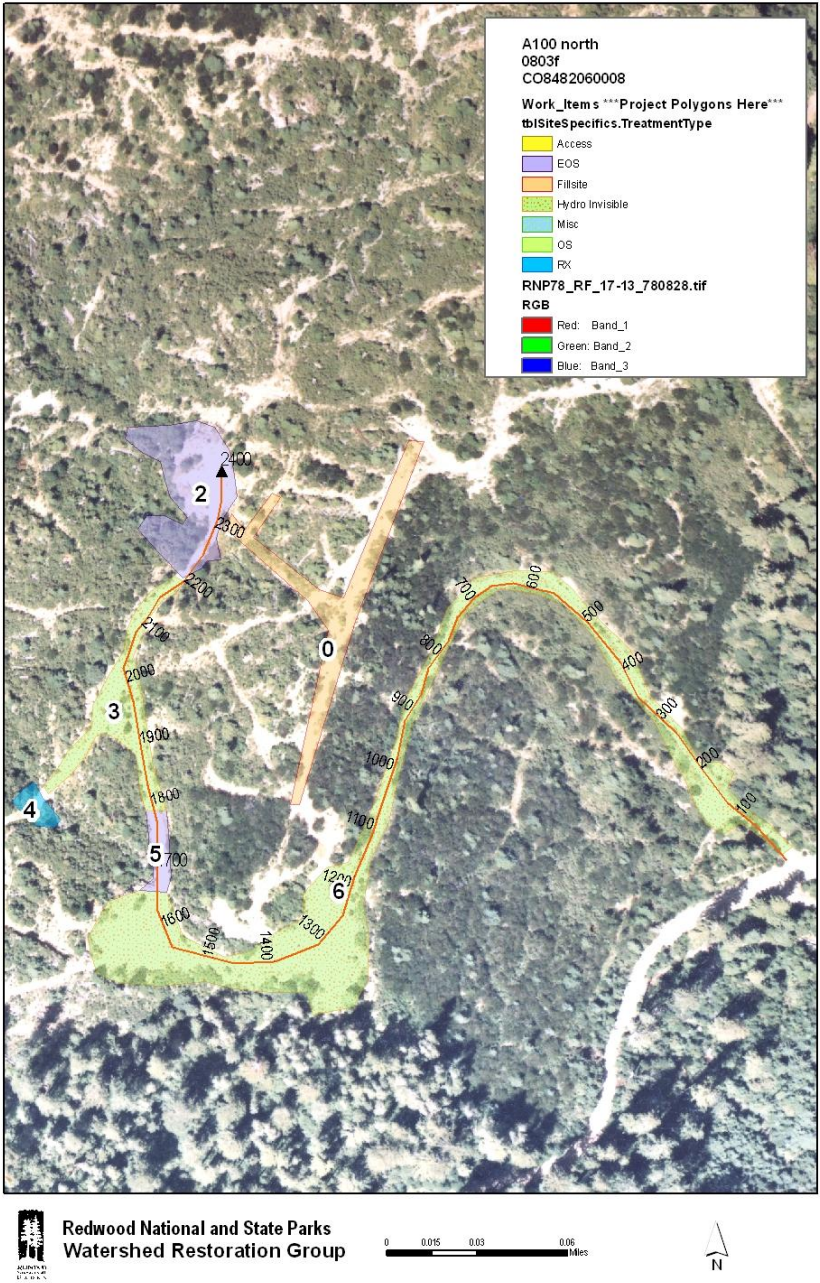
Work Item E4 combined the outsloping of two main roads, a yarder setting and a ridge landing, across a broad, west facing slope. The excavation volume more than doubled at this site in order to retrieve some perched fill below the yarder setting that had direct access to an adjacent swale.

Work items E5 through E9 were a series of swales and small channels of a headwater bowl. A majority of the fill was pushed back to the broad ridge at Work Item E4. The reverse push required the series of work items to be in opposite order. The reverse logistics provided a challenge, but ended up working out effectively.

Work Item E12 was a small skid road crossing a few hundred feet downstream of the bowl excavations. The remaining 2200 feet of the A200 was straight forward outsloping with a minimal export portion.

The rock pit near the A200 and Geneva junction was left accessible as a future sluff rock resource. The original plan was to close out the pit with fill from re-route excavation. There ended up being more storage space than needed, so the fillsite was graded in a manner that would retain access to a portion of the rock face that had the potential for continued sluffing.

