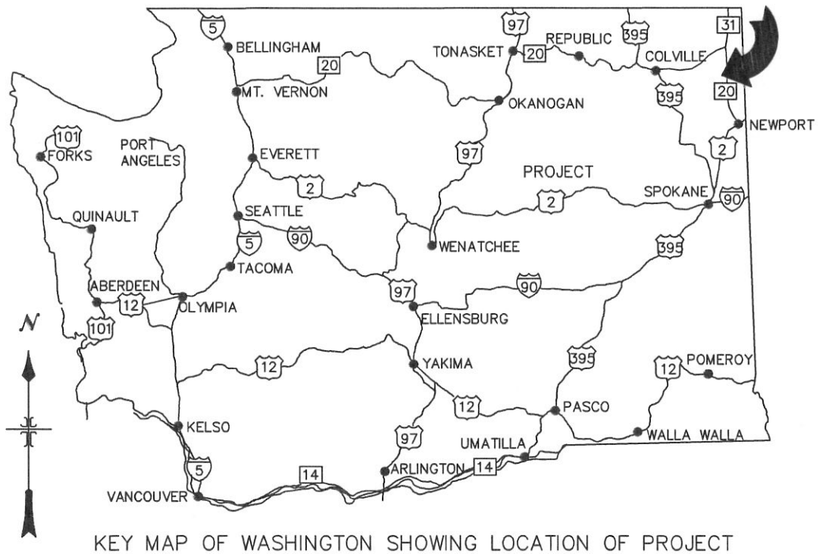


KEY MAP OF WASHINGTON SHOWING LOCATION OF PROJECT

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE – REGION SIX

COLVILLE NATIONAL FOREST

NEWPORT RANGER DISTRICT

DRAWINGS FOR PROPOSED

DELANEY STEWARDSHIP

INDEX TO SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
2–3	VICINITY MAP
4	ESTIMATE OF QUANTITIES
5	ROAD STRUCTURE DETAILS
6	CULVERT DETAIL
7	DRAINAGE DETAILS
8	CULVERT LISTING
9	PIT PLAN
10	GATE DETAIL
11–12	WORK LISTS

ROAD NUMBER	LENGTH	RECONST CONST	SHEET NUMBER	DESIGN VEHICLE	CRITICAL VEHICLE
3500210R	1.91	RECONST	11	LOGTRUCK	YARDER
3530001R	5.31	RECONST	11	LOGTRUCK	YARDER
3530160R	0.53	RECONST	11	LOGTRUCK	LOGTRUCK
3540000R	10.00	RECONST	11	LOGTRUCK	YARDER
3540400R	1.20	RECONST	11–12	LOGTRUCK	LOGTRUCK
3540519R	0.50	RECONST	12	LOGTRUCK	YARDER
3540521R	1.20	RECONST	12	LOGTRUCK	YARDER
3540600R	0.40	RECONST	12	LOGTRUCK	YARDER
4347000R	5.90	RECONST	12	LOGTRUCK	YARDER
4347535R	5.80	RECONST	12	LOGTRUCK	YARDER
4347550R	1.40	RECONST	12	LOGTRUCK	YARDER

TOTAL CONSTRUCTION	0.00 MILES
TOTAL RECONSTRUCTION	34.15 MILES

PROJECT COORDINATOR:

NAME DATE

PEER REVIEWER:

NAME DATE

TRANSPORTATION MANAGER:

NAME DATE

RECOMMENDED BY:

NAME FOREST ENGINEER DATE

APPROVED BY:

NAME DISTRICT RANGER DATE

DELANEY STEWARDSHIP
VICINITY MAP
T32N R42E

CHEWELAH

USK

C2902

C2902

4347000

4347477

4347490

4347497

4347485

4347535

4347550

4347535

4347471

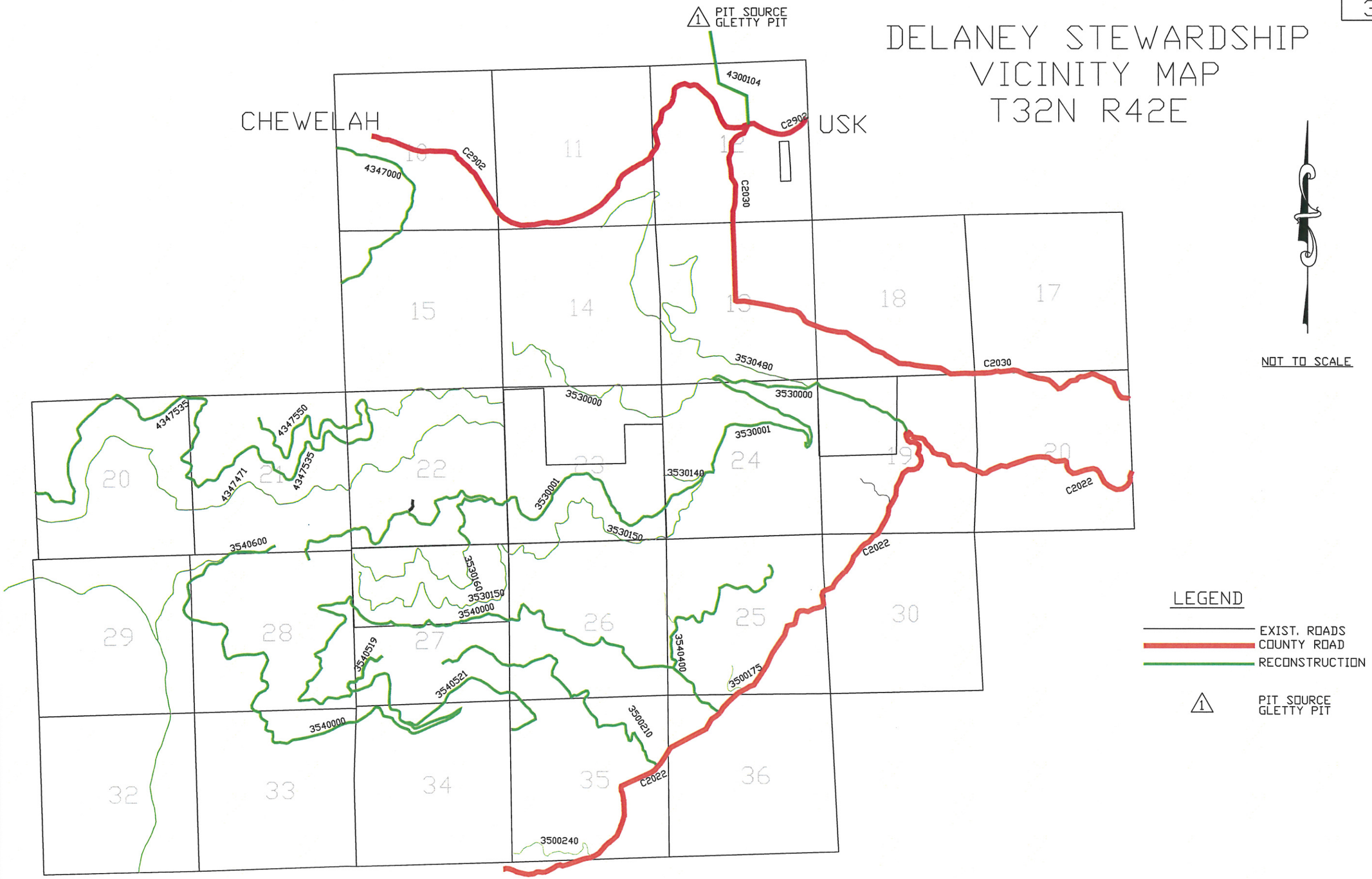
4347473

NOT TO SCALE

LEGEND

EXIST. ROADS
COUNTY ROAD
RECONSTRUCTION

DELANEY STEWARDSHIP
VICINITY MAP
T32N R42E



NOT TO SCALE

LEGEND

- EXIST. ROADS
- COUNTY ROAD
- RECONSTRUCTION

1 PIT SOURCE GLETTY PIT

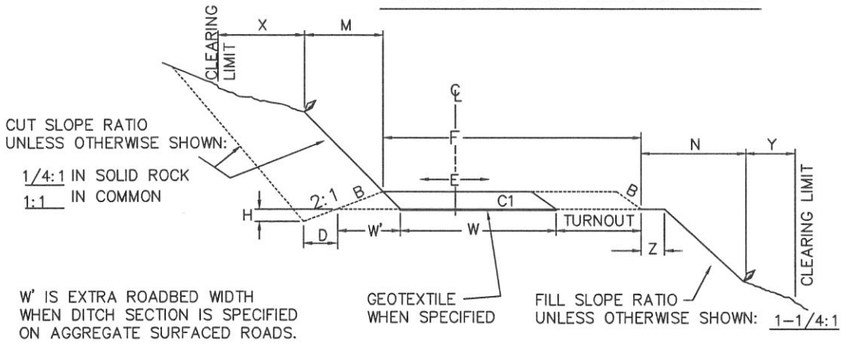
ESTIMATE OF QUANTITIES

Item Number	Description	Unit	3500210R 1.91 mi	3530001R 5.31 mi	3530160R 0.53 mi	3540000R 10.0 mi	3540400R 1.20 mi	3540519R 0.50 mi	3540521R 1.20 mi	3540600R 0.40 mi	4347000R 5.90 mi	4347535R 5.80 mi	4347550R 1.40 mi	Project Total	Remarks
15101	Mobilization	ls	All	All	All	All	All	All	All	All	All	All	All	**All**	
15219	Establishing clearing limits	mile	1.91	0.55			1.20	0.50		0.40		5.80	1.40	**11.76**	
20103	Clearing and grubbing, disposal of tops and limbs f,l, logs f, and stumps f.	mile	1.91	0.55			1.20	0.50		0.40		5.80	1.40	**11.76**	
20402	Roadway excavation, compaction method C finish method C.	mile	1.91	5.31	0.53		1.20	0.50	1.20	0.40		5.80	1.40	**18.25**	
20420A	Drainage excavation, type Drain Dip	each	5	10	2		1	1	2	1				**22**	
20420B	Drainage excavation, type Outslope Drain	each					2							**2**	
30326	Road Reconditioning	mile				10.0					5.90			**15.90**	
32232	Haul and place stockpiled aggregate	cy	50	100	16		70	10	20	10				**276**	**Gletty Pit**
60211A	18 inch corrugated steel pipe 0.064 inch thickness	ft	36			72	72					64		**244**	
60211B	24 inch corrugated steel pipe 0.064 inch thickness	ft		30							40			**70**	
60211C	36 inch corrugated steel pipe 0.064 inch thickness	ft					28							**28**	
60211D	48 inch corrugated steel pipe 0.064 inch thickness	ft									70			**70**	
62501	Seeding dry method	acre	4.60	12.90	1.28	24.00	3.00	1.21	2.91	0.97	16.73	14.06	3.40	**85.06**	
65003	Furnish and install closure device Type Gate, size 14 feet	each										1		**1**	

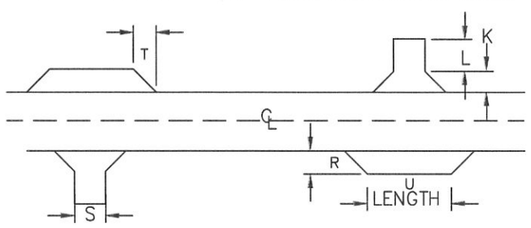
TYPICAL ROADWAY SECTION

(NOT TO SCALE)

