

DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION 9
 ALLEGHENY NATIONAL FOREST

Mudlick Re-Ad Timber Sale

FR 110	Gibbs Hill	0.5 Mile Reconst. – Maintenance - Level C
FR 110A	Gibbs Hill Spur A	1.1 Mile Reconst. – Maintenance – Level D
FR 120	County Line	2.4 Mile Reconst. – Maintenance - Level C
FR 120B	County Line Spur B	0.9 Mile Reconst. – Maintenance – Level D
FR 141	Mudlick	0.9 Mile Reconst. – Maintenance – Level C
FR 257	Swede Hill	0.9 Mile Reconst. – Maintenance – Level C
FR 257A	Swede Hill Spur A	0.3 Mile Reconst. – Maintenance – Level D

Bradford Ranger District
 Warren/McKean County
 Pennsylvania

1	Title Sheet
2	Vicinity Map
3-5	Schedule of Items & General Notes
6-13	Road Log/Work Description
14-17	Roadbed Details
18	Pit Development Plan

The location and design elements of this facility have been correlated with the plans, policies and constraints of the approved Southwest Reservoir Environmental Assessment.

Plans are to be used with "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03 with Special Project Specifications thereto included in this contract.

Prepared By:

Henry S. Zus

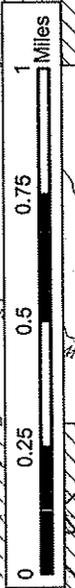
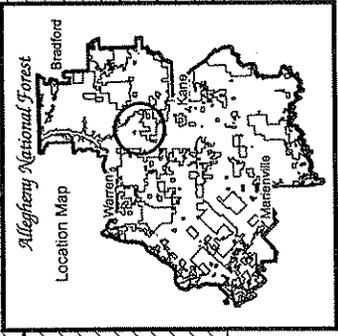
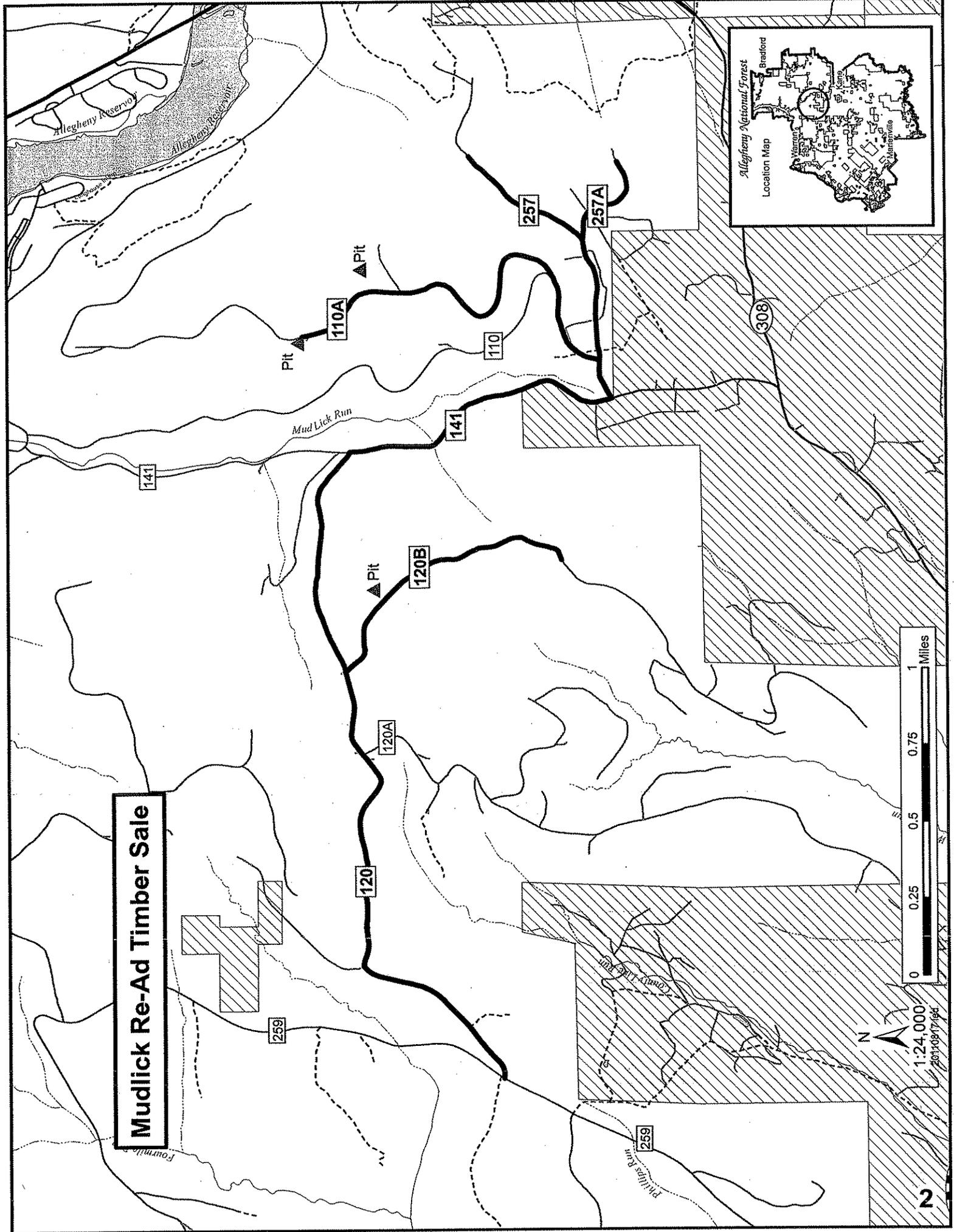
Approved By:

