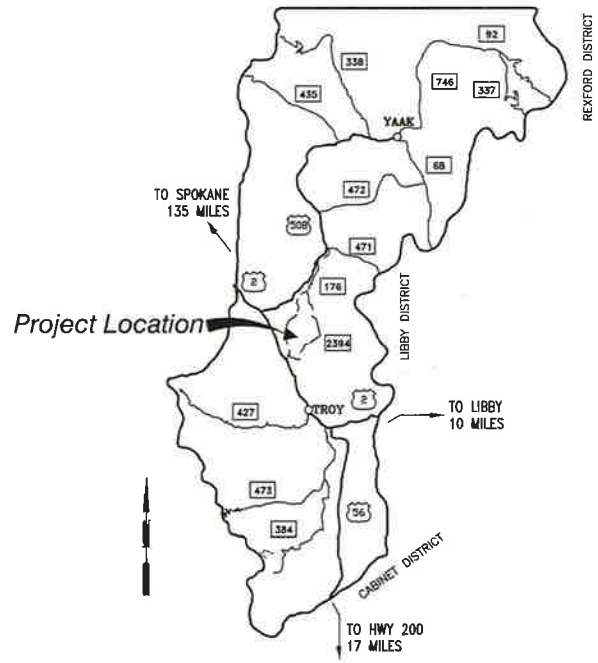
Appendix D, Project 04

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE - REGION ONE
OLY MOLY STEWARDSHIP PLANS FOR
MANDATORY ROAD STORAGE AND DECOMMISSIONING
LINCOLN COUNTY, MONTANA

Road # 2380/2380A Reroute

KOOTENAI NATIONAL FOREST
THREE RIVERS RANGER DISTRICT



PREPARED BY:
PROJECT ENGINEER — DATE 8-9-16

REVIEWED BY:
PROJECT TEAM LEADER — DATE 8/15/16

MULTIPLE RESOURCE REVIEW BY:
DISTRICT RANGER — DATE 8-15-16

I certify that this project has been designed in accordance with sound engineering practice.
FOREST ENGINEER — DATE 8/9/16

ROAD NO.	ROAD NAME	*LENGTH	**C/R
2380	NORTH OBRIEN	17+35	D
2380A	NORTH OBRIEN A	34+80	R/C
2394	KILBRENNAN LAKE	0	R
752	OBRIEN CREEK	0.2	R

* LENGTH IN MILE = DRIVABLE
* LENGTH IN STATIONS = UNDRIVABLE
** C = CONSTRUCTION
R = RECONSTRUCTION
R = DECOMMISSION

TIMING REQUIREMENTS:
1) PROJECT MUST BE COMPLETED PRIOR TO ANY HARVEST RELATED ROAD CONSTRUCTION/RECONSTRUCTION OR HARVEST FOR UNITS 31B & 31C.
2) PAY ITEM 32222 FOR THIS SERVICE PROJECT IS TO COINCIDE WITH PAY ITEM 32222 FOR THE SPECIFIED ROAD PACKAGE

SHEET NUMBER	TOTAL SHEETS
1	19

INDEX/DETAIL OF WORK

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DETAILS OF WORK

1. Pay Item 20102 Clearing & Grubbing - This Pay Item applies to the Travel Way & Turnouts only. No grubbing is required in the Ditch, Cut Slope or Fill Slope. Reference Figure 101-1 in Forest Service Supplemental Specs.

2. Pay Item 20103 Mechanical Roadway Clearing - This Pay Item applies to the Clearing Limits minus the Travel Way. All Sawlog Timber (7"diameter breast height) will be mechanically cut (chain saw or feller buncher, ect), skidded to an agreed location. Stumps will be left in place unless removal is necessary for excavation (Pay Item 20453).

3. Pay Item 20453 Excavation - This Pay Item is for Bank Cubic Yard excavation. If End Haul is required a higher unit price will be reflected in the Specified Road Cost, otherwise side cast soil.

4. Pay Item 20483 J-Hole Construction - J-Holes with less than 10 CY excavation. Clearing & Grubbing of J-Hole included in Unit Price. All J-holes with greater than 10 CY excavation are paid for in Pay Item 20453 Excavation.

5. Pay Item 32222 Generate, Haul & Place 4" Minus - It is assumed that a 1 loader, 1 excavator and a jaw will be used to manufacture material. The Kilbrennan Lake Pit has sufficient quantity of 18" rock available for crushing. There currently is naturally occurring 4" minus onsite which may be incorporated. Pay Item 30357 Roadway Reconditioning is only required prior to pitrun placement if it is specified in the reconstruction log, otherwise pitrun placement is on existing road surface. A dozer & grid roller (10 ton) is specified for compaction of angular pit run for 5 roller passes or until visible evidence of further consolidation ceases.

6. 62201 Equipment Rental (Excavator & End Dump) - Unknown work items are expected on certain roads. These will be identified by the Forest Service during reconstruction. Hourly work will be coordinated with contractor & mobilization will be paid for at same rate if necessary.

7. There is no separate Pay Item for haul or watering, they are incidental to Pay Items 204, 209, 251, 306 and 322.

8. Excess material obtained from excavation shall be placed in areas agreed upon in the field.

9. Temporary Traffic Control is incidental to Pay Item 15101. All signs must be manufactured and installed as specified in the FHWA "Manual on Uniform Traffic Control Devices" (MUTCD) and FS publication "Standards for Forest Service Signs and Posters" (EM 7100-15).

10. All excavation associated with site preparation for and placement of riprap shall be incidental to Pay Item 251.

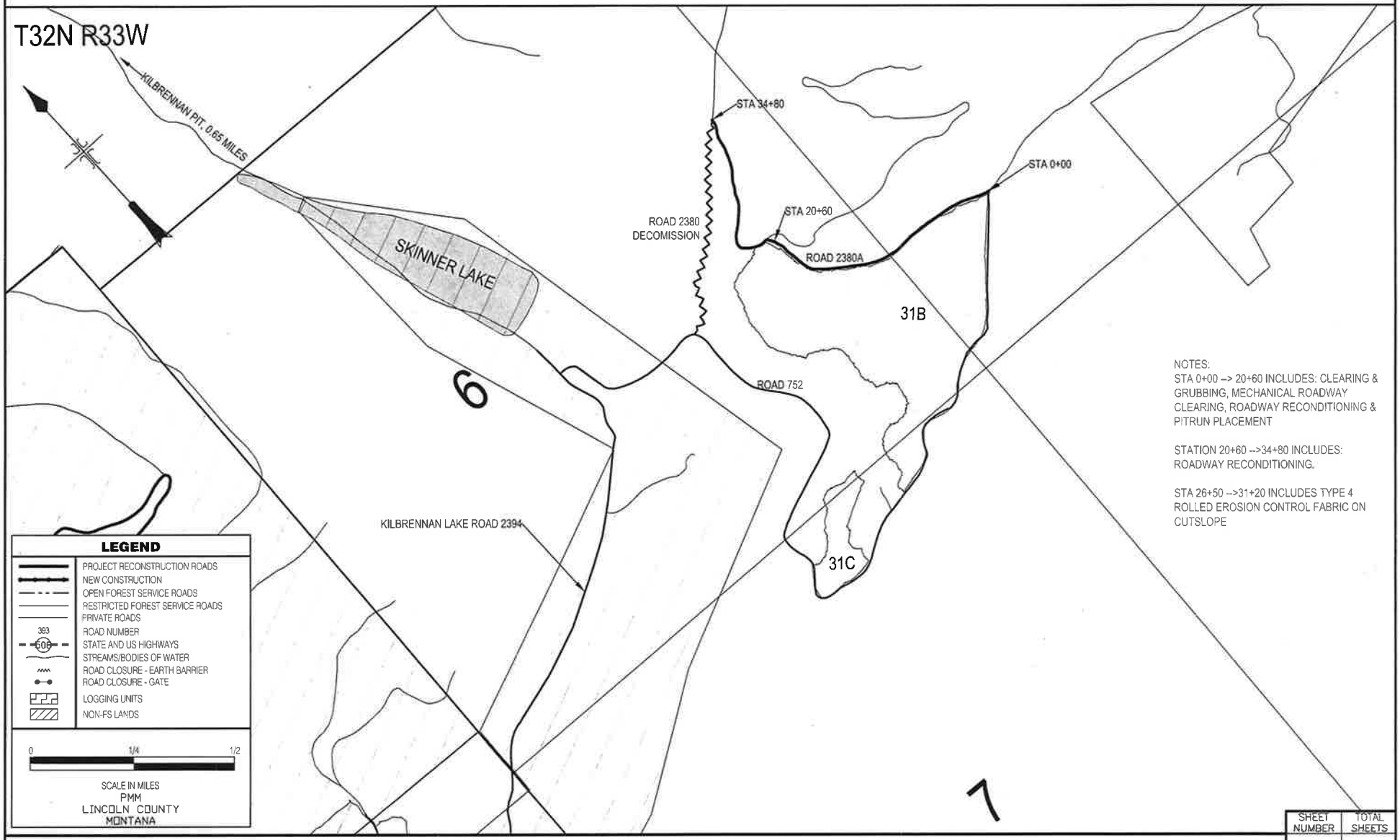
11. Final location of work items will be marked by the Government with wooden stakes prior to the start of work.

12. Catch basin excavation is included under Pay Item 60270.

13. Class 1, 3 and 6 riprap will be inspected visually for suitability. If appearance is suitable, AASHTO T85 and T210 will be waived. If rock appearance is questionable then required testing set forth in FP03 705 will be enforced.

14. For Item 20701, Type 2C Separation Geotextile, Requirements are listed in Table 714-2 of FP03. Burst Strength D 3786 has been replaced with CBR Puncture ASTM D 6241

ROAD 2380 & 2380A STEWARDSHIP



NOTES:
STA 0+00 --> 20+60 INCLUDES: CLEARING & GRUBBING, MECHANICAL ROADWAY CLEARING, ROADWAY RECONDITIONING & PITRUN PLACEMENT

STATION 20+60 -->34+80 INCLUDES: ROADWAY RECONDITIONING.