ROAD STRUCTURE DETAILS



TURNAROUND & TURNOUT SYMBOLS



ROAD NUMBER	M – MANDATORY O – OPTIONAL	STATION or M.P.	to STATION or M.P.	CONSTRUCTION TOLERANCE	GRADING: OUTSLOPE (O) INSLOPE (I) CROWN (C)	GRADING: ROADBED 3/ WIDTH	GRADING: 2/ DITCH DIMENSIONS D	GRADING: 2/ DITCH DIMENSIONS H	GRADING: TURN AROUND TAPER WIDTH	GRADING: TURN AROUND LENGTH	GRADING: TURN AROUND WIDTH	GRADING: TURNOUTS WIDTH	GRADING: TURNOUTS LENGTH	GRADING: TURNOUTS TAPER	2/ AGGREGATE: MIN TRAVELED WAY WIDTH	2/ AGGREGATE: GRADATION	2/ AGGREGATE: COMPACTED DEPTH	2/ AGGREGATE: SLOPE RATIO	REVEGETATION: SEEDING and/or MULCHING AREA M	N	D	F	CLEARING: MINIMUM CLEARING WIDTH	CLEARING: FEET BEYOND TOP OF CUT TO TOE OF FILL X	Y	CLEARING: MINIMUM ROADWAY BRUSHING WIDTH
					4 %	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.		INCH							FT	FT		FT
					E	W	D	H	K	L	S	R	U	T	F	C1	C1	B	M	N	D	F	FT	X	Y	FT
				K	1/		2'	1'	15'	15'	14'	8'	50'	25'			5/	2:1	X	X	X	X	4/			
3500210R	M	0.00	1.91			14'									14'											
3530001R	M	0.00	5.31			14'									14'											
3530160R	M	0.00	0.53			12'									12'											
3540000R	M	0.00	10.00			14'									14'											
3540400R	M	0.00	1.20			12'									12'											
3540519R	M	0.00	0.50			14'									14'											
3540521R	M	0.00	1.20			14'									14'											
3540600R	M	0.00	0.40			14'									14'											
4347000R	M	0.00	5.90			14'									14'											
4347535R	M	0.00	5.80			14'									14'											
4347550R	M	0.00	1.40			14'									14'											

NOTES

1. CURVE WIDENING, WHEN SPECIFIED, SHALL BE ADDED TO INSIDE OF CURVE.
2. TAPER LENGTH ON CURVE WIDENING IS LOCATED IN THE CURVE DATA BOX ON THE PLAN SHEETS.
3. SEEDING AND/OR MULCHING AREA INCLUDES SECTIONS SHOWN ON TYPICALS AND ALL OTHER AREAS DISTURBED BY CONTRACTOR.
4. TURNOUTS AND CURVE WIDENING SHALL BE SURFACED TO SAME DEPTH AS THE TRAVELED WAY AND TO THE DIMENSIONS SPECIFIED IN THE PLANS.
5. CONSTRUCTION STAKES SHALL BE 0.3 in. THICK X 1.5 in. WIDE X 24 in. LONG, +/– 0.1in. THICKNESS AND THE TOP 2in. TO BE PAINTED RED. CLEARING FLAGGING SHALL BE GLO PINK. STAKES SHALL BE SET ON UPHILL SIDE OF CENTERLINE.
6. SLOUGH WIDENING "Z" SHALL BE 1ft. WHERE FILLS ARE 5ft. OR LESS AND 2ft. WHERE FILLS ARE GREATER THAN 5ft.
7. ALL DITCHES SHALL BE SLOPED TO DRAIN.
8. SEEDING IS NOT REQUIRED WHERE SLOPE RATIOS ARE 1/2:1 OR STEEPER.
9. ROADWAY FINISHING FOR ALL ROADS IS METHOD C PER FSSS 204.13
10. IN AREAS WHERE DD OR OSD FALL WITHIN A DESIGNATED AGGREGATE SPREAD, PLACE AGGREGATE AS SHOWN IN DRAINAGE DETAIL.

FOOTNOTES

1/ OUTSLOPE ALL ROADS EXCEPT INSLOPE IN DITCHED AREAS AND CULVERT CATCH BASINS UNLESS OTHERWISE SHOWN ON PLANS.

2/ AT LOCATIONS SHOWN ON THE DRAWINGS.

3/ CONSTRUCT ADDITIONAL WIDTH IN ALL AREAS WHERE PLACEMENT OF AGGREGATE IS SHOWN ON THE PLANS

4/ CLEARING LIMITS SHALL BE ESTABLISHED FROM STAKE NOTES OR 13 FEET FROM CENTERLINE WHICHEVER IS GREATER.

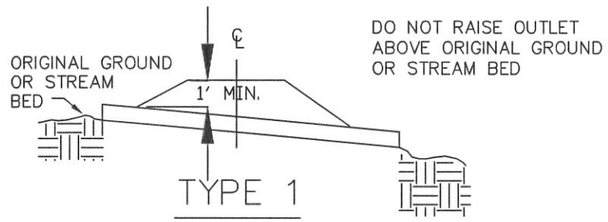
5/ DEPTHS AS SHOWN IN THE PLANS

ABBREVIATIONS

DD=DRAIN DIP
OSD=OUTSLOPE DRAIN
TOR=TURNOUT RIGHT
TOL=TURNOUT LEFT
TAR=TURNAROUND RIGHT
TAL=TURNAROUND LEFT
CWR=CURVE WIDENING RIGHT
CWL=CURVE WIDENING LEFT
LOD=LEADOUT DITCH
——=GROUND
— —=GRADE