Anthony C. Martyn 8/26/2011
 District Ranger Date

Dan Sless 9-6-2011
 Forest Engineer Date

Ty Pl 9-6-2011
 Forest Supervisor Date

Mudlick Re-Ad Timber Sale



1:24,000
2010B7194

SCHEDULE OF ITEMS

FR 110

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20350	Brushing	Mile	0.5
30326	Road reconditioning	Mile	0.5

FR 110A

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20350	Brushing	Mile	1.1
30326	Road reconditioning	Mile	1.1

FR 120

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20301	Removal of culverts	Each	8
30103	Aggregate base, grading pit run, compaction A	Cubic Yard	144
60263	18 inch aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Foot	318
60263	24 inch aluminized steel, type 2, corrugated steel pipe, 0.079 inch thickness, method A	Foot	62
62501	Seeding, hydraulic or dry method	All	1
65101	Pit and quarry development	Each	1

FR 120B

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20350	Brushing	Mile	0.9
30326	Road reconditioning	Mile	0.9

FR 141

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20301	Removal of culverts	Each	9
20350	Brushing	Mile	0.9
30103	Aggregate base, grading pit run, compaction A	Cubic Yard	132
30115	Aggregate surface course, grading 1" minus, compaction Method B	Ton	814
30326	Road reconditioning	Mile	0.9
60263	18 inch aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Foot	236
60264	57 inch span, 38 inch rise aluminized steel, type 2, corrugated steel Pipe, 0.109 inch thickness, method A	Foot	30
62503	Seeding, hydraulic or dry method	All	1
65101	Pit and quarry development	Each	1

FR 257

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20301	Removal of culverts	Each	3
20350	Brushing	Mile	0.9
30103	Aggregate base course, grading pit run, compaction method B	Cubic Yard	36
30326	Road reconditioning	Mile	0.9
60263	18 inch aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Foot	78
62503	Seeding, hydraulic or dry method	All	1
65101	Pit and quarry development	Each	1

FR 257A

ITEM	DESCRIPTION	UNIT	QTY
15101	Mobilization	All	1
20350	Brushing	Mile	0.3
30326	Road reconditioning	Mile	0.3

General Notes

-Prior to any earth disturbing activities, contractor shall call the Pennsylvania One Call System (800-242-1776) and all Oil & Gas Operators in the work area to determine locations of any underground utility lines.

