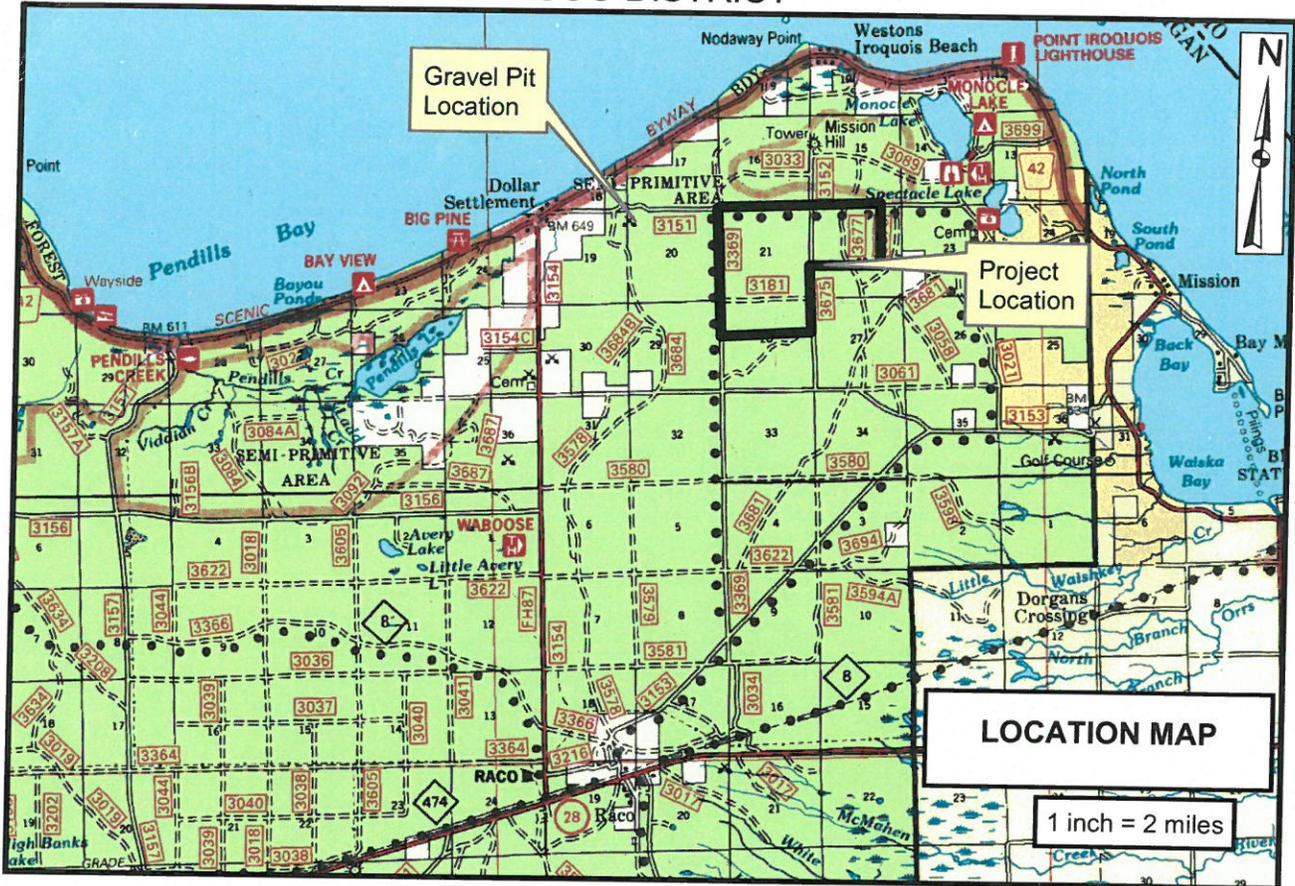


HIAWATHA NATIONAL FOREST
SPECIFIED ROAD DRAWINGS
RED EXTRA SALE
SOO DISTRICT



INDEX OF SHEETS

- 1..... Cover Sheet
- 2..... Est. of Quantities
- 3..... Construction. Notes
- 4 - 7.....Typicals & Details
- 8 - 12.....Description of Work Sheets
- 13.....Plan View

Road No.	Road Name	Length	C/R
3181D	White Pine Spur	0.35	C/R
3677A	George Spur	0.24	C
TL-1	Temp Landing 1	0.04	C
3369	Iroquois	1.0	R
3675	Herm	1.0	R

Plans, Specifications, and Estimates Reviewed and Certified as to Content and Correctness

DESIGNED:

D. Kenon 2/5/15
 Civil Engineering Technician date

REVIEWED:

Jennifer A. Piggott 2-5-15
 Title: Engineering Tech. date

APPROVED:

Gray Gardner 2/12/15
 Forest Engineer date

Robert West 2/17/15
 District Ranger date

ESTIMATE OF QUANTITIES - RED EXTRA SALE SPECIFIED ROADS										COST ESTIMATE	
Estimated Quantity										Unit Price	TOTAL COST
Item No.	Description	Unit	TL-1	3181D	3677A	3369	3675	TOTAL			
10101	Mobilization*	LS	0.00	1.00	0.00	0.00	0.00	1.0	\$1,000.00	\$1,000.00	
10102	Temporary Traffic Control	LS	0.50	0.00	0.00	0.25	0.25	1.0	\$300.00	\$300.00	
20101	Clearing and Grubbing, disposal of tops limbs, logs, and stumps.	LS	0.25	0.25	0.50	0.00	0.00	1.0	\$2,975.00	\$2,975.00	
20301	Excavation**	STA	0.5	0.0	0.0	10.0	10.0	20.5	\$200.00	\$4,100.00	
20302	Construct Road Closure	EA	1.0	1.0	1.0	0.0	0.0	3.0	\$100.00	\$300.00	
30401A	Crushed Aggregate-22A haul & place (compaction method A)	CY	40.0	0.0	0.0	0.0	0.0	40.0	\$5.00	\$200.00	
30401B	Crushed Aggregate-22A (processed)	CY	40.0	0.0	0.0	0.0	0.0	40.0	\$6.50	\$260.00	
TOTAL										\$9,135.00	

*Estimated mobilization for all road work included on FR 3181D

**Excavation estimate does include 1 full station on TL-1 but at a lower rate. 0.5 Station used above to adjust for overall cost.

All items are contract quantities:

LS = Lump Sum

STA = Station of 100'

CY = Cubic Yard

Note: Aggregate quantities shown are loose volume hauled. This quantity is estimated calculating compacted in place and adding 25%.

CONSTRUCTION NOTES

101 – CONTROL OF WORK

Construction Staking: The Forest Service will initially set all construction stakes. Clearing limits will be designated with pink flagging and/or lath with pink flagging. It is the responsibility of the contractor to maintain the construction stakes, lath, and flagging for the duration of the project.

Construction Signs: Furnish and install 4' x 4' road construction signs when working on the intersections with TOWER ROAD (FR3151). Place signs 500' each way of the work. Signs must meet requirements of MUTCD (Manual on Uniform Traffic Control Devices). This work is estimated and included under item 10102, Temporary Traffic Control.

201 – CLEARING AND GRUBBING

Slash Disposal: Remove all slash from within 25' of the edge of clearing of Tower Road (FR3151) and TL-1.

201 – CLEARING & GRUBBING: Use SLASH disposal method for treatment of construction slash. More detail included in Low Volume Road Specifications part 201.04.

203 – EXCAVATION

Construction Tolerances:

Roadbed width + 1.0'

Alignment 2.0'

Slopes +/- 1/2:1

Grade: Profile grade closely follows existing ground, cuts and fills up to 2' could be required to achieve an acceptable roadbed.

Call Miss Dig as needed before beginning earthwork.

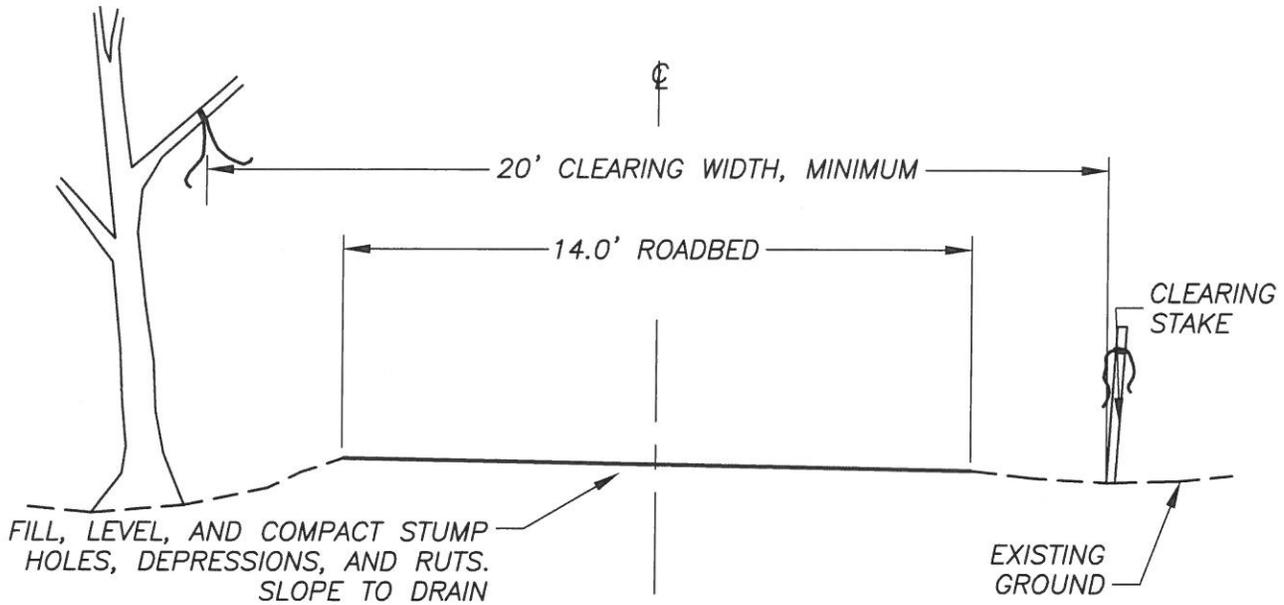
20302 – Road Closures: The closure for Temporary Landing 1 (TL-1) shall be made by pushing the gravel used to construct the intersection back into the TL-1 roadbed. Disperse excess gravel so that it does not interfere with any ditching or natural water run-off. Slash will be placed at the intersection with FR3151 and continue for a minimum of 100'.