STA 26+50 -->31+20 INCLUDES TYPE 4 ROLLED EROSION CONTROL FABRIC ON CUTSLOPE

OLY MOLY

SHEET NUMBER	TOTAL SHEETS
3	19

SUMMARY OF QUANTITIES

ITEM NO	ITEM DESCRIPTION	METHOD OF MEASURE	UNIT OF MEASURE	2380	2380A	2394	752
15101	MOBILIZATION	LSQ	LS	All	All		
20102	CLEARING & GRUBBING, SLASH DISPOSAL F, HEAVY	CQ	STA		20.6		
20103	MECHANICAL ROADWAY CLEARING, DISPOSAL F, HEAVY	CQ	STA		20.6		
20420	DRAINAGE EXCAVATION, CROSS CHANNEL	AQ	EA	1			
20453	EXCAVATE (BCY), COMPACT. E, FINISH A, TOLERANCE L	CQ	CY		365		
20453	EXCAVATE (BCY), COMPACT. E (TRAVEL WAY) SIDE CAST	CQ	CY		1465		
20480	INSTALL OPTEN TOP BOX CULVERT	AQ	LF				32
21103	ROADWAY OBLITERATION, SCARIFICATION, 12" DEPTH	CQ	FT	710			
21103	ROADWAY OBLITERATION, RECONTOUR, 3:1	CQ	FT	1025			
25101	PLACED RIP RAP, CLASS 1, SOURCED ON SITE	CQ	CY		9		2
25101	PLACED RIP RAP, CLASS 3, COMMERCIAL SOURCE	CQ	CY	4			
30357	ROADWAY RECONDITIONING, COMPACTION B	AQ	STA		35		
32222	LOAD, HAUL, PLACE, GRID ROLL 4" MINUS ANGULAR PITRUN	CQ	CY		350		
32222	STOCKPILE ANGULAR PITRUN, 4" MINUS, GRADING N	CQ	CY			500	
60270	18" CSP, 16 GAUGE, INCLUDES EXCAVATION. COMPACT B	AQ	LF		42		36
60712	CULVERT REMOVAL, FLATTEN & HAUL TO PIT	AQ	EA	2			
60712	SWD REMOVAL, CONTRACTOR DISPOSAL	AQ	EA	1			
60712	LOAD, HAUL & DISPOSE OF OLD CAR	AQ	EA		1		
62556	SEEDING, DRY, APPLICATION ONLY, GFP	CQ	AC	1	2.5		
62901	ROLLED EROSION CONTROL, TYPE 4. FP-03 713.17(K)	CQ	SY		2570		

SUBMITTALS REQUIRED FOR: ITEM 60270, ITEM 62901

DRAINAGE LISTING

AS DESIGNED						AS BUILT						INSTALLATION DETAILS				RIPRAP			BMP ITEMS					REMARKS
STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAINAGE DIP	BLIND DRAIN (LIN. FT.)	OPEN TOP BOX CULV. (LIN. FT.)	STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAINAGE DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	TYPE *	SKEW (DEGREES)	OUTLET DITCH (LIN. FT.)	GASKETS REQUIRED	CLASS	INLET (C.Y.)	OUTLET (C.Y.)	STRAW BALES	SLASH FILTER DRAIN	FILTER FABRIC INLET	STRAW WATTLE (LIN. FT.)	SILT FENCE (LIN. FT.)	-Corrugations Shall Be 2-2/3" x 1/2" Unless Otherwise Stated Below -Pipe Thickness Shall Be As Shown on The 'Summary Of Quantities' Sheet * See 'CULVERT CONSTRUCTION DETAILS' Sheet ** As Staked; If outlet stake is lost/damaged, maximize skew and grade of CSP for the given length of pipe. Embankment slope shall intersect pipe invert. -Culvert alignment and bedding require inspection and acceptance in writing, prior to backfilling on all live streams with culverts of 48" diameter or larger.
	ROAD 2380A																							
STA 33+62	18	42										2	**			1		0.5						NO DITCH BLOCK IN GRADE SAG.
	ROAD 752																							
0.02	18	36										2	**			1	0.5	1.0						OUTLET WILL NOT BE AT TOE OF FILL
0.025					32								45			1		0.5						

OLY MOLY

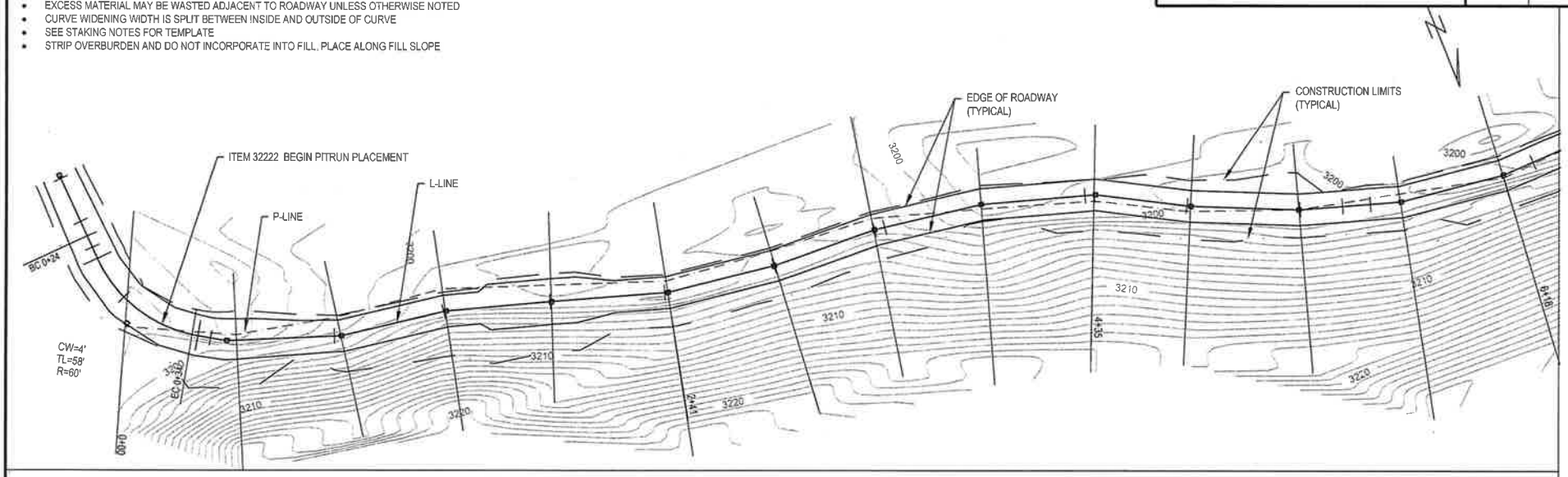
SHEET NUMBER	TOTAL SHEETS
5	19

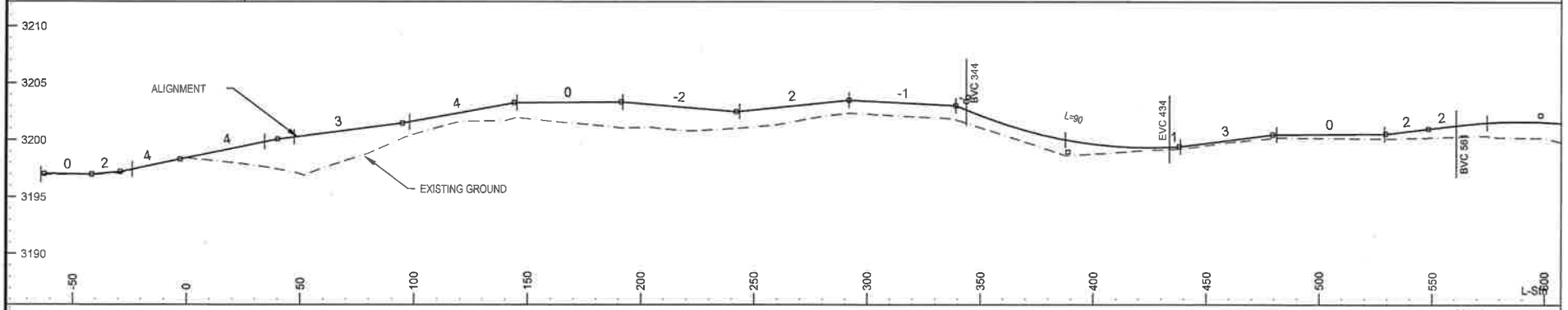
PLAN & PROFILE - RD 2380 A, 1 OF 8

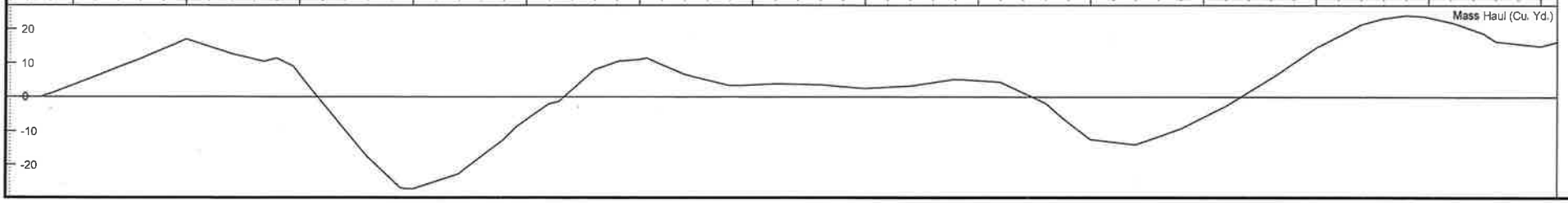
OLY MOLY
TIMBER SALE

SHEET NUMBER	TOTAL SHEETS
6	19

- HORIZONTAL CURVE IS A MINIMUM
- EXCESS MATERIAL MAY BE WASTED ADJACENT TO ROADWAY UNLESS OTHERWISE NOTED
- CURVE WIDENING WIDTH IS SPLIT BETWEEN INSIDE AND OUTSIDE OF CURVE
- SEE STAKING NOTES FOR TEMPLATE
- STRIP OVERBURDEN AND DO NOT INCORPORATE INTO FILL, PLACE ALONG FILL SLOPE