-Culvert cleaning and repair will be considered incidental to road reconditioning.

-Contractor is responsible for maintenance of all Forest Service roads over which pit run or commercial stone material is hauled. Roads shall be bladed or shaped to restore travel way to the condition found prior to haul.

-Contractor shall install "ROAD CONSTRUCTION AHEAD" signs on all roads worked on in this project area and at ATV trail crossings. Signs shall conform to the Manual on Uniform Traffic Control Devices (MUTCD). Signs shall be covered when construction activity is not taking place.

-Roads shall be completed in such a manner that water shall not pond on roadbed or in ditch lines.

-All removed corrugated metal pipe culverts shall be hauled off Federal lands and become the property of the contractor, unless otherwise indicated for salvage. Steel pipe casings shall be returned to the Sheffield Work Center unless otherwise directed by the Engineer.

-Forest Service gate plans are available at the Allegheny National Forest Supervisor's Office, Warren, PA. 16365. The following are gate manufacturers:

Gary Asel
Marienville, PA.
(814) 927-8380

ADM Welding
2818 Penna. Ave. West
Warren, PA. 16365
(814) 723-7227

-Contouring, topsoil respreading, seeding and mulching of disturbed areas as determined by the Forest Service is required.

-DSA limestone shall be shipped at optimum moisture content not exceeding 15%. Limestone loads that fail test parameters will be rejected.

-When replacing culverts in live streams, contractor shall install silt fence and straw bales at approaches to live stream crossings to eliminate sediment in the stream course. Any sediment collected will be removed and ground will be stabilized with seed and mulch. Dewatering pumps will be used to redirect water out of the stream course at the time of stream crossing installation. Silt fence and straw bales will be removed only after vegetation is clearly re-established as determined by the Engineer. Contractor is responsible for obtaining any Department Of Environmental Protection GP-11 or GP-7 stream crossing permits and preparing a Soil Erosion and Sediment Control Plan. This work will be considered incidental to Section 151 Mobilization.

-Roadway sod encountered during road reconditioning operations will be spread and leveled outside the road template avoiding piles. Natural terrain depressions and openings are the preferred waste locations. Seeding and mulching may be required to supplement natural revegetation.

-Vegetation cut down during roadside brushing will be pulled beyond the clearing limits and the toe of any roadway template construction. Mixing of soil and cut vegetation shall be avoided. All material will be scattered and lopped within 3' of the ground.

-Aggregate stockpiled for culvert replacement will be located on the existing road surface to assure maximum utilization of the material and eliminate disturbance of existing vegetated areas.

FR 110 Gibbs Hill (Level C)

Station	Road Log/Work Description
0+00	Intersection FR 110 and FR 141
0+00-24+46	Recondition roadbed see TYPICAL RECONDITION SECTION, clean all culverts and ditches, perform roadside brushing (14' high 12' from shoulders)
0+20	Road number sign right
0+35	WEIGHT LIMIT sign right
0+40	STOP sign left
0+62	18" x 32' CMP (<u>in future replace with 42" x 29" x 32' CMPA</u>), construct sediment basin at outlet (5' x 5' x 2' deep)
4+30	18" x 36' CMP
6+70	Intersection FR 110 and FR 257
9+90	18" x 30' CMP
10+15	OGM road left and right
10+80	CAUTION: gas pipeline crosses road
12+00	18" x 32' CMP
13+55	Turnout left
14+72	18" x 28' CMP
18+17	18" x 36' CMP
21+80	18" x 30' CMP
24+46	Intersection FR110 and FR 110A, end reconditioning

FR 110A Gibbs Hill Spur A (Level D)