CULVERT DETAILS

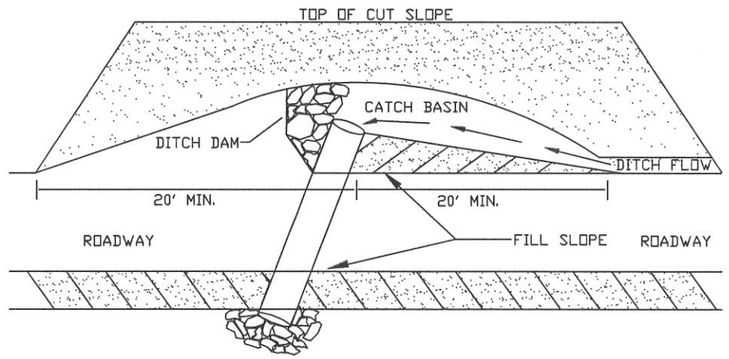
CULVERT TYPES

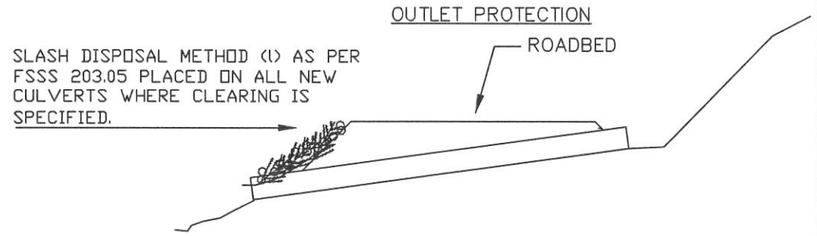


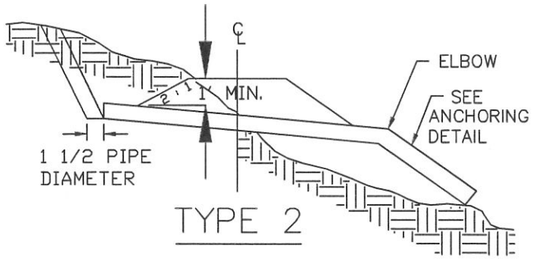
DO NOT RAISE OUTLET ABOVE ORIGINAL GROUND OR STREAM BED

CATCH BASIN DETAIL AND INLET & OUTLET PROTECTION

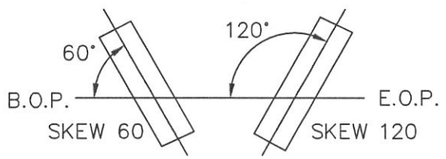
FOR ALL NEW TYPE 1, 2 & 3 CULVERT INSTALLATION



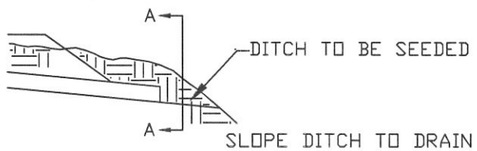




SKEW DIAGRAM

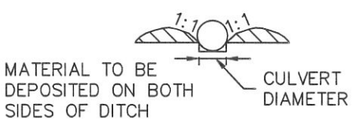


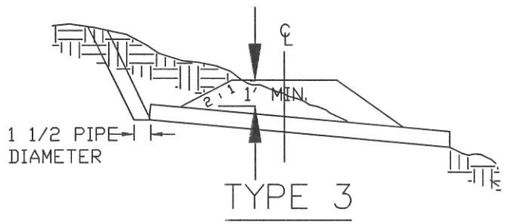
LEADOUT DITCH



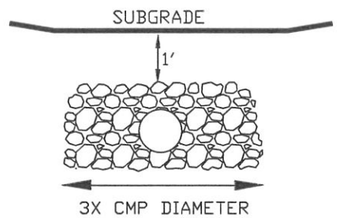
LEADOUT DITCH

SECTION A–A





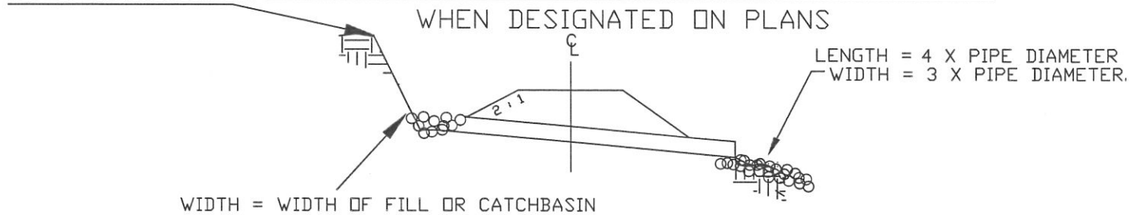
ARMORING CULVERT FILL SLOPES



ARMOR FILL TO 1' BELOW SUBGRADE ELEVATION

RIPRAP CULVERT INLET & OUTLET FOR ENERGY DISSAPATION

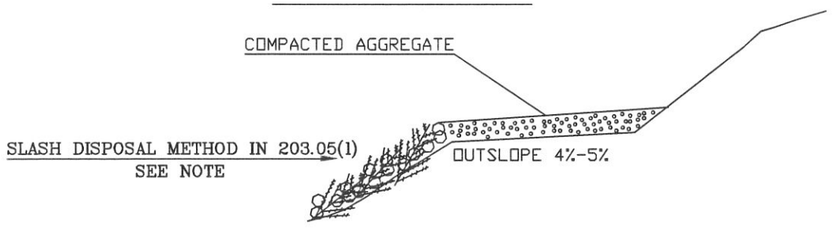
WHEN DESIGNATED ON PLANS



DRAINAGE DETAILS

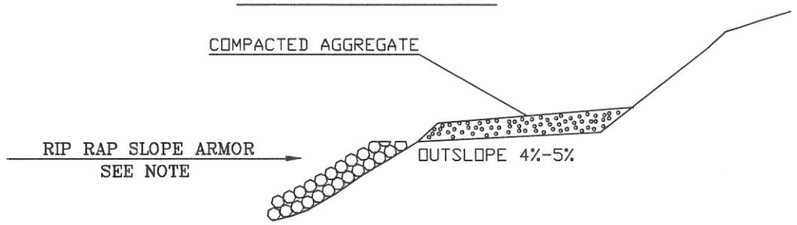
OUTSLOPE DRAIN & DRAIN DIP

SLOPE TREATMENT