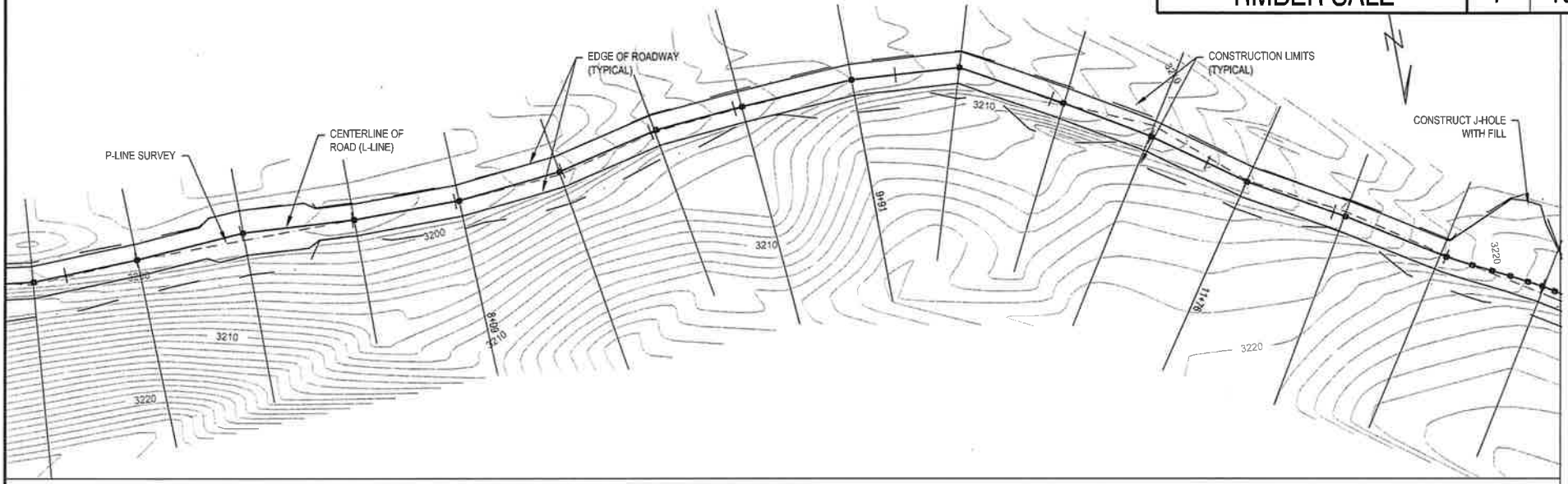


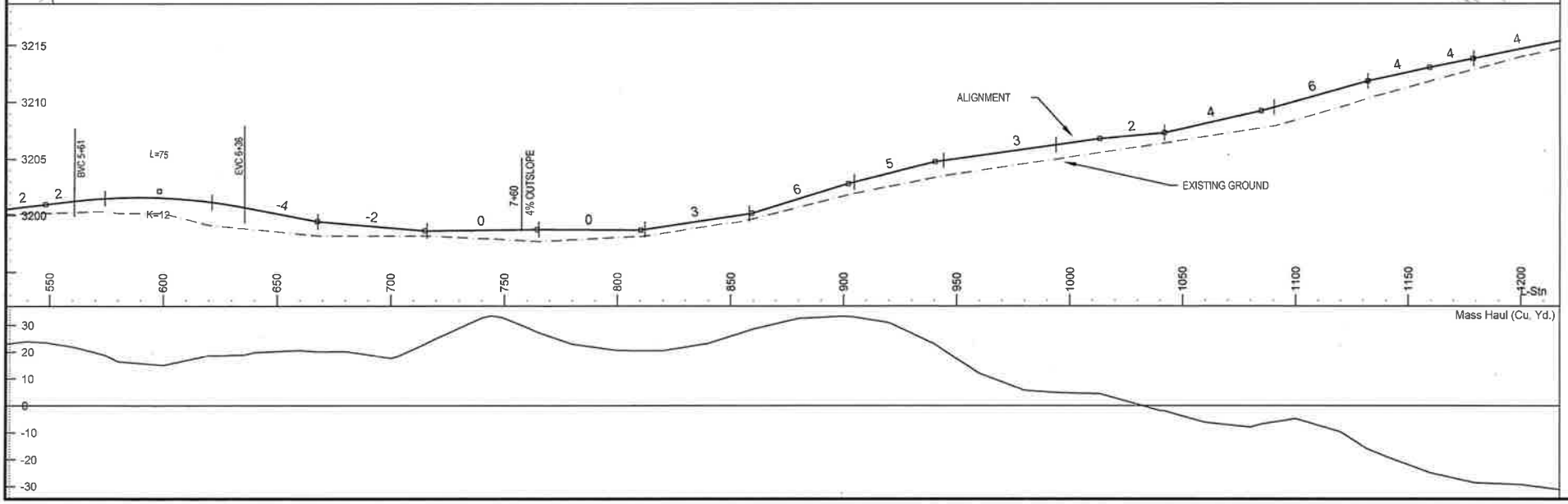


PLAN & PROFILE - RD 2380 A, 2 OF 8

OLY MOLY
TIMBER SALE

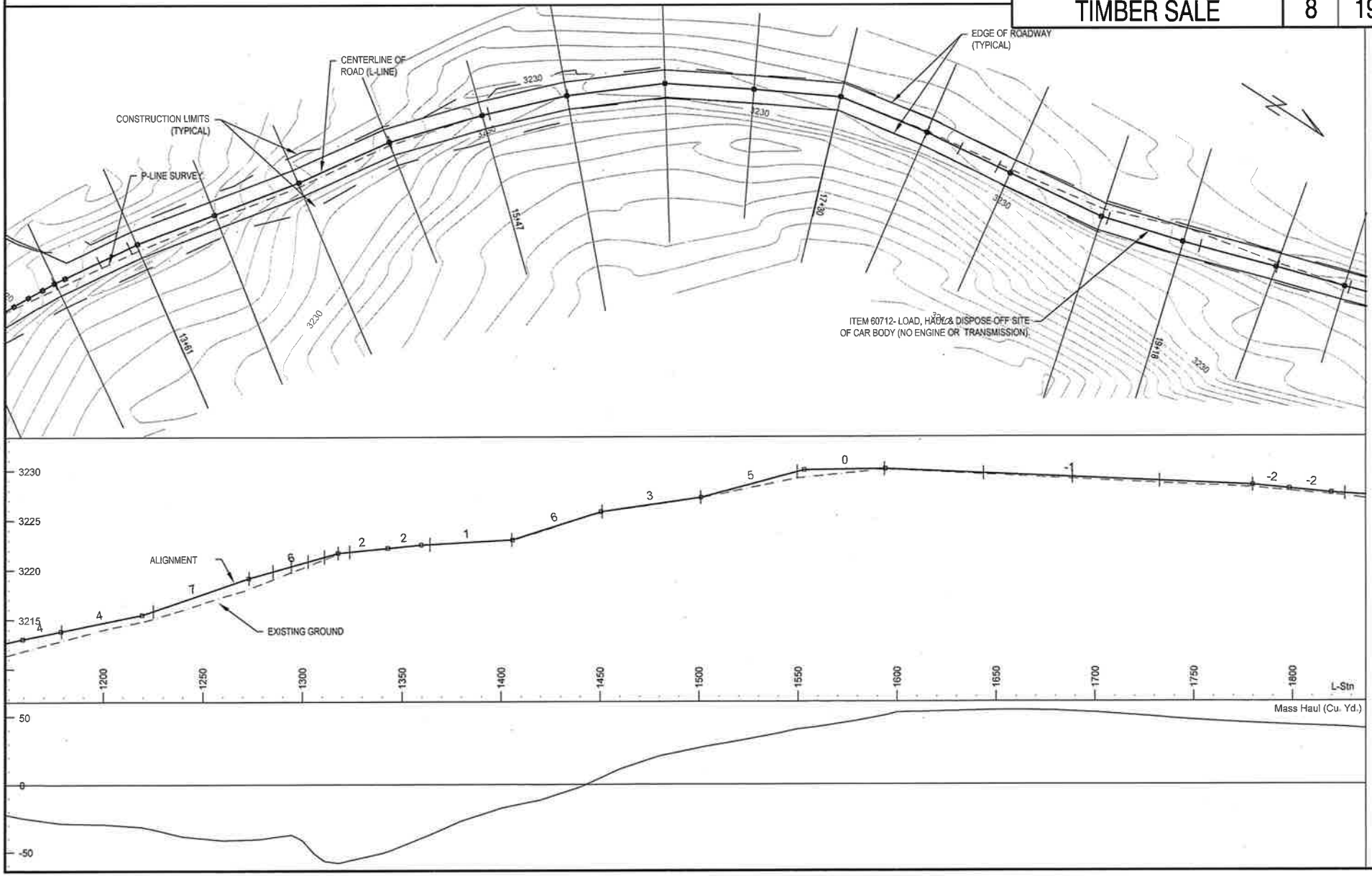
SHEET NUMBER	TOTAL SHEETS
7	19





PLAN & PROFILE - RD 2380 A, 3 OF 8

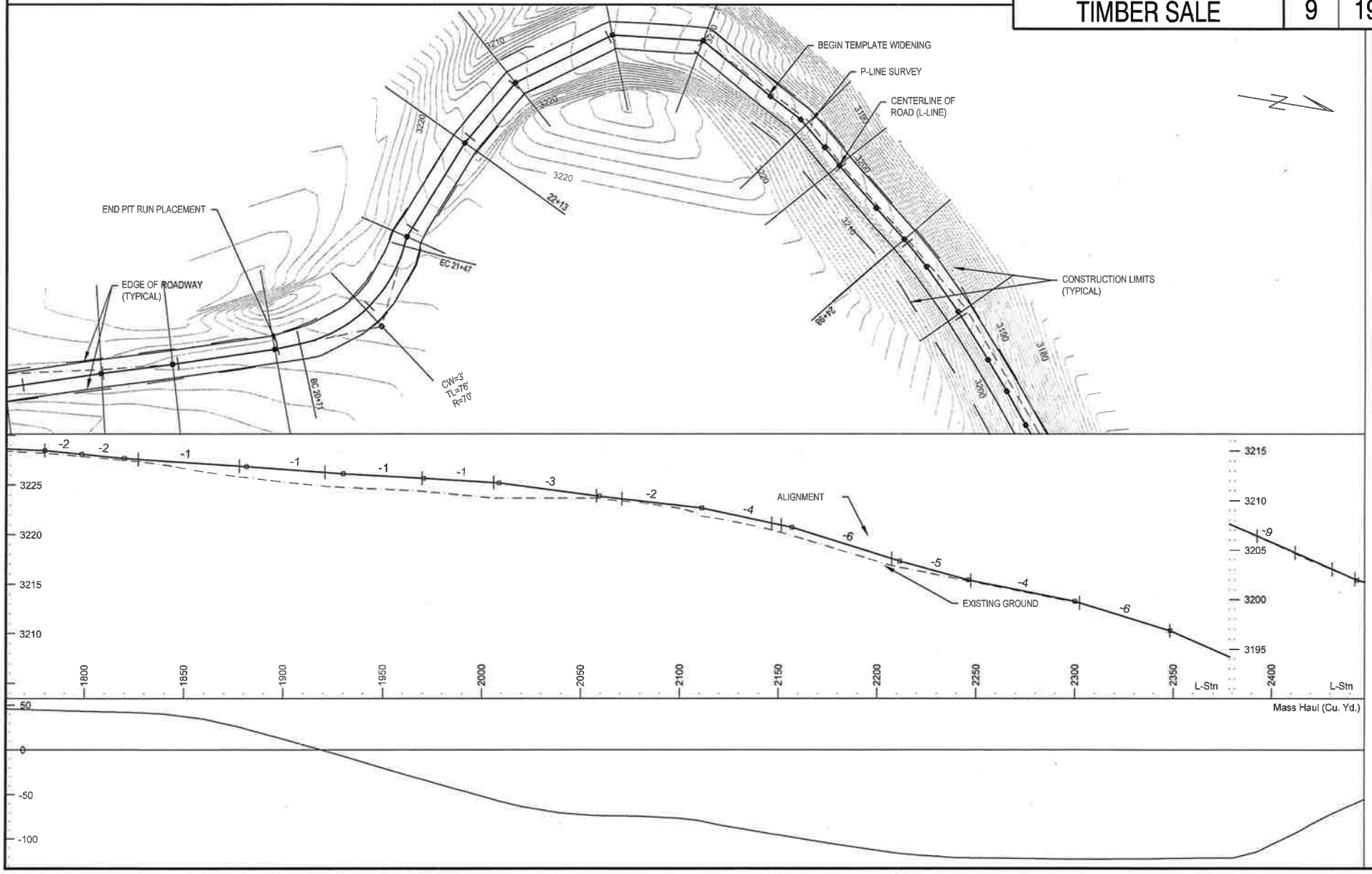
OLY MOLY TIMBER SALE	SHEET NUMBER	TOTAL SHEETS
	8	19



PLAN & PROFILE - RD 2380 A, 4 OF 8

OLY MOLY
TIMBER SALE

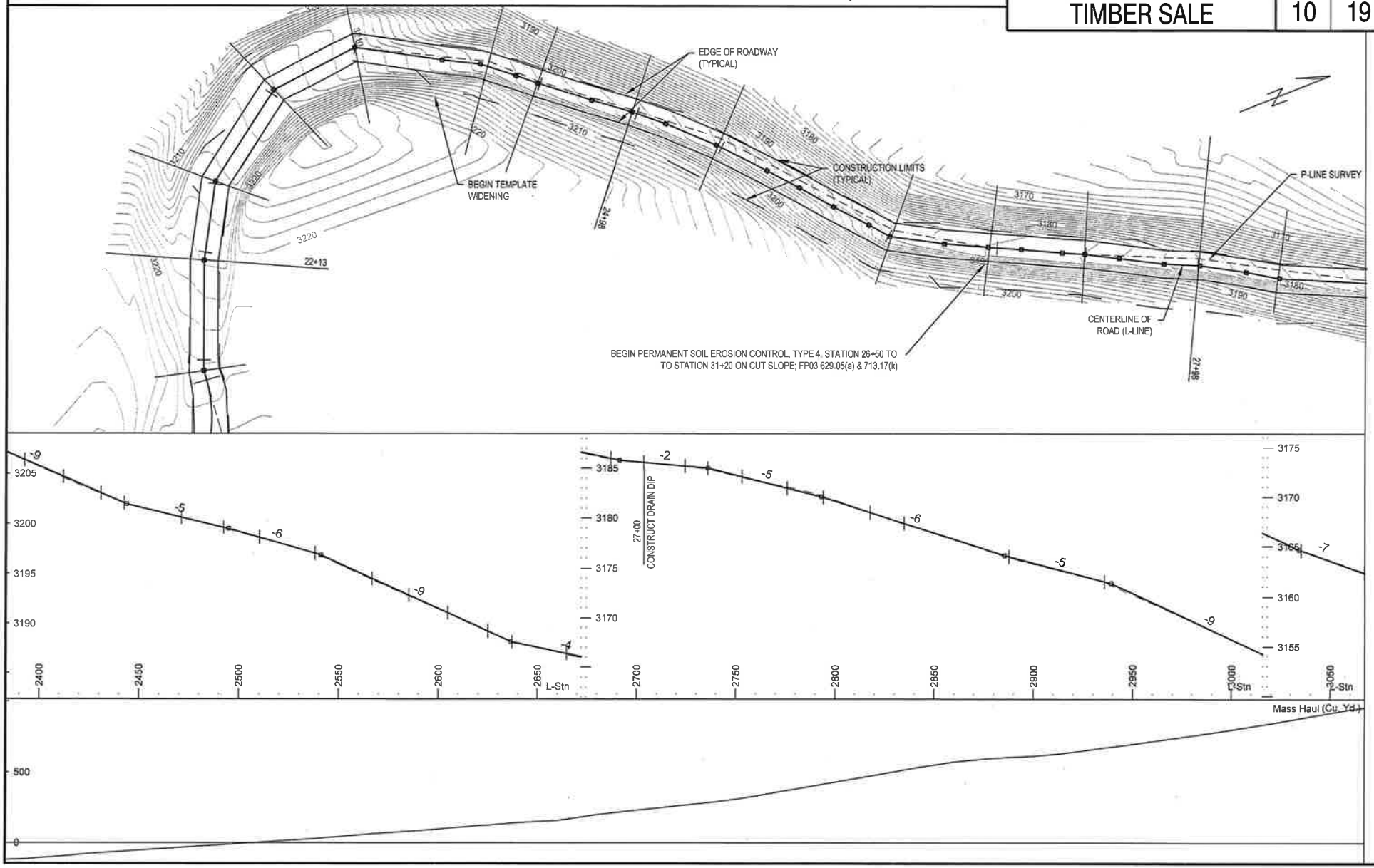
SHEET NUMBER	TOTAL SHEETS
9	19



PLAN & PROFILE - RD 2380 A, 5 OF 8

OLY MOLY
TIMBER SALE

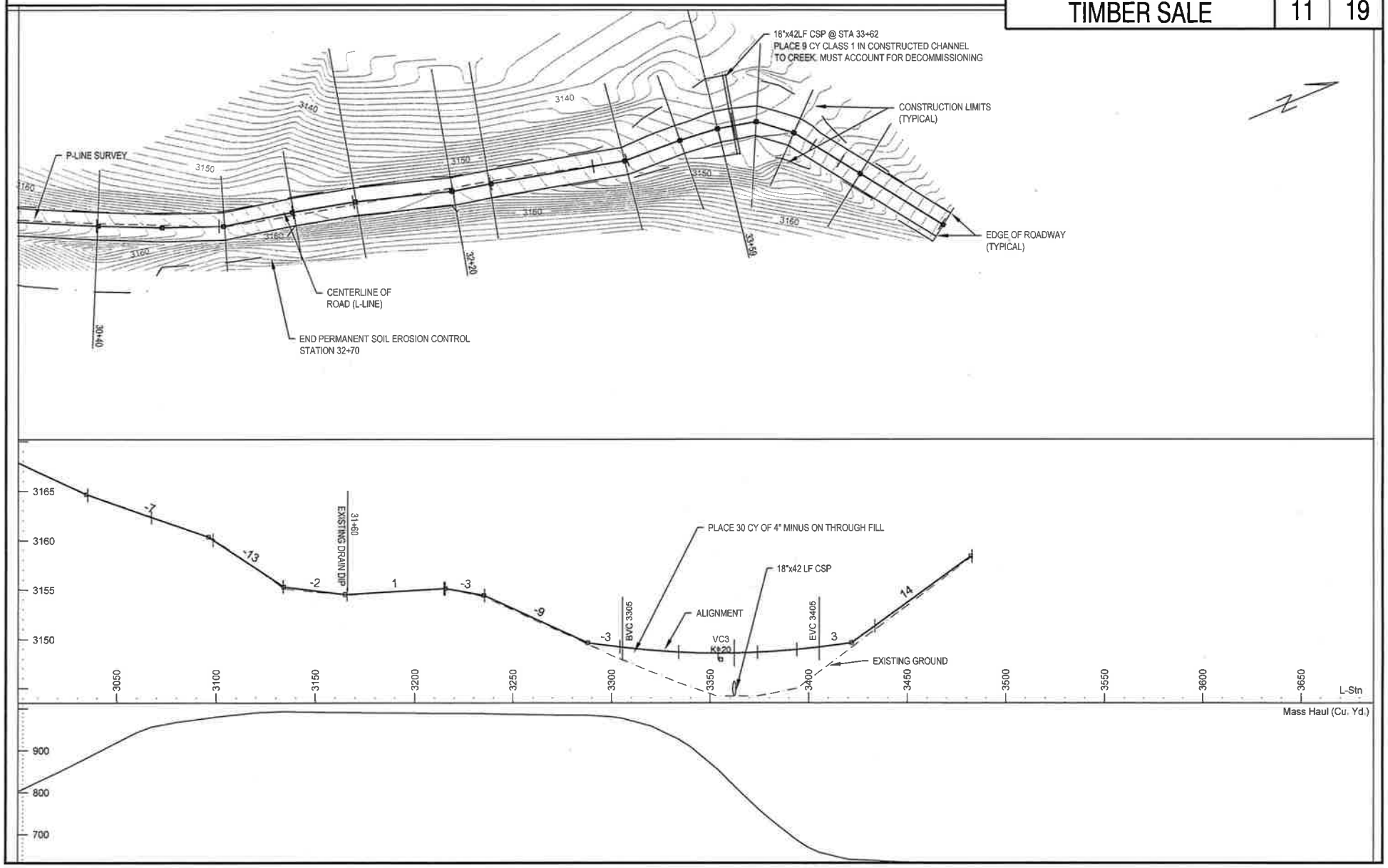
SHEET NUMBER	TOTAL SHEETS
10	19



PLAN & PROFILE - RD 2380 A, 6 OF 8

OLY MOLY
TIMBER SALE

SHEET NUMBER	TOTAL SHEETS
11	19



L-Stn	Rd. Wd.	H.Offset	Stk L	Stk R	Clr L	Clr R	Mass H.	SG Cut V.
ft.	ft.	ft.	ft.	ft.	ft.	ft.	Cu. Yd.	Cu. Yd.
- 0+64	15	-73	9	9	15	18	0	10
- 0+24	18	-33	13	13	18	21	9	20
0+34	18	2	11	26	16	34	9	15
0+47	18	3	13	23	18	31	8	25
0+98	14	9	9	17	14	25	-28	39
1+45	14	10	8	21	13	30	-10	56
1+92	20	7	12	23	18	31	10	33
2+44	14	5	8	16	13	24	2	24
2+92	14	7	8	15	13	23	2	21
3+39	14	5	8	14	13	22	4	10
3+88	14	-2	9	8	14	16	-7	8
4+39	14	-3	7	16	12	24	-11	17
4+81	14	-2	12	15	17	23	5	20
5+29	14	0	16	13	21	21	22	9
5+74	14	4	8	13	14	21	18	28
6+21	14	-1	9	16	14	24	18	29
6+68	14	0	8	16	13	25	19	18
7+16	20	-3	10	19	15	27	22	18
7+65	14	0	8	7	13	15	26	6
8+12	14	0	7	13	12	21	20	15
8+58	14	-1	7	15	12	23	27	16
9+05	14	-1	7	13	12	21	32	5
9+44	14	0	8	8	13	16	20	9
9+94	14	0	8	16	13	23	4	12
10+42	14	0	7	14	12	22	-3	18
10+90	14	0	8	17	13	24	-7	17
11+32	14	5	8	14	13	22	-17	11
11+79	14	1	7	13	12	21	-30	8
12+25	14	2	8	7	13	15	-34	9
12+73	16	1	9	14	14	22	-42	6
12+85	30	0	24	14	29	22	-40	5
12+95	40	-1	34	15	39	22	-38	3
13+03	41	-2	37	13	42	21	-48	2
13+11	34	-2	29	13	34	21	-58	2