Station	Road Log/Work Description
0+00	Intersection with FR 110 station 24+46
0+00-59+03	Recondition roadbed see TYPICAL RECONDITION SECTION, clean all culverts and ditches, reshape all turnouts, perform roadside brushing (12' from shoulder and 14' high)
0+85	STOP sign left, road number sign right
2+15	NO OUTLET sign right
2+27	Forest Service gate
2+43	Gate open lock post
3+85	18" x 32' CMP
5+10	Turnout right
5+95	18" x 30' CMP
9+55	Turnout right
10+45	18" x 30' CMP
16+50	18" x 28' CMP
18+85	18" x 28' CMP
21+15	Turnout left
21+55	Landing right
22+75	18" x 32' CMP
26+20	Turnout left
31+70	Turnout left
34+40	18" x 28' CMP
39+15	Spur road right, logging road
42+15	18" x 28' CMP
44+60	Turnout left
45+10	18" x 30' CMP
45+85	Turnout right
51+05	18" x 32' CMP
54+55	Turnout right
56+25	18" x 30' CMP
57+15	Entrance to old pit left
59+30	Old landing right, end reconditioning, road continues

FR 120 County Line (Level C)

Station	Road Log/Work Description
0+00	Intersection with FR 259 station 91+70
0+30	YIELD sign left
1+20	18" x 28' CMP
7+20	Remove 18" x 30' CMP, install 18" x 32' CMP, apply 12 CY pit run
10+70	Dispersed sit right
11+55	Turnout right
18+10	18" x 28' CMP
23+55	18" x 28' CMP
27+25	18" x 32' CMP
32+25	Turnaround and private road left
39+15	Turnout right
40+55	18" x 28' CMP
46+95	18" x 28' CMP
48+95	Turnout right
51+95	18" x 28' CMP
53+15	Turnout right
55+33	Dispersed site right
60+55	24" x 30' CMP, (in future replace with 35" x 24" x 30' CMPA) (dry drainage)
62+25	Turnout right
66+10	Leadoff ditch right
67+20	Leadoff ditch left
69+40	Well jack M&M Royalty
69+70	Oil & gas line left M&M Royalty
70+70	FR 120A right
71+45	Dispersed site left
72+90	18" x 26' CMP
80+95	Remove 18" x 32' CMP, install 18" x 32' CMP on left forward skew, apply 12 CY pit run
85+80	FR 120B right
86+10	Dispersed site left

88+30	Remove 18" x 30' CMP, install 18" x 32' CMP on left forward skew, apply 12 CY pit run
91+00	Install 18" x 32' CMP on left forward skew, apply 12 CY pit run
95+00	Remove 18" x 30' CMP, install 18" x 32' CMP on left forward skew, apply 12 CY pit run
97+50	Install 18" x 32' CMP on left forward skew, apply 12 CY pit run
98+00	Turnout left
99+80	Remove 8" x 28' CMP, install 18" x 32' CMP on left forward skew, apply 12 CY pit run
104+25	18" x 32' CMP on left forward skew
105+50	Turnout left
106+25	Install 18" x 32' CMP on left forward skew, apply 12 CY pit run
108+70	Remove 18" x 28' CMP, install 24" x 32' CMP on left forward skew, place splash rocks at outlet, apply 12 CY pit run
111+50	Install 18" x 32' CMP on left forward skew, apply 12 CY pit run
113+95	Remove 18" x 28' CMP, install 18" x 30' CMP on left forward skew, apply 12 CY pit run
119+65	Remove 18" x 30' CMP, install 24" x 30' CMP on left forward skew, apply 12 CY pit run, place splash rocks at outlet
122+00	Turnout left
124+80	18" x 30' CMP
126+20	STOP sign right
127+77	FR 141

FR 120B County Line Spur B (Level D)