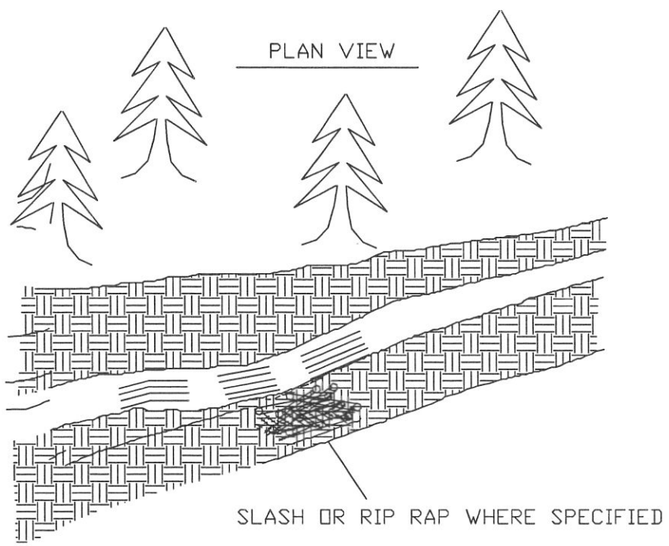


OUTSLOPE DRAIN & DRAIN DIP

SLOPE TREATMENT



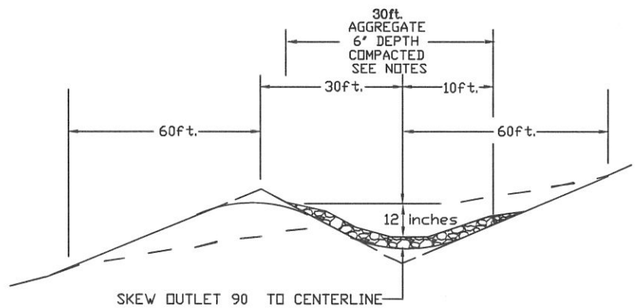
PLAN VIEW



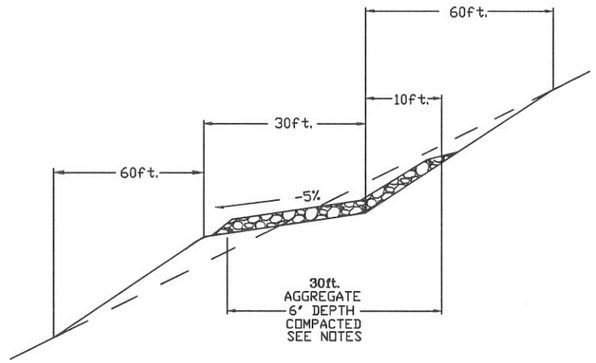
DRAIN DIP DETAILS (DD)

PROFILE VIEW

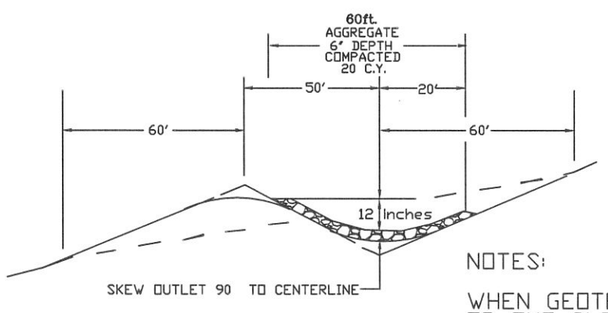
DESIGN FOR ROADS WITH GRADES (0 - 10%)



DESIGN FOR ROADS WITH GRADES (11 - 14%)

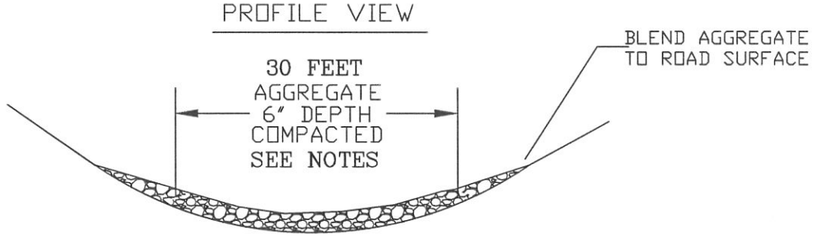


DESIGN FOR ROADS WHERE CRITICAL VEHICLE IS A LOWBOY WITH GRADES (0 - 7%)



OUTSLOPE DRAIN DETAIL (OSD)

PROFILE VIEW



NOTES:

WHEN GEOTEXTILE IS SPECIFIED IN DRAIN DIPS OR OUT SLOPE DRAINS, SIZE SHALL BE 15'W X 30'L

DO NOT INTERCEPT DITCH WATER WHERE DRAIN DIPS OR OUT SLOPE DRAINS ARE DESIGNATED IN DITCHED SECTIONS, UNLESS OTHERWISE SPECIFIED.

SLASH SHALL BE PLACED ON FILL SLOPES TO A DEPTH OF 1' AT THE LOWEST POINT IN DRAIN DIP OR OUTSLOPED DRAIN, AND EXTEND 5' EACH WAY.
THIS APPLYS TO ALL NEW AND RESHAPED DRAINS THAT ARE WITHIN ALL CLEARING LIMIT AREAS.