13+18	26	-3	20	14	25	22	-59	2
13+24	19	-3	15	14	20	22	-57	19
13+64	14	-3	10	14	15	21	-38	21
14+06	14	-2	11	12	16	20	-17	21
14+51	14	-2	13	15	18	23	4	22
15+01	14	-2	8	13	14	21	26	17
15+50	14	0	12	14	16	22	39	14
15+94	14	0	13	13	18	21	49	4
16+44	14	0	8	8	13	16	53	1
16+89	14	0	7	7	13	15	52	0
17+33	14	0	8	7	13	15	48	0
17+80	14	1	7	7	12	15	44	1
18+27	14	2	7	7	12	16	41	0
18+78	14	4	8	8	13	16	24	0
19+21	14	7	8	7	13	15	-2	0
19+70	14	2	8	8	13	16	-34	0
20+06	14	0	8	8	13	16	-56	0

PLAN & PROFILE - RD 2380 A, STAKING NOTES, 7 OF 8

OLY MOLY
TIMBER SALE

SHEET NUMBER 12

TOTAL SHEETS 19

20+58	14	0	7	7	12	15	-75	0
20+71	16	0	9	8	14	16	-75	0
21+47	16	0	8	8	13	16	-95	0
21+52	15	0	8	8	13	16	-97	0
22+07	14	0	7	8	12	16	-116	0
22+47	14	0	14	7	19	16	-122	1
23+02	14	0	7	7	12	15	-124	1
23+48	14	0	7	7	12	15	-123	8
23+93	14	2	8	19	13	27	-116	23
24+12	14	2	8	19	13	27	-95	24
24+31	14	2	8	19	13	27	-72	12
24+43	14	1	8	18	13	27	-61	30
24+71	14	1	8	19	13	27	-33	22
24+92	14	1	8	18	13	27	-13	18
25+10	14	2	8	19	13	27	3	28
25+38	14	4	7	21	13	30	29	35
25+67	14	4	7	21	13	30	63	20
25+85	14	3	7	21	13	29	82	23
26+05	14	4	7	21	13	30	103	24
26+25	14	4	7	21	13	30	126	14
26+37	14	4	7	21	13	29	140	29
26+65	14	2	11	27	16	35	167	44
26+87	14	0	9	24	14	33	211	25
27+04	14	0	8	25	14	33	236	31
27+24	14	0	9	25	14	33	268	17
27+36	14	0	8	24	14	33	285	31
27+53	14	1	10	26	16	35	316	56
27+76	14	3	7	27	13	36	371	46
27+94	14	4	7	27	13	36	417	59
28+18	14	4	8	27	13	36	474	45
28+35	14	4	8	28	13	37	518	95
28+88	14	1	7	25	13	34	608	70
29+36	14	1	7	34	13	43	675	212
30+35	14	1	7	39	13	48	882	74
30+67	14	1	8	22	13	31	955	25
30+98	14	0	8	20	13	29	978	17
31+34	14	-2	8	7	13	17	992	1
31+66	14	-1	8	7	13	17	990	2
32+15	14	2	7	7	13	16	988	0
32+15	14	2	7	7	13	17	988	1
32+35	14	1	8	7	14	16	987	1
33+04	14	0	11	9	16	18	977	0