Station	Road Log/Work Description
0+00	FR 120 station 85+80
0+00-50+15	Recondition roadbed see TYPICAL RECONDITION SECTION, clean all culverts and ditches, perform roadside brushing (12' from shoulders 14' high)
0+05	18" x 38' CMP (88)
0+37	Road number sign right
0+55	Forest Service gate
1+41	12" x 22' CMP (88)
3+62	12" x 22' CMP (88)
5+26	12" x 22' CMP (88)
6+63	12" x 22' CMP (88)
8+33	12" x 22' CMP (88)
8+94-9+94	Turnout left
10+03	12" x 22' CMP (88)
12+55	Turnaround left
15+09	12" x 22' CMP (88)
16+75-17+75	Turnout right
19+06	12" x 22' CMP (88)
23+49	12" x 22' CMP (88)
26+65-27+65	Turnout left
30+30	12" x 22' CMP (88)
32+34	12" x 22' CMP (88)
36+12	12" x 22' CMP (88)
39+76	12" x 22' CMP (88)
39+80-41+30	Turnout/turnaround combination left
47+48	12" x 22' CMP (88)
50+15	Edge of food plot left, road continues

FR 141 Mudlick (Level C)

Station	Road Log/Work Description
0+00	Intersection with FR 262 Longhouse Scenic Drive
56+60	Intersection FR 141 and FR 120
56+60-106+60	Recondition roadbed see TYPICAL RECONDITION SECTION, clean all culverts and ditches. Perform roadside brushing (12' from shoulders 14' high)
56+92	18" x 36' CMP
60+23	18" x 30' CMP
61+00	Turnout left
64+06	18" x 32' CMP
65+23-71+23	Apply 1" minus surfacing to road including turnout (230 tons)
68+23	Remove 24" x 26' CMP, install 57" x 38" x 30' CMPA, apply 36 CY pit run, place splash rocks at outlet
68+25	Turnout left
70+10	18" x 32' CMP
71+73	18" x 32' CMP
72+30	Turnout left
74+04	Remove 18" x 28' CMP, install 18" x 30' CMP, apply 12 CY pit run
75+36	18" x 30' CMP
76+84	Remove 18" x 28' CMP, install 18" x 30' CMP, apply 12 CY pit run
76+85	Turnout left
78+87	Remove 18" x 28' CMP, install 18" x 30' CMP, apply 12 CY pit run

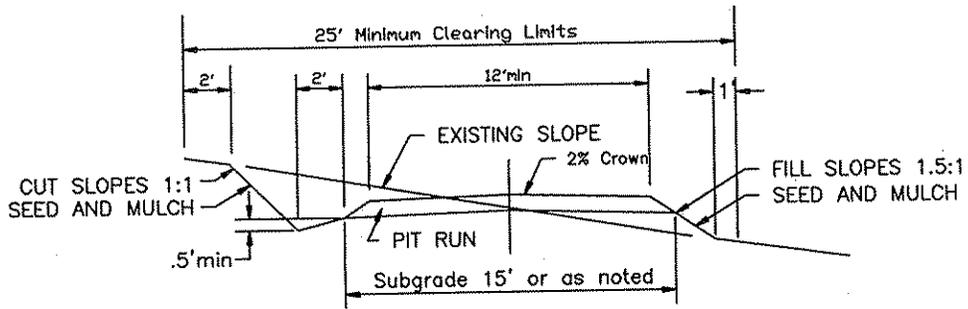
79+02	Turnout left
80+77	Remove 18" x 28' CMP, install 18" x 30' CMP, apply 12 CY pit run
83+44	Remove 18" x 28' CMP, install 18" x 30' CMP, apply 12 CY pit run, sediment basin at inlet end
83+45	Turnout left
87+22	18" x 26' CMP
90+23-106+60	Apply 1" minus surfacing to road including all turnouts and turnarounds (584 tons)
90+23	Remove 22" x 13" x 28' CMPA, install 18" x 30' CMP, apply 12 CY pit run
93+54	Remove 18" x 24' CMP, install 18" x 26' CMP, apply 12 CY pit run
93+60	Turnout left
96+24	Private driveway right
96+41	18" x 28' CMP (short)
97+50	Turnaround left
99+17	18" x 32' CMP
101+79	Remove 22" x 13" x 28' CMPA, install 18" x 30' CMP, apply 12 CY pit run
103+10	18" x 36' CMP
104+45	Private driveway right
104+63	18" x 32' CMP
105+73	Private driveway right
106+60	Intersection FR 141 and FR 110 left, end of road