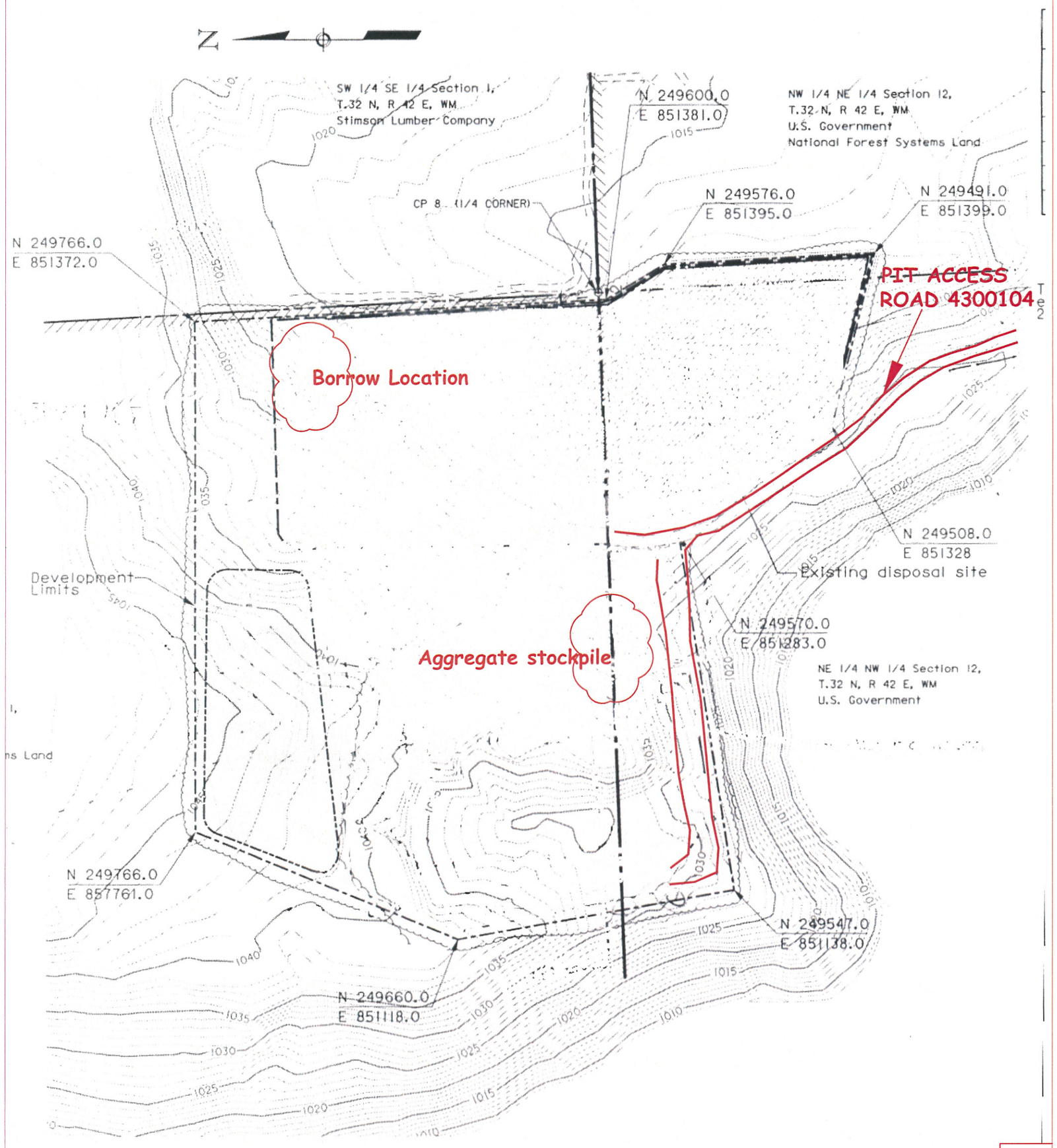
PLACE RIP RAP ON FILL SLOPES OF DRAIN DIP OR OUTSLOPED DRAINS WHERE SPECIIED, 1' DEEP, EXTENDING 4' EACHWAY OF LOWEST POINT.