Closure for FR3677A will also include using local slash pulled back into the clearing area to help complete the closure and encourage re-growth. Slash will be placed at the intersection with FR3677 and continue for a minimum of 100'.

Closure for FR3181D will include a typical berm earth & stump closure at the intersection with FR3181.

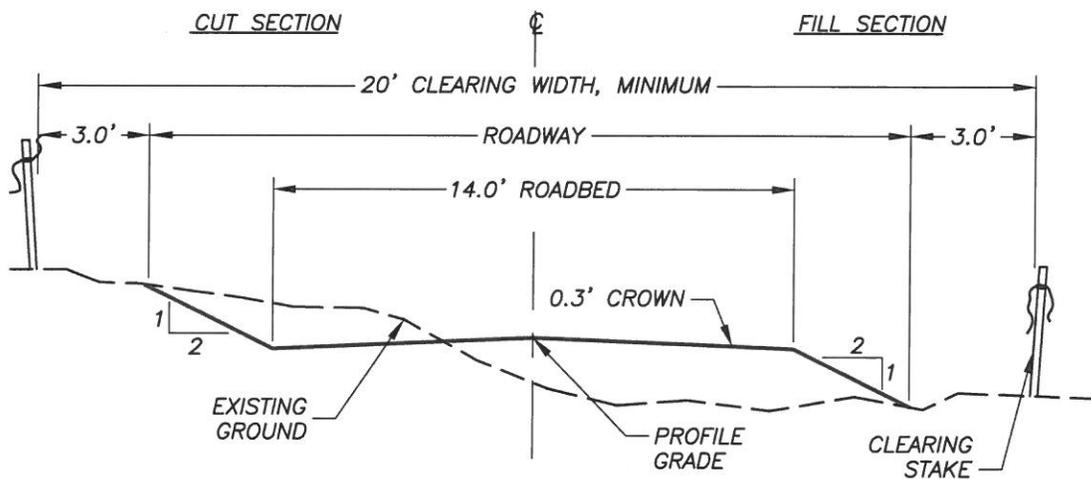
304 – AGGREGATE

Source: The contractor is responsible for obtaining a source for crushed aggregate, item 30401B. An approved source for this material is the Government Stockpile located in the Dollar Settlement Pit located on Tower Road (FR3151) approximately 2 miles west of sale area. If the contractor requests (using Form 2400-16) and the Forest service agrees, the contractor would be allowed to use this source of material. The estimated cost of processing for MDOT 22A aggregate is \$6.50/CY and is covered in work item 30401B. Prior to the loading and hauling of any crushed aggregate the engineer would designate the exact location of the material to use for this project.