FR 257 Swede Hill (Level C)

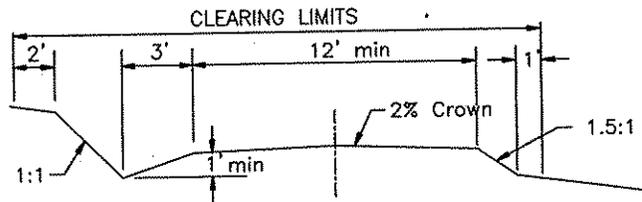
Station	Road Log/Work Description
0+00	FR 110 station 6+70
0+00-49+10	Recondition roadbed see TYPICAL RECONDITION SECTION, perform roadside brushing (14' high 12' from shoulders), clean all culverts
0+50	Forest Service gate
2+00	Remove CMP, install 18" x 26' CMP, apply 12 CY pit run
5+50	Remove CMP, install 18" x 26' CMP, apply 12 CY pit run
9+00	Remove CMP, install 18" x 26' CMP, apply 12 CY pit run
10+56	Turnout left
17+95	Turnout left
26+40	Turnout right
35+90	Turnout right
44+88	Turnout left
49+10	Old pit area right

FR 257A Swede Hill Spur A (Level D)

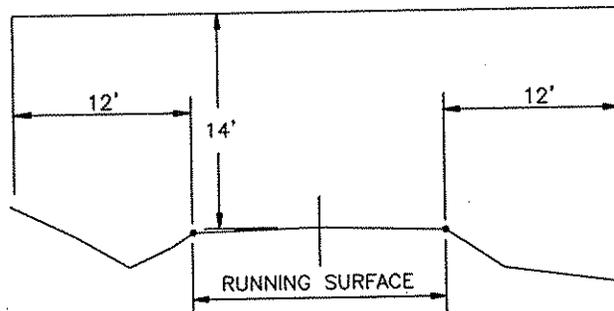
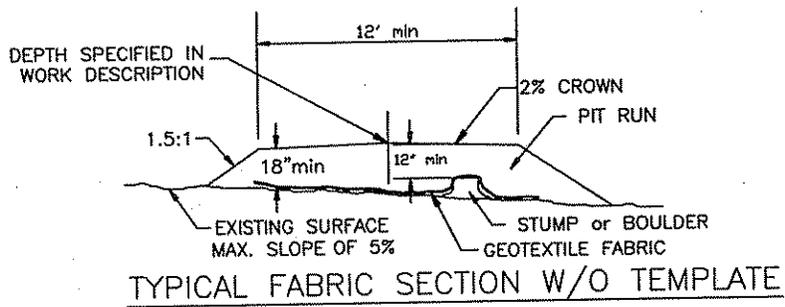
Milepost	Road Log/Work Description
0.00-0.348	Recondition roadbed to TYPICAL RECONDITION SECTION, perform roadside brushing, clean all culverts