33+34	15	0	20	12	26	20	926	0
33+54	16	0	26	15	32	22	853	0
33+74	15	0	21	17	27	25	761	0
33+94	15	0	17	14	23	22	686	0
34+34	14	0	9	8	14	16	635	1
34+83	14	0	7	10	12	18	630	

PLAN & PROFILE - RD 2380 A, STAKING NOTES, 8 OF 8

OLY MOLY
TIMBER SALE

SHEET NUMBER 13
TOTAL SHEETS 19

DECOMISSIONING - RD 2380

OLY MOLY TIMBER SALE	SHEET NUMBER	TOTAL SHEETS
	14	19

NORTH FORK OBRIEN ROAD

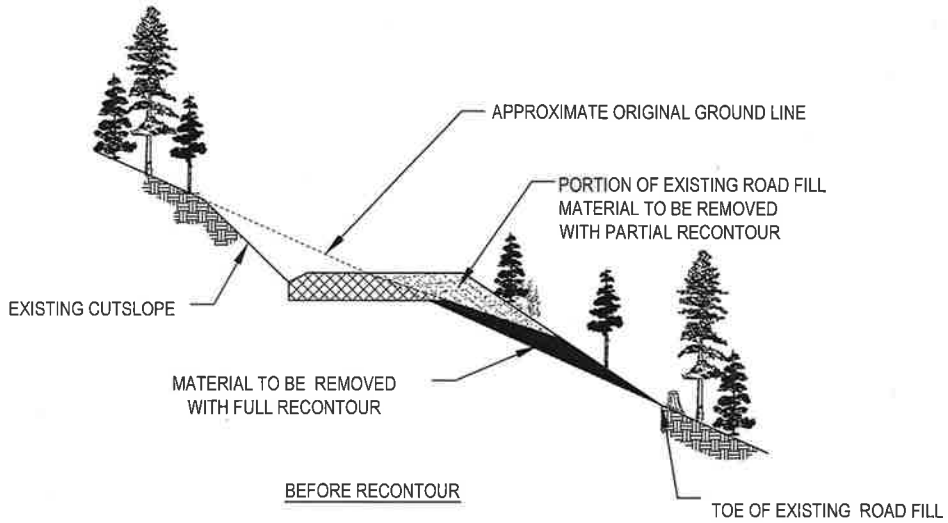
Station or Mile Post	Pay Item Number	Description of Work
0+00	21103	BEGIN DECOMPACTION, DO NOT DAMAGE CULVERTS TO REMAIN IN PLACE.12" MINIMUM DEPTH
0+32		LEAVE EXISTING 18" & 36" CULVERTS IN PLACE
1+00	21103	LEAVE EXISTING DRAIN DIP IN PLACE
2+30	21103	BEGIN RECONTOUR AT 3:1 OUTSLOPE
		ROAD WIDTH IS 18' INCLUDEING DITCHLINE
3+95	20301	REMOVE EXISTING 18" DITCH RELIEF CULVERT. FLATTEN & HAUL TO FEEDER OBRIEN PIT
6+45	20301	REMOVE EXISTING SURFACE WATER DEFLECTOR. HAUL & DISPOSE OFFSITE
		ROAD WIDTH IS 15' WITH 20' CUT & FILLSLOPE
9+20	20301	REMOVE EXISTING 18" CULVERT. FLATTEN & HAUL TO FEEDER OBRIEN PIT
	20418	CONSTRUCT ARMORED CROSS CHANNEL TO DRAIN SEEP. SEE DETAIL A, SHEET 10
	25101	HAUL & PLACE 3 CY CLASS 3 RIPRAP ON CROSS DRAIN
	25101	HAUL & PLACE 1 CY CLASS 3 RIPRAP ON CUTSLOPE AT CROSS DRAIN INLET
9+65	21103	END RECONTOUR AT 3:1. BEGIN DECOMPACTION
9+85		DO NOT DISTURB ROOT SYSTEM OF LARGE COTTONWOOD
10+05	21103	END DECOMPACTION. BEGIN RECONTOUR AT 3:1
12+95	21103	END RECONTOUR AT 3:1. BEGIN DECOMPACTION
		NON-EXISTISTENT CUTSLOPE. DECOMPACT(12") TRAVELWAY WHERE NO CUTSLOPE EXIST
16+30	21103	LEAVE DRAIN DIP STRUCTURE INTACT. CONTINUE LIGHT DECOMPACTION. 12" MINIMUM RIP
17+20	21103	LEAVE DRAIN DIP STRUCTURE INTACT. CONTINUE LIGHT DECOMPACTION. 12" MINIMUM RIP
17+35	21103	END DECOMPACTION. END RECONTOUR. JUNCTION WITH 2380A