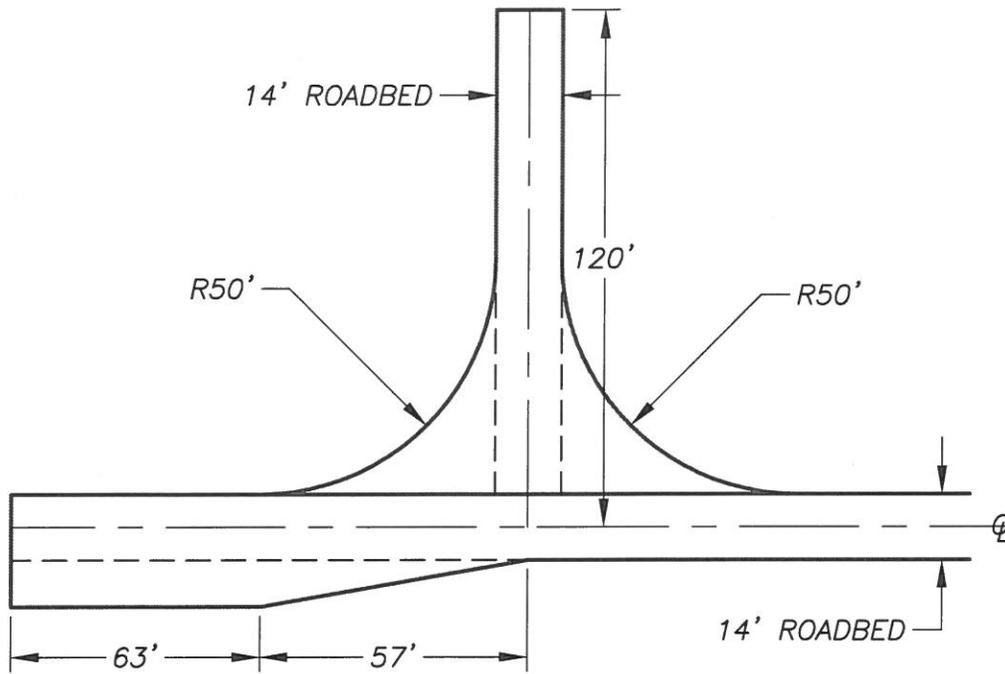
TYPICAL CROSS SECTION (A)
DRY SEASON / WINTER ROAD

CONSTRUCT AS SPECIFIED IN DESCRIPTION OF WORK



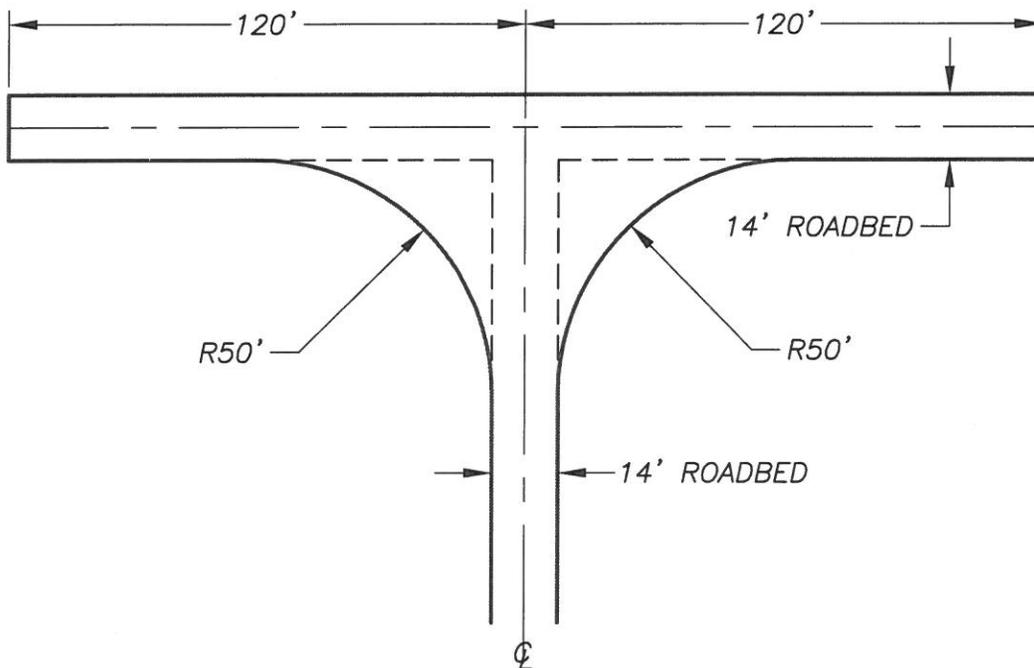
TYPICAL CROSS SECTION - CROWNED

USE THIS TYPICAL ON FR3369 AND FR3675 RECONSTRUCTION



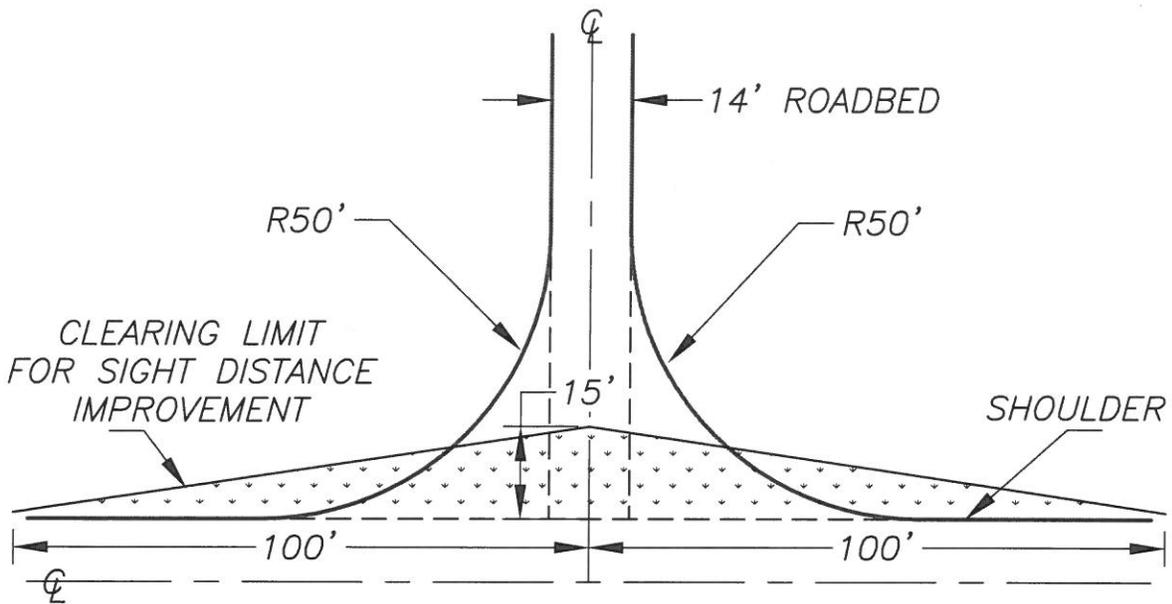
TYPICAL L-TURNAROUND

CONSTRUCT AS FLAGGED—SEE DESCRIPTION OF WORK SHEETS FOR LOCATIONS

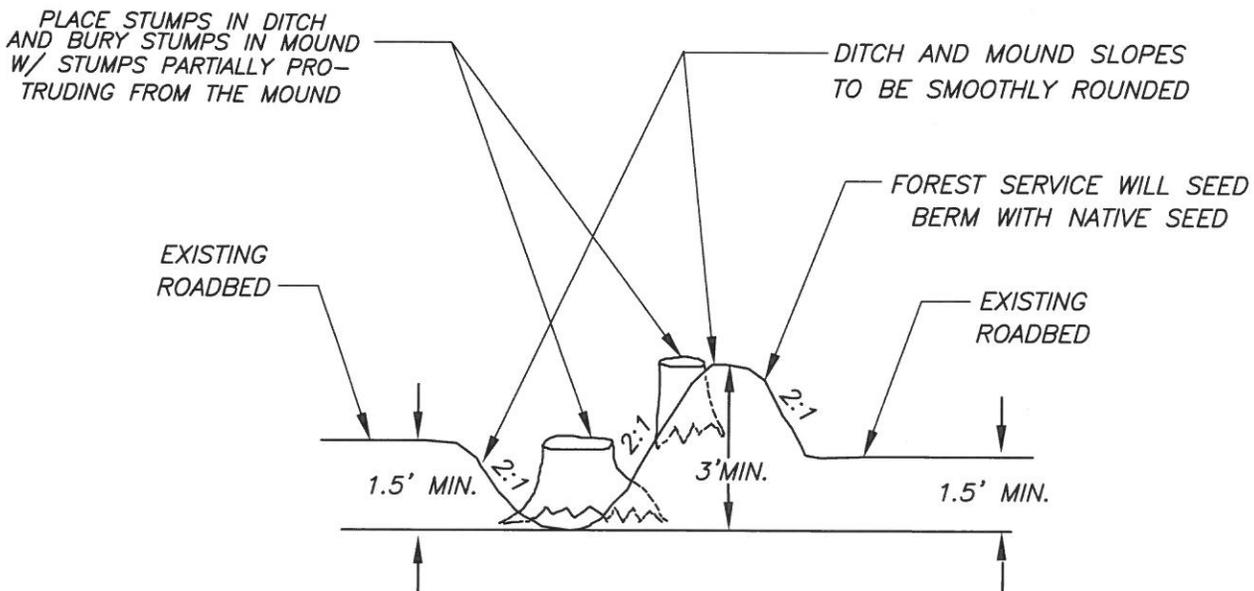
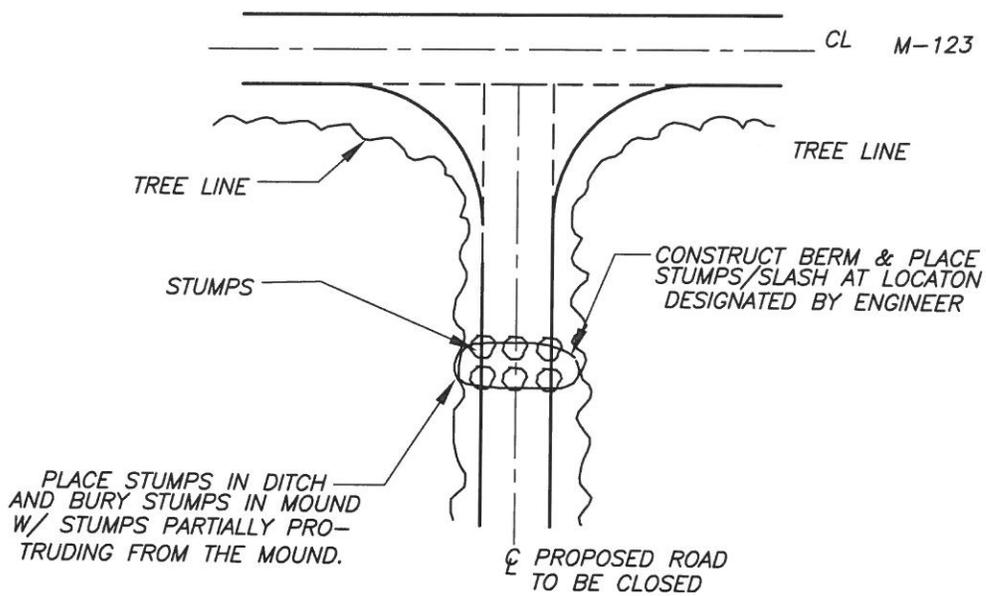


TYPICAL T-TURNAROUND