12' ROADBEDS REQUIRE 8 C.Y. OF IN PLACE AGGREGATE
14' ROADBEDS REQUIRE 10 C.Y. OF IN PLACE AGGREGATE

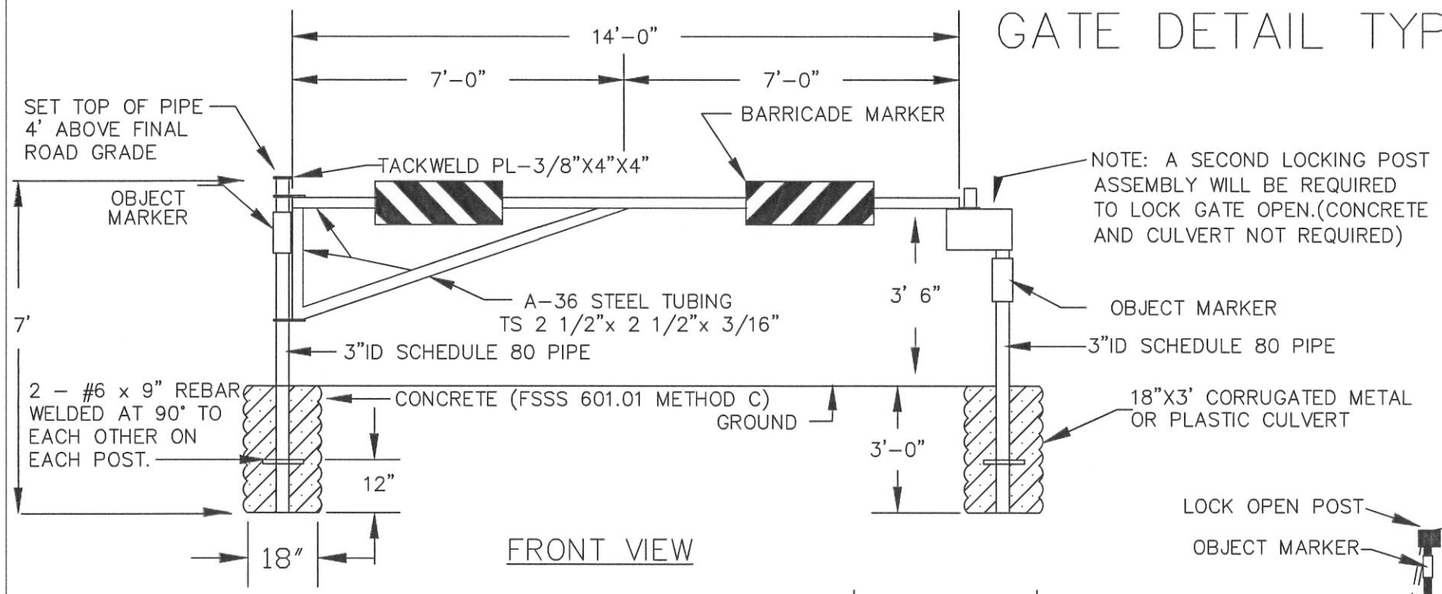
CULVERT LISTING

DESIGNED			AS BUILT			CORRUGATION & THICKNESS		INSTALLATION DETAILS				GA. - GAUGE AL. - ALUMINUM FE. - STEEL TF. - TO FIT SLASH DISPOSAL METHOD (L) AS PER FSSS 203.05 SHALL BE PLACED ON ALL CULVERT INSTALLATIONS WHERE CLEARING IS SPECIFIED.
STATION OR MILE POST	DIAMETER IN INCHES	LENGTH IN FEET	STATION	DIAMETER IN INCHES	LENGTH IN FEET	2 2/3" x 1/2" .064 FE (16 GA.)		TYPE	SKEW	COMPACTION METHOD	STAKING METHOD	REMARKS
Rd 3500210R												
12+95	18	36				X		1	TF	B	1	
Rd 3530001R												
162+30	24	30				X		1	TF	B	1	
Rd 3540000R												
0.345	18	36				X		1	TF	B	1	
1.10	18	36				X		1	TF	B	1	
Rd 3540400R												
29+85	18	36				X		1	TF	B	1	
18+00	36	28				X		1	TF	B	1	
41+41	18	36				X		1	TF	B	1	
Rd 4347000R												
4.30	48	70				X		1	TF	B	1	Actual length to be field verified after staking
5.50	24	40				X		1	TF	B	1	
Rd 4347535R												
0.80	18	30				X		1	TF	B	1	
1.20	18	34				X		1	TF	B	1	

GLETTY PIT DEVELOPMENT PLAN



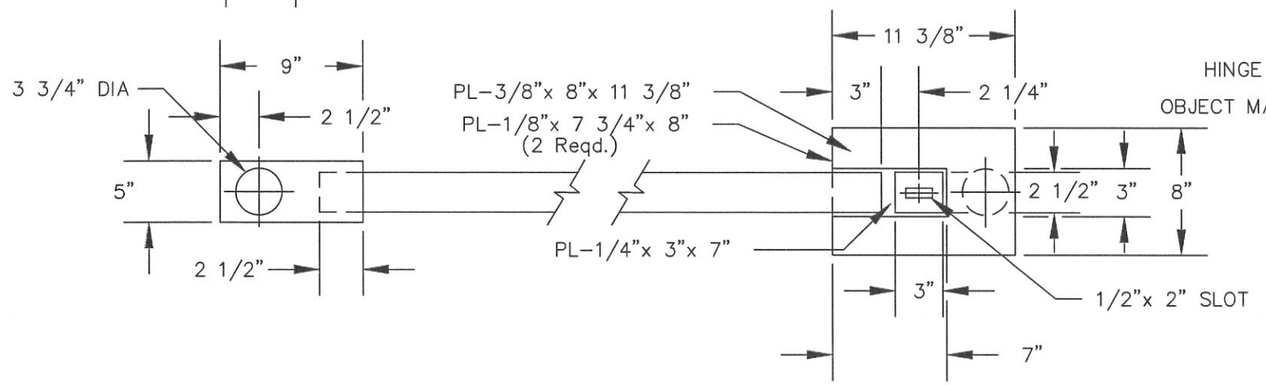
GATE DETAIL TYPE II

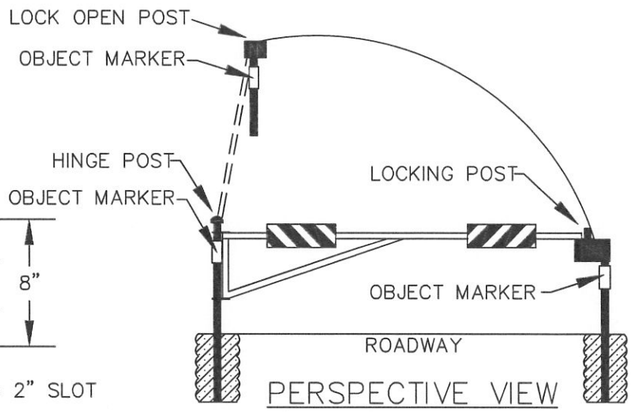


FRONT VIEW

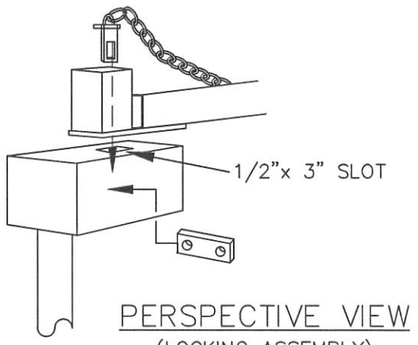
NOTES

1. EXTERIOR METAL EPOXY PAINT, COCOA BROWN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. BARRICADE MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 1 (FBM-L AND FBM-R). COLOR - RED & WHITE. 4 REQUIRED, 2 LEFT SIDE STRIPE, 2 RIGHT SIDE STRIPE.
3. OBJECT MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 2. 6 REQUIRED, 2 ON EACH SIDE OF POSTS DESIGNATED.
4. ALL WELDS REQUIRED TO MANUFACTURE GATE, UNLESS OTHERWISE SHOWN, SHALL BE FILLET AND SHALL BE OF THE SAME SIZE AS THE THICKNESS OF THE SMALLER OF THE TWO PIECES BEING JOINED.
5. ALL MARKERS SHALL MEET MUTCD REQUIREMENTS FOR HIGH INTENSITY PRISMATIC RETROFLECTIVE SHEETING.

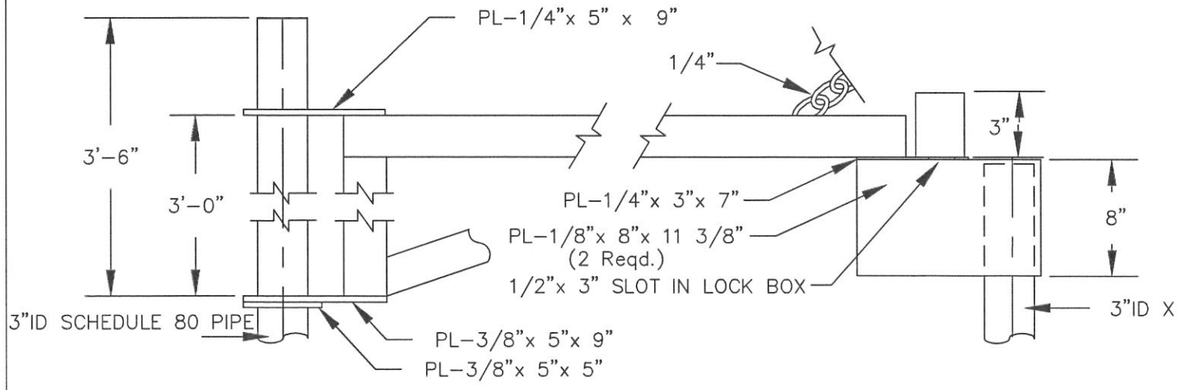




PERSPECTIVE VIEW
(LOCKING GATE & POST)