NOTE: MILEAGES ARE MEASURED ELECTRONICALLY AND DO NOT MATCH MILE POSTS ON THE GROUND. RD 2380 IS CURRENTLY OPEN AND DRIVABLE.

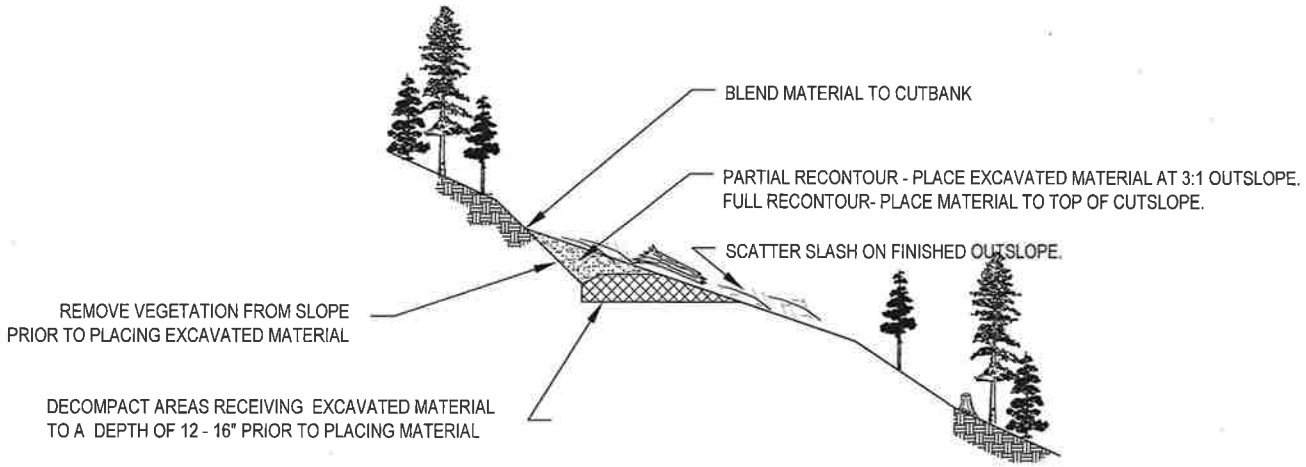
DECOMISSIONING - RD 2380

OLY MOLY TIMBER SALE	SHEET NUMBER	TOTAL SHEETS
	15	19

ITEM 21103, METHOD 1 (FULL RECONTOUR) & METHOD 5 (PARTIAL RECONTOUR)



BEFORE RECONTOUR

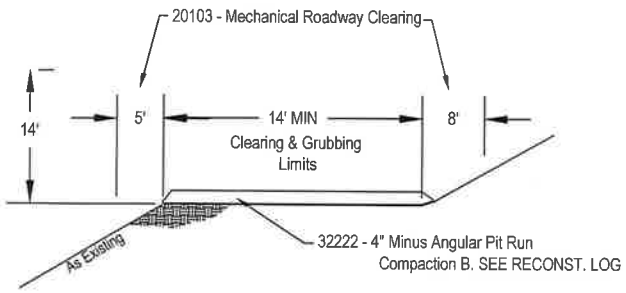


AFTER RECONTOUR

TYPICAL SECTIONS

Typical A

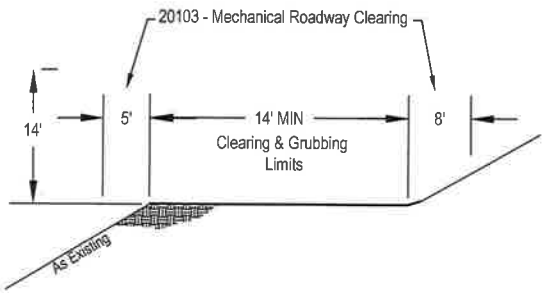
ROADS: 2380A --> STATION 0+00 TO 20+70



NOTE: SHAPE TO DRAIN.

Typical B

ROADS: 2380A --> STATION 20+70 TO 35+00

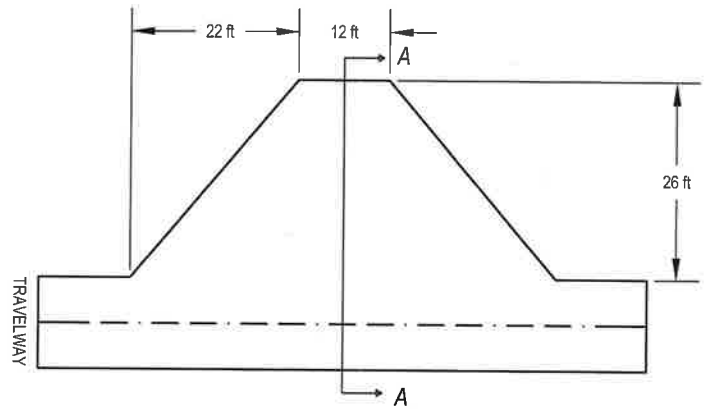


NOTE: SHAPE TO DRAIN.

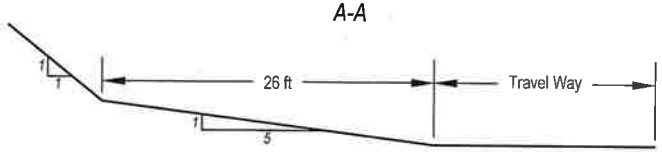
Typical C

ROADS: 2380A --> STATION 12+50

J-HOLE TYPICAL; PLAN & SECTION VIEW



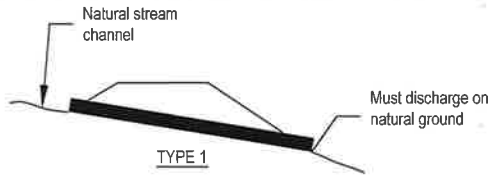
A-A



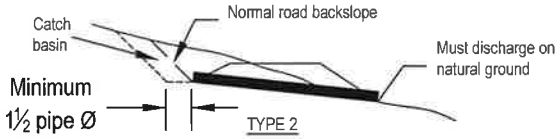
OLY MOLY

SHEET NUMBER	TOTAL SHEETS
16	19

CULVERT CONSTRUCTION DETAIL



TYPE 1



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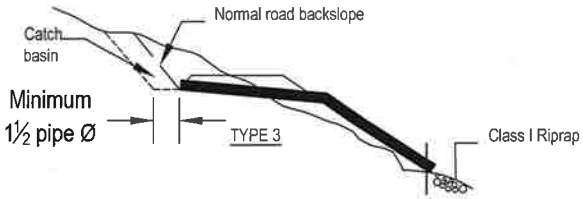

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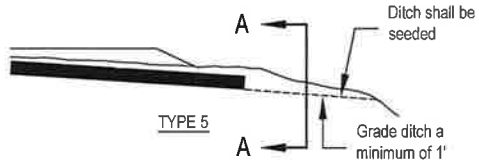
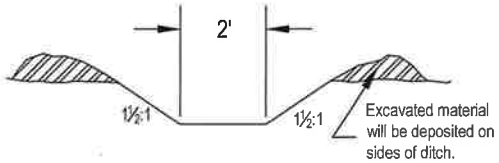
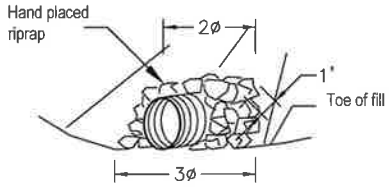