CONSTRUCT AS FLAGGED—SEE DESCRIPTION OF WORK SHEETS FOR LOCATIONS



TYPICAL INTERSECTION
 CONSTRUCT AT INTERSECTION OF TEMP LANDING TL-1
 AND FR3151.



TYPICAL BERMED EARTH ROAD CLOSURE DETAILS

NUMBER TO BUILD IS (1) AT INTERSECTION OF 3181D

DESCRIPTION OF WORK

ROAD NO.
3181D

LOCATION
(STATION)

TYPICAL CROSS
SECTION

CLEARING AND
GRUBBING

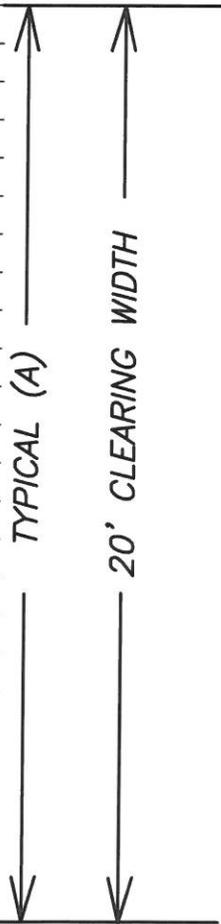
EXCAVATION

PIT RUN
AGGREGATE

REMARKS

DETAILS

POE
18+70



POB
0+00

CONSTRUCT TYPICAL BERM ROAD
CLOSURE AS DETAILED ON SHEET
7 OF 13.