0803F: A100 north



Introduction

The A100 north was a short haul road that accessed a portion of the ridge below the A200 and above the B550 unit. The predominate resource threats existed in the north fork portion of the cut block at work items F2 and F4

Prescriptions and Treatments

TABLE 1f WATERSHED RESTORATION COSTS SUMMARY FOR UNIT 0803f: REMOVAL OF THE A100 north rd					
TREATMENT	QUANTITY	# of JOBS	TOTAL COSTS	% OF GRAND TOTAL	AVERAGE UNIT COSTS
CONTRACT COSTS - HEAVY EQUIPMENT					
STREAM CROSSINGS ^(a)	2,795 yds ³	1	\$16,350.75	13.3%	\$5.85
EXPORT OUTSLOPING	15,402 yds ³	2	\$88,643.82	72.2%	\$5.76
OUTSLOPE	4,285 yds ³	2	\$16,582.95	13.7%	\$3.87
MISC. BID ITEMS ^(b)	----	1	\$1,000.00	0.8%	----
<i>TOTAL:</i>	22,482yds ³	13	\$122,577.52	100%	\$5.45

TABLE 2f AREAS AFFECTED BY RESTORATION UNIT 08-03f: REMOVAL OF THE A100 north ROAD						
TOTAL ACRES DISTURBED	RIPARIAN BUFFER ACRES DISTURBED	WILDLIFE HABITAT ACRES DISTURBED				TOTAL ACRES RESTORED ⁵
		START DATE	MAMU DEGRADED ²	MAMU CORVID ³	MAMU NESTING / NOISE .25 MI BUFFER ⁴	
3.18	0.23	9/21/07	0	0.1	0	26

¹These statistics are actual “as built” acreages.

²Marbled Murrelet habitat degraded.

³Marbled Murrelet habitat subject to potential increased corvid threat.

⁴Marbled Murrelet nesting habitat potentially affected by noise (restoration site within 0.25 mile buffer of habitat)

⁵Acres restored are defined as the hydrologically connected landscape area that is influenced by the road removal.

TABLE 3f NOAA STATISTICS FOR RESTORATION UNIT 08-03f: REMOVAL OF THE A100 north ROAD				
SITE TYPE	# OF SITES ¹	VOLUME EXCAVATED	VOLUME PREVENTED FROM ERODING	VOLUME PREVENTED FROM DELIVERY
STREAM XING	1	2795 yds ³	0 yds ³	0 yds ³
ROAD REACH	2,500 ft.	12,461 yds ³	28,445 yds ³	25,779 yds ³
	TOTAL	12,461 yds ³	28,445 yds ³	25,779 yds ³

¹ For road reaches, the number of sites is the length of road (ft).



Photo F1, terminal landing for the A100 north segment (work item F2)

The landing at the end of the A100 was identified for treatment due to steep fill around the outer edge and a swale crossing on the southern edge. During the excavation, a headwater swale was identified on the northern portion of the landing, dramatically increasing the excavation volume.

As the contract the Ford Logging had with State Parks finished, the additional heavy equipment was moved onto the A100. Production increased dramatically allowing the additional fill encountered on Work Item F2 to be relocated in a timely manner.

A small stream crossing was treated (Work Item F4) that was access by a spur road at station 18+50. Work Item F5 treated fill prism that crossed a headwater swale just above the crossing at F4. Other than that, the majority of the remaining road removal effort focused on restoring hydrologic integrity to the slopes crossed by the A100 road.



Photo F2, smaller swale above a skid road crossing excavation (work item F5)

A swale above a small skid road crossing was the only other significant fluvial feature on the northern segment of the A100.

Project Synopsis

The overall season on project 0803 had a number of work items go over the initial estimate for a dramatic increase in cost. Work item E14 stayed well within the survey design yet increased in depth and width to a point where it doubled the excavation volume. Work item F2 encountered a large swale that had been buried in a way as to blend into the ridge feature, masking any tell tale sign of actual quantity of road fill at the site. These items were the larger of the normal deviations that are common to excavation operations during road removal. Some of the other deviations that affected the increased cost came from identifying ground conditions that changed the relative resource threat at a number of locations.

With the intent of using funds efficiently, a number of work items had been prescribed as 'hydrologic invisibility' treatments. This prescription is intended to use more of a partial outsloping style, where just enough of the outboard edge of the road is pulled up to create an outsloped road bench. A number of work items that had been prescribed for this style of treatment encountered buried stumps which revealed a greater depth of fill or change in the slope configuration that increased the potential for fill failures into or onto resources of concern. The dramatic increase in excavation volume from the estimate to the actual in work items such as C8 and C9 are examples of the difference between the effort in partial vs. a more complete treatment.