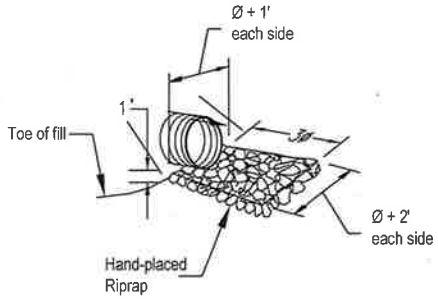
TYPE 5



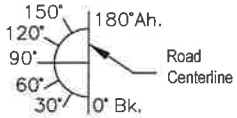
SECTION A-A



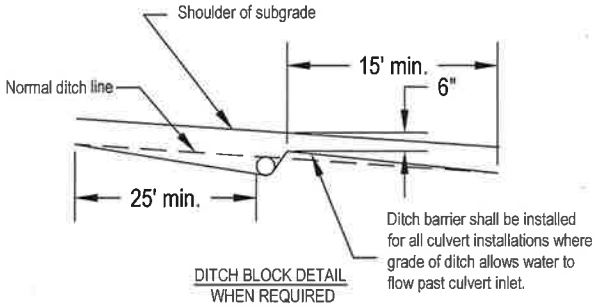
INLET RIPRAP FOR TYPE 1 INSTALLATION
WHEN REQUIRED



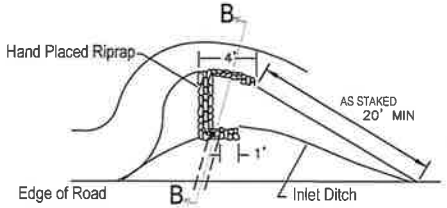
OUTLET RIPRAP
WHEN REQUIRED



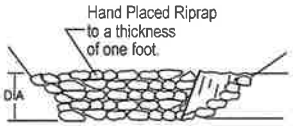
CULVERT SKEW



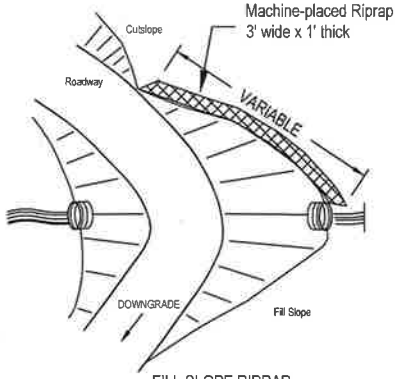
DITCH BLOCK DETAIL
WHEN REQUIRED



INLET RIPRAP FOR TYPE 2 & 3 INSTALLATION
WHEN REQUIRED



SECTION B-B

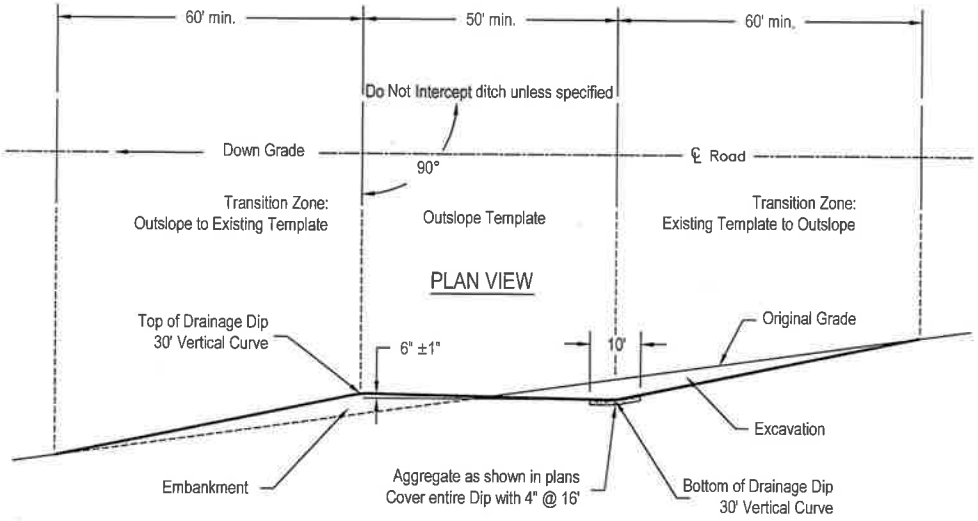


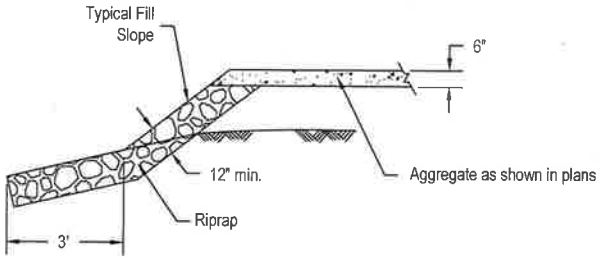
FILL SLOPE RIPRAP
WHEN REQUIRED

OLY MOLY

SHEET NUMBER	TOTAL SHEETS
17	19

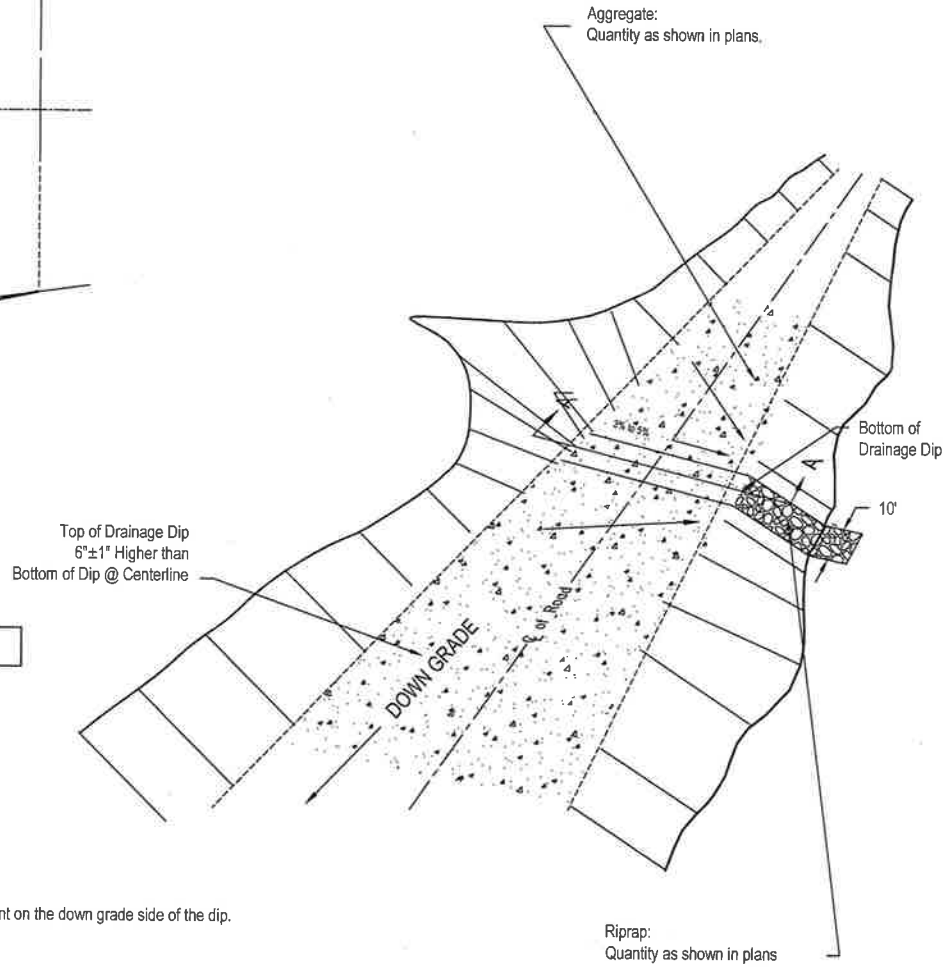
DRAIN DIP DETAIL





SECTION A - A
Riprap and Reinforcing Detail

Drawings Not To Scale



Notes:

Excavation below the existing grade line will be used as embankment on the down grade side of the dip.

All disturbances shall be kept within the limits of the Drainage Dip.

Aggregate, Dip Reinforcement, or Riprap will only be required when specified in the Drainage Listing or Reconstruction Log.

OLY MOLY

SHEET NUMBER	TOTAL SHEETS
18	19

OPEN TOP BOX CULVERT

NOTES:

OTBC must be inspected and approved in writing prior to installation. Location for inspection to be agreed upon.

Pilot holes are recommended but not required.

Any split which results from fastening boards without a pilot hole and intersects a perpendicular face may allow rejection of the entire board.

Lumber must be full dimension Select Structural douglas fir or larch. See WWPA Western Lumber Grading Rules 98 *See attached requirement in Forest Service Supplemental Specifications* See Split & Check requirements. Any split or check beyond stated maximum may allow rejection of board.

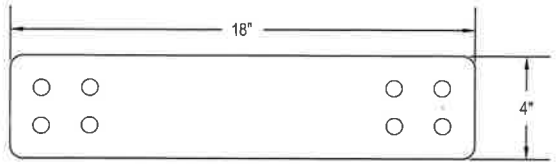
The Strap Tie may be eliminated if joints are offset. This will be documented in writing at time of inspection prior to installation.

WWPA Western Lumber Grading Rules, Structural Joist and Planks, Standard Sizes does not apply. Full rough sawn dimensions are required for 2"x8" and 2"x10" lumber.

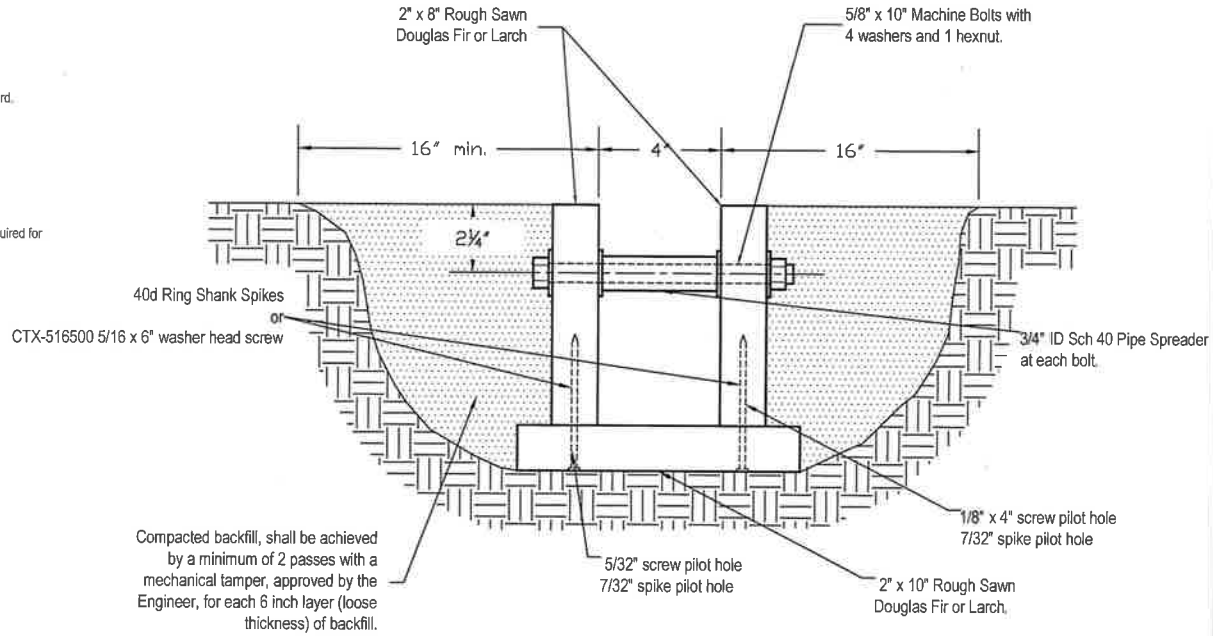
3/4" pipe spreader assumed at 3.75" long with two flat washers (assumed 0.125" thickness)for total clearance between upright of 4".