CONSTRUCT T-TURNAROUND AS
FLAGGED. SEE DETAILS ON SHEET
5 OF 13.

PLACE OF BEGINNING AT
INTERSECTION WITH FR3181

DESCRIPTION OF WORK

ROAD NO.
3677A

LOCATION
(STATION)

TYPICAL CROSS
SECTION

CLEARING AND
GRUBBING

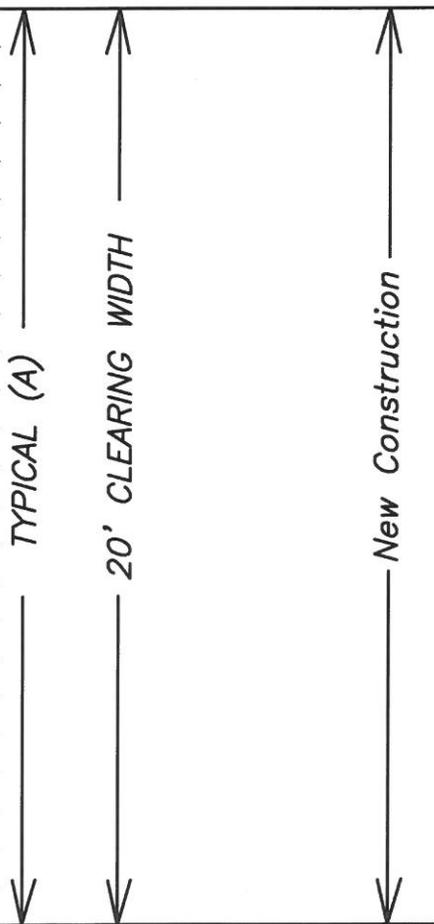
EXCAVATION

PIT RUN
AGGREGATE

REMARKS

DETAILS

POE
19+54



CONSTRUCT SLASH TYPE ROAD
CLOSURE AS DETAILED ON SHEET
3 OF 13.

CONSTRUCT L-TURNAROUND AS
FLAGGED. SEE DETAILS ON SHEET
5 OF 13.

PLACE OF BEGINNING AT
INTERSECTION WITH FR3677

DESCRIPTION OF WORK

ROAD NO.
TEMP LANDING TL-1

LOCATION
(STATION)

TYPICAL CROSS
SECTION

CLEARING AND
GRUBBING

EXCAVATION

AGGREGATE

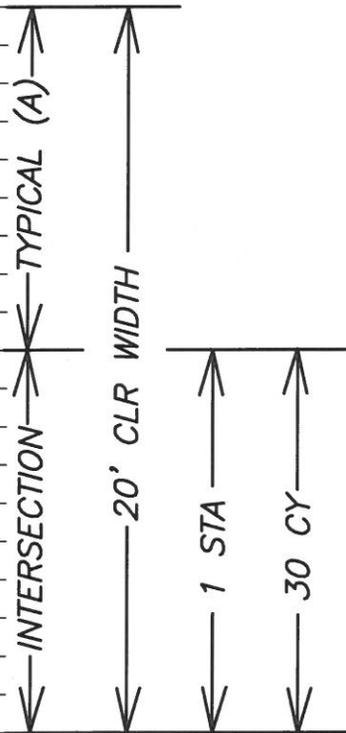
REMARKS

DETAILS

POE
2+36

1+00

POB
0+00



COMPLETE CLOSURE AT
INTERSECTION AS DETAILED IN
CONSTRUCTION NOTES ON SHEET
3 OF 13.

CONSTRUCT T-TURNAROUND AS
FLAGGED. SEE DETAILS ON SHEET
5 OF 13.

CONSTRUCT INTERSECTION AS
DETAIL ON SHEET 6 OF 13.

PLACE OF BEGINNING AT
INTERSECTION WITH FR3151

DESCRIPTION OF WORK

ROAD NO.
3369

DETAILS

LOCATION
(STATION)

TYPICAL CROSS
SECTION

CLEARING AND
GRUBBING

EXCAVATION

PIT RUN
AGGREGATE

REMARKS

POE
52+80

CROWNED SURFACE

10 STATIONS

Reconstruction

POB
0+00

ROAD HAS SEVERAL LARGE WATER HOLES WITH SOLID BASE. ROADBED MATERIAL THAT HAS BEEN PUSHED TO THE EDGE MUST BE RECLAIMED AND USED TO RESHAPE ROAD AND ALLOW WATER TO RUN OFF.