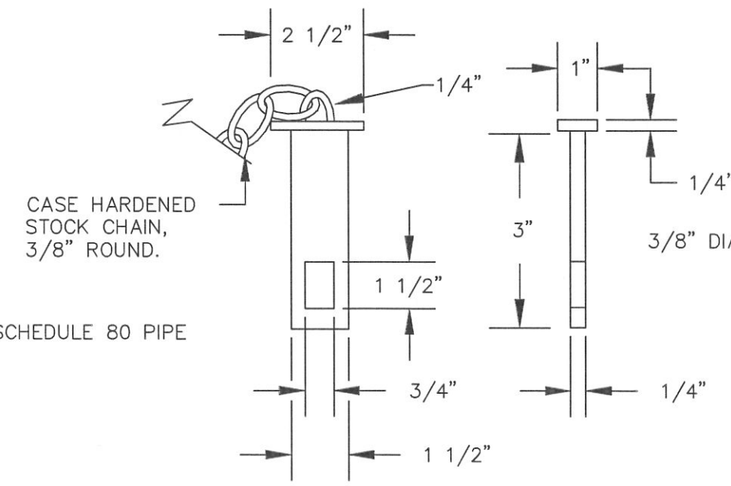


PERSPECTIVE VIEW
(LOCKING ASSEMBLY)

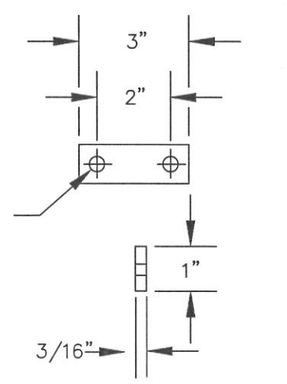


HINGE POST DETAIL

LOCKING POST DETAIL



MASTER PIN DETAIL



DOUBLE LOCK PIN DETAIL

WORK SUMMARY

ROAD 3500210R

STA	WORK ITEMS
0+00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin constructing 14' roadbed
5+73	Construct DD
12+95	Install new 18" X 36' CMP
19+20	Construct DD
24+56	Construct DD
40+00	Construct DD
41+70	Construct DD
100+90	EOP

ROAD 3530001R

STA	
0+00	Begin Blading and shaping 14' roadbed
63+15	Construct DD
103+00	Construct DD
107+04	Construct DD
122+66	Construct DD
133+02	Construct DD
135+39	Construct DD
145+21	Construct DD
162+30	Install new 24" X 30' CMP
178+55	Construct DD
220+88	Construct DD
234+14	Construct DD
251+13	Begin establishing clearing limits
	Begin clearing and grubbing
280+55	EOP

ROAD 3530160R

STA	WORK ITEMS
0+00	Begin Blading and shaping 12' roadbed
0+72	Construct DD
2+65	Construct DD
EOP	

ROAD 3540000R

MP	
0.00	Begin Roadway Reconditioning-This work includes reconditioning all ditch, shoulder, roadway, inlet and outlet of all existing drainage structers
0.345	Install new 18" X 36' CMP
1.10	Install new 18" X 36' CMP
10.00	EOP

ROAD 3540400R

STA	
0+00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin constructing 12' roadbed
	Begin constructing ditch right
	Begin constructing ditch left
2+20	End constructing ditch left
2+70	End constructing ditch right
	Begin constructing 3' CWR
3+80	End constructing 3' CWR
4+54	Begin constructing ditch right
8+79	End constructing ditch right
14+10	Begin constructing ditch left
18+00	Install new 36" X 28' CMP
19+50	End constructing ditch let
21+09	Begin constructing ditch left

WORK SUMMARY

ROAD 3540400R (cont.)

STA	WORK ITEMS
24+56	End constructing ditch left
26+89	Begin constructing ditch left
29+85	Install new 18" X 36' CMP
32+00	End constructing ditch left
36+23	Construct DD
39+12	Construct OSD
40+17	Begin constructing ditch left
41+40	Install new 18" X 36' CMP
44+10	End constructing ditch left
47+03	Begin constructing ditch left
48+10	End constructing ditch left
	Begin placing 6' of aggregate
50+00	End placing 6" of aggregate
56+81	Construct OSD
64+54	EOP

ROAD 3540519R

MP	
0.00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin constructing 14' roadbed
0.25	Construct DD-(Assumed location, actual location to be field verified by ER)
0.50	EOP

ROAD 3540521R

MP	
0.00	Begin estblishing clearing limits
	Begin clearing and grubbing
	Begin constructing 14' roadbed
0.25	Construct DD-(Assumed location, actual location to be field verified by ER)
0.50	Construct DD-(Assumed location, actual location to be field verified by ER)
1.20	EOP

ROAD 3540600R

MP	WORK ITEMS
0.00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin constructing 14' roadbed
0.20	Construct DD-(Assumed location, actual location to be field verified by ER)
0.40	EOP

ROAD 4347000R

MP	
0.00	reconditioning all ditch, shoulder, roadway, inlet and
4.30	Install new 48" X 70' CMP-(Actual length to be filed verified before ordering)
5.50	Install new 24" X 40' CMP
6.90	EOP

ROAD 4347535R

MP	
0.00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin blading and shaping 14' roadbed
	Install Type 2 gate as staked by CO
0.80	Install new 18" X 30' CMP
1.20	Install new 18" X 34' CMP
1.70	Begin ditch right
1.75	End dich right
5.80	JCT 4347550R
	EOP

ROAD 4347550R

MP	
0.00	Begin establishing clearing limits
	Begin clearing and grubbing
	Begin balding and shaping 14' roadbed
1.40	EOP