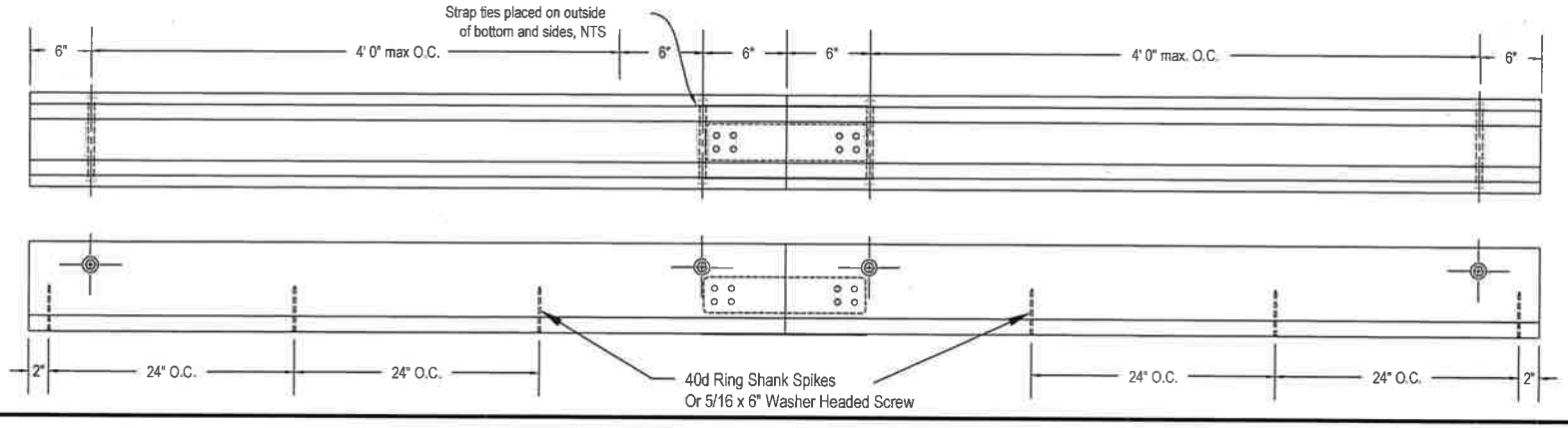
All nuts, bolts, washers shall be zinc coated grade 2 or better.

Provide three strap ties per splice. Attach with 1/2"x2" lag screws with washers, using two per end per splice. Construct from 7 gauge ($\frac{3}{16}$" flatstock). Apply one coat of galvanized spray or hand applied paint.



DETAIL "A" - Strap Tie





OLY MOLY

SHEET NUMBER	TOTAL SHEETS
19	19

ESTIMATE OF QUANTITIES

				ROAD NUMBER	2380	2380A	2394	752	-	-	
				MILE POST (MILES)	0.33	0.66	0.1	0.2	-	-	
ITEM NO.	DESCRIPTION	METHOD OF MEASURE	UNIT	REVISION DATE	QUANTITIES						REMARKS
20102	CLEARING & GRUBBING, SLASH DISPOSAL F, HEAVY	CQ	STA	2016		20.60					
20103	MECHANICAL ROADWAY CLEARING, DISPOSAL F, HEAVY	CQ	STA	2016		20.60					
20453	EXCAVATE, HAUL & PLACE. COMPACTION E	CQ	BCY	2016		365.00					
20453	EXCAVATE. SIDECAST	CQ	BCY	2016		1,465.00					
21103	ROADWAY OBLITERATION, SCARIFICATION, 12" DEPTH	CQ	FT	2016	710.00						
21103	ROADWAY OBLITERATION, RECONTOUR, 3:1	CQ	FT	2016	1,025.00						
25101	RIPRAP, CLASS 1, COMMERCIAL SOURCE	CQ	CY	2016		9.00		2.00			
25101	RIPRAP, CLASS 3, COMMERCIAL SOURCE	CQ	CY	2016	4.00						
30357	ROADWAY RECONDITIONING, COMPACTION B	AQ	STA	2016		35.00					
60270	18" CSP, 16 GAGE, GALVANIZED	AQ	LF	2016		42.00		36.00			
60712	CULVERT REMOVAL, FLATTEN & HAUL TO PIT	AQ	EA	2016	2.00						
60712	SWD REMOVAL, CONTRACTOR DISPOSAL	AQ	EA	2016	1.00						
62556	SEEDING, APPLICATION ONLY, GFP	CQ	AC	2016	0.90	2.50					
62901	ROLLED EROSION CONTROL, TYPE 4. FP03 713.17(k)	CQ	SY	2016		2,570.00					
15101	Mobilization	LS	LS	2016	1.00	1.00	1.00				
32222	GENERATE & STOCKPILE 4" MINUS ANGULAR PITRUN	CQ	CY	2016			500.00				
32222	LOAD, HAUL & PLACE 4" MINUS ANGULAR PITRUN	CQ	CY	2016		350.00					
20480	INSTALL OPEN TOP BOX CULVERT	AQ	LF	2016				32.00			

Engineer's Estimate
(Timber Sale)

Timber Sale: Oly Optional Stewardship

Road No.: 2380A

Road Name: North Obrien A

Length (Miles): 0.66

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
20102	CLEARING & GRUBBING, SLASH DISPOSAL F, HEAVY	CQ	STA	20.60	$ 147.00	$ 3,028.20
20103	MECHANICAL ROADWAY CLEARING, DISPOSAL F, HEAVY	CQ	STA	20.60	$ 118.00	$ 2,430.80
20453	EXCAVATE, HAUL & PLACE, COMPACTION E	CQ	BCY	365.00	$ 25.00	$ 9,125.00
20453	EXCAVATE, SIDECAST	CQ	BCY	1,465.00	$ 15.00	$ 21,975.00
25101	RIPRAP, CLASS 1, COMMERCIAL SOURCE	CQ	CY	9.00	$ 155.00	$ 1,395.00
30357	ROADWAY RECONDITIONING, COMPACTION B	AQ	STA	35.00	$ 107.00	$ 3,745.00
60270	18" CSP, 16 GAGE, GALVANIZED	AQ	LF	42.00	$ 43.00	$ 1,806.00
62556	SEEDING, APPLICATION ONLY, GFP	CQ	AC	2.50	$ 250.00	$ 625.00
62901	ROLLED EROSION CONTROL, TYPE 4. FP03 713.17(k)	CQ	SY	2,570.00	$ 4.90	$ 12,593.00
15101	Mobilization	LS	LS	1.00	$ 4,500.00	$ 4,500.00
32222	LOAD, HAUL & PLACE 4" MINUS ANGULAR PITRUN	CQ	CY	350.00	$ 25.00	$ 8,750.00

SUB-TOTAL: $ 69,973.00

TOTAL ALL ROADS: $ 83,679.50

Engineer's Estimate
(Timber Sale)

Timber Sale: Oly Optional Stewardship

Road No.: 2380

Road Name: North Obrien

Length (Miles): 0.33

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
21103	ROADWAY OBLITERATION, SCARIFICATION, 12" DEPTH	CQ	FT	710.00	$ 1.30	$ 923.00
21103	ROADWAY OBLITERATION, RECONTOUR, 3:1	CQ	FT	1,025.00	$ 1.70	$ 1,742.50
25101	RIPRAP, CLASS 3, COMMERCIAL SOURCE	CQ	CY	4.00	$ 155.00	$ 620.00
60712	CULVERT REMOVAL, FLATTEN & HAUL TO PIT	AQ	EA	2.00	$ 550.00	$ 1,100.00
60712	SWD REMOVAL, CONTRACTOR DISPOSAL	AQ	EA	1.00	$ 200.00	$ 200.00
62556	SEEDING, APPLICATION ONLY, GFP	CQ	AC	0.90	$ 250.00	$ 225.00
15101	Mobilization	LS	LS	1.00	$ 2,500.00	$ 2,500.00

SUB-TOTAL: $ 7,310.50

TOTAL ALL ROADS: $ 83,679.50

Engineer's Estimate
(Timber Sale)

Timber Sale: Oly Optional Stewardship

Road No.: 752

Road Name: Obrien Creek

Length (Miles): 0.2

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
25101	RIPRAP, CLASS 1, COMMERCIAL SOURCE	CQ	CY	2.00	$ 155.00	$ 310.00
60270	18" CSP, 16 GAGE, GALVANIZED	AQ	LF	36.00	$ 44.00	$ 1,584.00
20480	INSTALL OPEN TOP BOX CULVERT	AQ	LF	32.00	$ 36.00	$ 1,152.00

SUB-TOTAL: $ 3,046.00

TOTAL ALL ROADS: $ 83,679.50

Engineer's Estimate
(Timber Sale)

Timber Sale: Oly Optional Stewardship

Road No.: 2394

Road Name: Kilbrennan Lake

Length (Miles): 0.1

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	LS	LS	1.00	$ 600.00	$ 600.00
32222	GENERATE & STOCKPILE 4" MINUS ANGULAR PITRUN	CQ	CY	500.00	$ 5.50	$ 2,750.00

SUB-TOTAL: $ 3,350.00

TOTAL ALL ROADS: $ 83,679.50