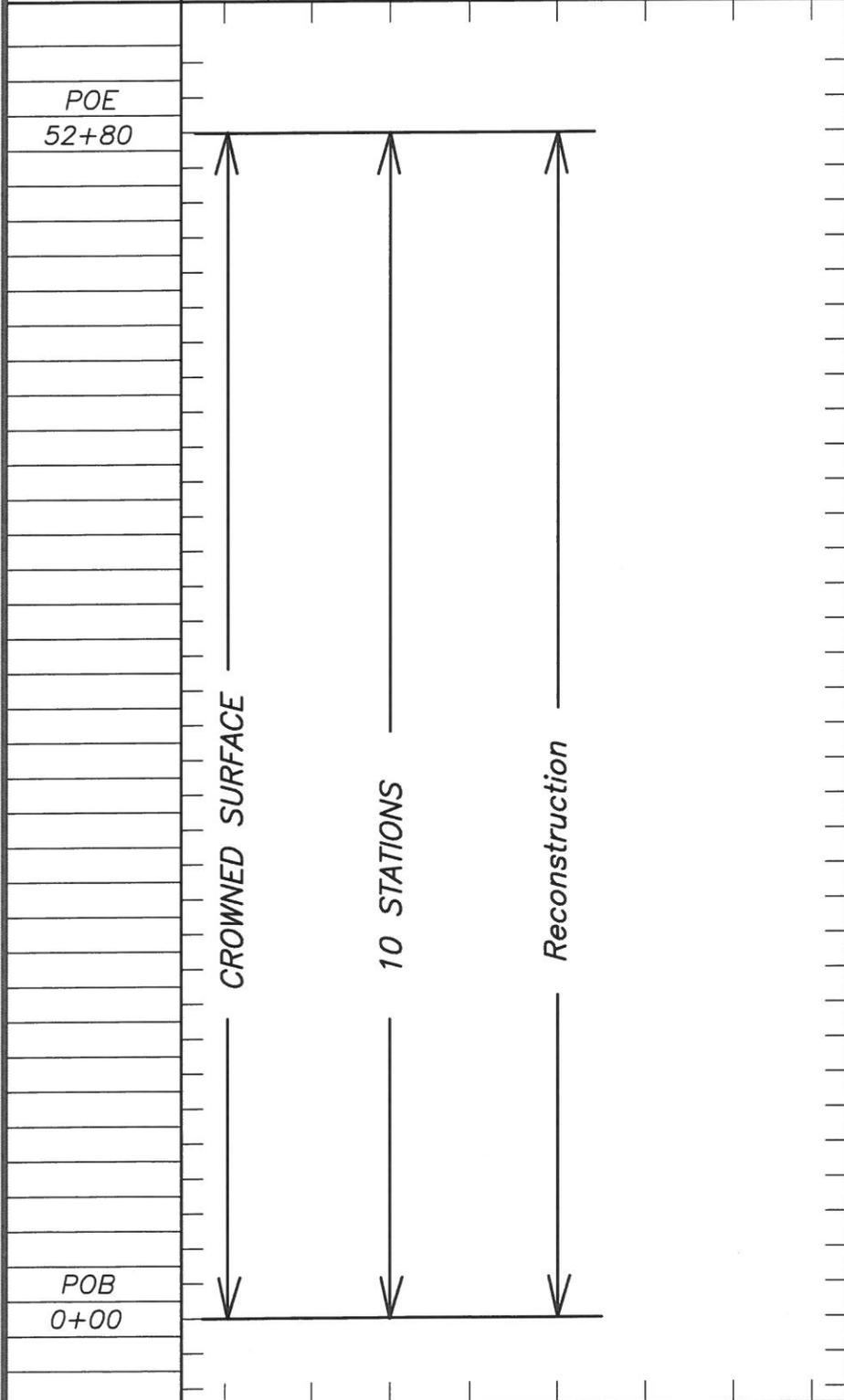
PLACE OF BEGINNING AT INTERSECTION WITH FR3151

DESCRIPTION OF WORK

ROAD NO.
3675

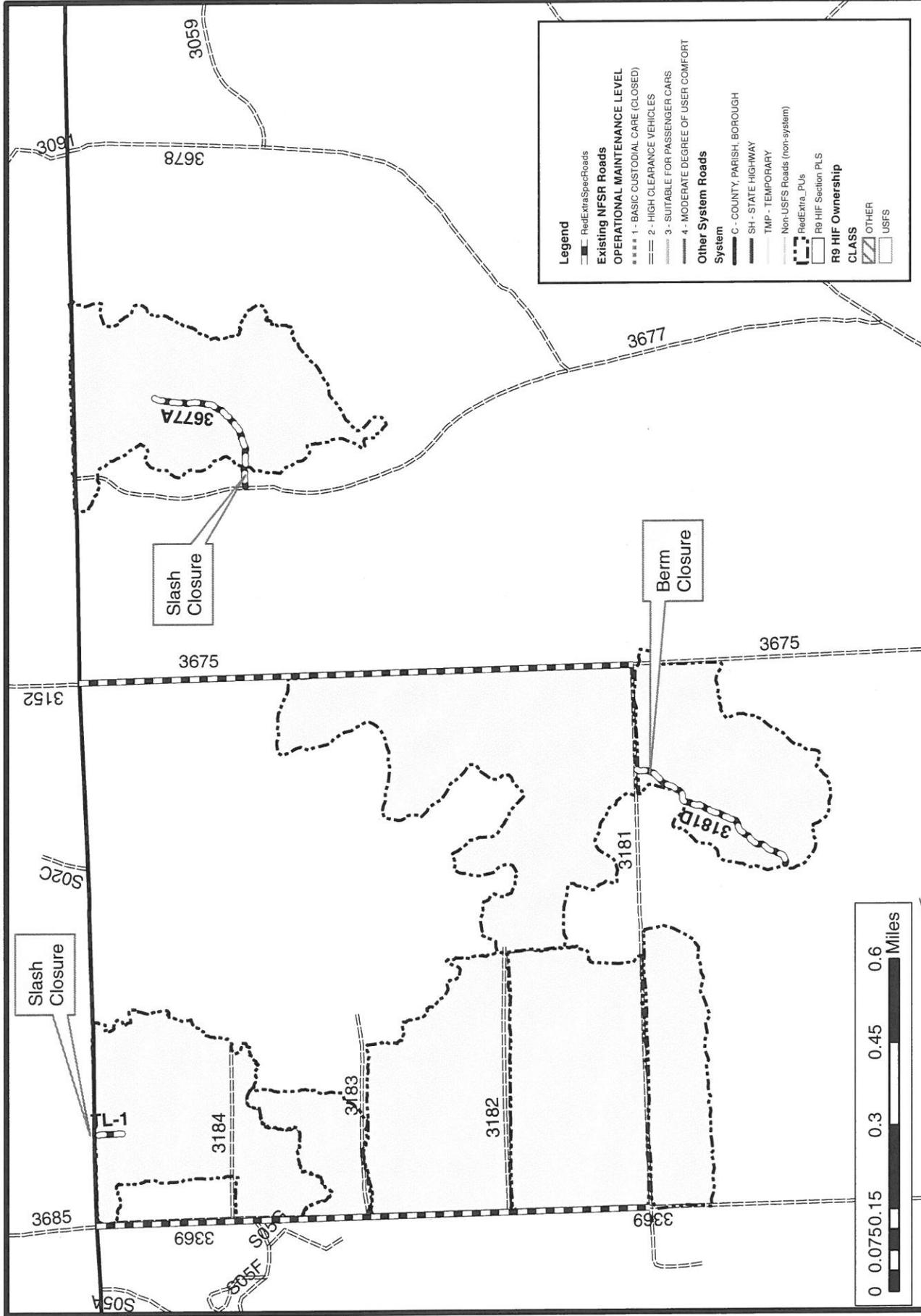
LOCATION (STATION)	TYPICAL CROSS SECTION	CLEARING AND GRUBBING	EXCAVATION	PIT RUN AGGREGATE	REMARKS			
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DETAILS



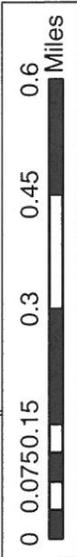
ROAD HAS SEVERAL LARGE WATER HOLES WITH SOLID BASE. ROADBED MATERIAL THAT HAS BEEN PUSHED TO THE EDGE MUST BE RECLAIMED AND USED TO RESHAPE ROAD AND ALLOW WATER TO RUN OFF.

PLACE OF BEGINNING AT INTERSECTION WITH FR3151



Legend

- RedExtraSpecRoads
- Existing NFSR Roads
- OPERATIONAL MAINTENANCE LEVEL
 - 1 - BASIC CUSTODIAL CARE (CLOSED)
 - 2 - HIGH CLEARANCE VEHICLES
 - 3 - SUITABLE FOR PASSENGER CARS
 - 4 - MODERATE DEGREE OF USER COMFORT
- Other System Roads
- System
 - C - COUNTY, PARISH, BOROUGH
 - SH - STATE HIGHWAY
 - TMP - TEMPORARY
 - Non-USFS Roads (non-system)
 - RedExtra_PUs
 - R9 HIF Section PLS
- R9 HIF Ownership
 - CLASS
 - OTHER
 - USFS



Cost Estimate Worksheet for Reconstruction Engineering Services

Timber Sale Name:	timber sale name
Miles Reconstruction:	2.4
Project Engineer:	lenoir
Project Inspector:	lenoir

PRE CONSTRUCTION ENGINEERING:
Engineering work and expense of preparing investigations, designs, contract documents and estimates:

	Work Activity	Days (Eng., Survey, etc.)	Cost
1	Transportation Planning. (all work in support of NEPA analysis and decision)	No Collection	
2	Engineering investigations, studies, reports, investigations, reconnaissance and location, etc. (Post NEPA)	0	\$ -
3	Preliminary location surveys.	0.5	\$ 157.47
4	Soils, foundations and materials investigation, surveys, and tests.	0	\$ -
5	Preliminary and final designs.	1	\$ 314.94
6	Preliminary and final plans, drawings, specifications, and estimates of quantities and cost.	1	\$ 314.94
7	Preparation of Government cost estimate.	No Collection	
8	Final location surveys staked on the ground.	0.5	\$ 157.47
9	Rights-of-way surveys, plans, and descriptions.	1	\$ 314.94
10	Other (describe) SEE ATTACHED LIST (Based on Miles from above)	2.4	\$ 524
			\$ 1,784

CONSTRUCTION ENGINEERING:
Reconstruction engineering services and expenses of setting out, controlling, inspecting, and measuring a forest system transportation facility.

1	Construction surveys to establish line and grade for the work, to control the work, and to measure quantities.	1	\$ 314.94
2	Redesigning, adjusting, and changing the plans, specifications, etc., to meet encountered conditions.	0	\$ -
3	Inspecting and controlling operations for compliance with plans and specifications.	No Collection	
4	Inspecting and testing materials to be installed.	No Collection	
5	Inspecting and measuring completed work.	No Collection	
6	Processing payments and accepting materials and work.	No Collection	
			\$ 315

PRE CONSTRUCTION / CONSTRUCTION ENGINEERING

SUBTOTAL		\$	2,099
% OVERHEAD	1.08	\$	168
TOTAL		\$	2,267

Estimator's Signature: _____



Date

2/5/15

Line Officer Reviewer Signature: _____

Date