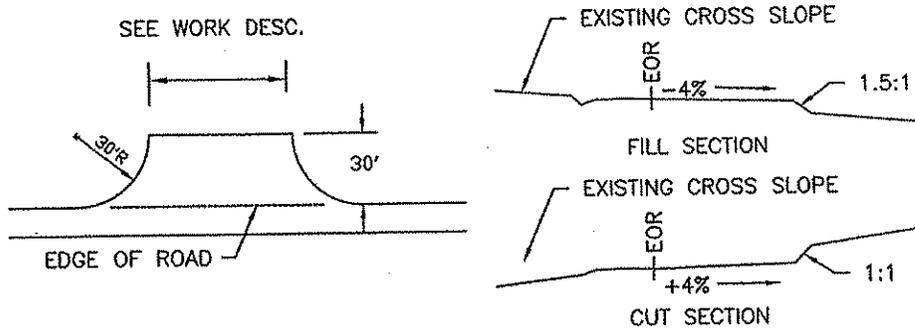
TYPICAL CONSTRUCTION SECTION



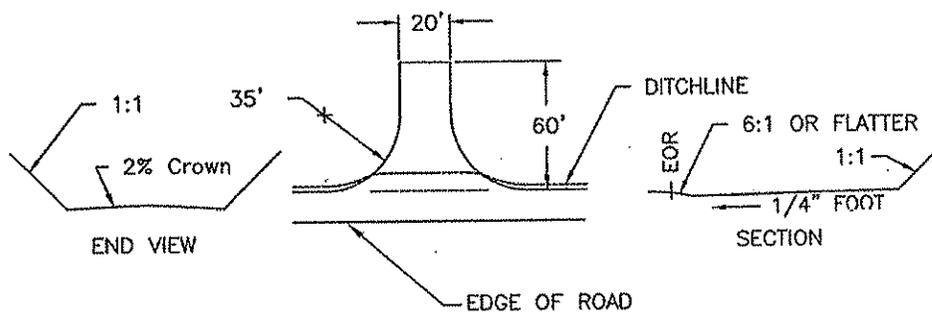
TYPICAL RECONDITION SECTION



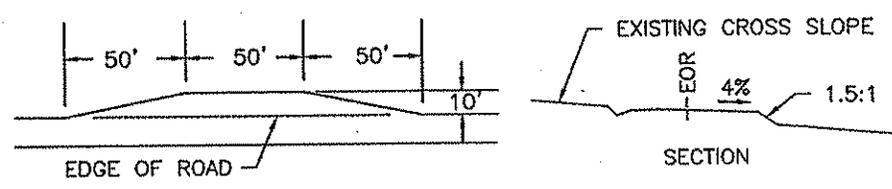
ROADSIDE BRUSHING DETAIL



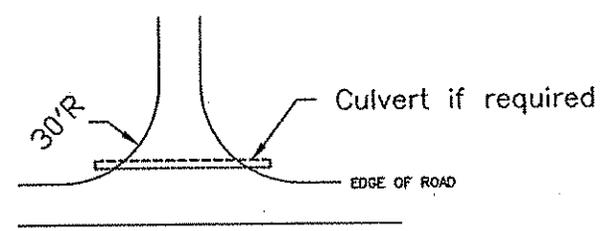
PARKING LOT DETAIL



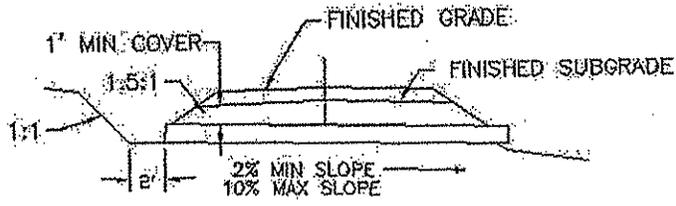
TURNAROUND DETAIL



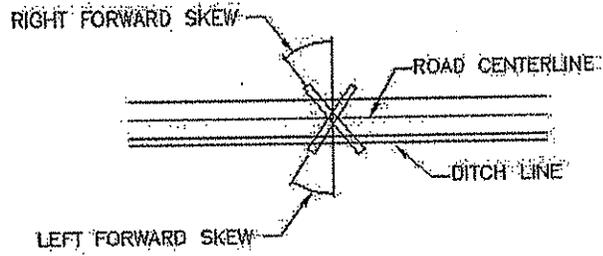
TURNOUT DETAIL



INTERSECTION DETAIL



CULVERT SECTION



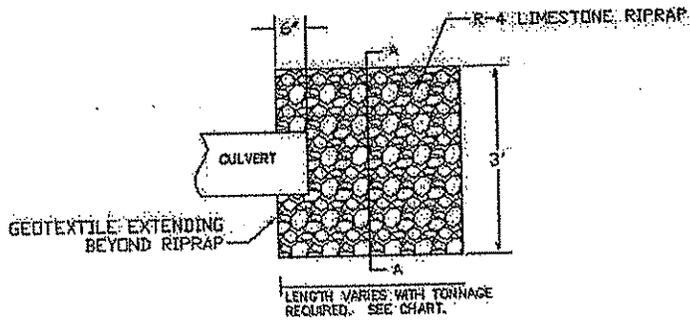
SKEW DETAIL

NOTE: Field locate ditch to minimize new clearing

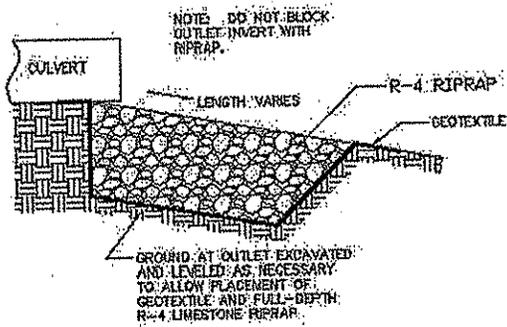


OUTLET/LEAD OFF DITCH SECTION

CULVERT OUTLET RIPRAP DETAIL

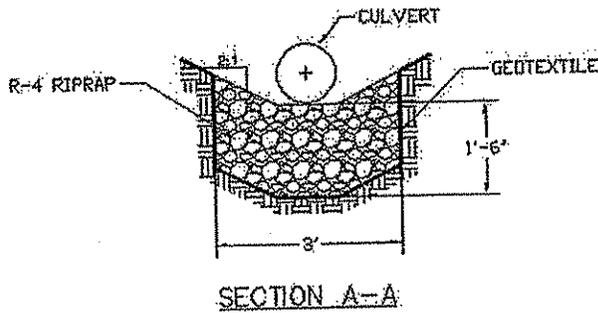


PLAN VIEW



R-4 RIPRAP	
QUANTITY	APPROXIMATE COVERAGE
2 TONS	3' X 7' X 1.5'
3 TONS	3' X 10' X 1.5'
4 TONS	3' X 13' X 1.5'

PROFILE



Pit Development Plan

Pit run for this project will come from the 110A pits station 39+15 and 57+15.
Backup pit is the FR 120B pit (pit testing needed).

A. Pit Development

1. The overburden removed will be stockpiled in a location agreed upon by the Forest Service and the contractor, and used for pit reclamation.
2. Only ONE face of the pit is to be open and worked on at any given time.
3. High walls are a violation of OSHA regulations.
4. The pit floor will be sloped to prevent pooling of water.
5. Any oversized material left over in the pit area shall be stockpiled at a mutually agreed upon, by Forest Service and contractor, location.
6. No disposed equipment, trash, vehicles, pipe, or miscellaneous supplies will be allowed to accumulate or be stored in the pit and surrounding areas unless first agreed to by the Forest Service.
7. Operator will not undermine any boundary of the pit area.
8. No slash, soil or stumps will be permitted against live trees. No undercutting of roots of live trees allowed.

B. Timber

1. Slash resulting from this project will be scattered outside the clearing limits of the road and pit site. Stumps will be scattered at random and set upright. Stumps will be pulled into the pit floor not out into the woods.
2. The Forest Service will mark any further pit expansion after being notified, in advance by the Operator.
3. Any timber stored within the pit area that is decked for a timber sale shall not be damaged or buried. Timber shall be decked at a location designated by the Forest Service.
4. No timber may be cut or pushed over unless it is marked by the Forest Service and compensated for.

C. Pit Reclamation

1. As each open face is depleted of suitable rock material, that area will be reclaimed promptly to a slope of 1.5:1 or greater using the previously stockpiled overburden.
2. The slope/reclaimed area will then promptly be seeded, fertilized, and mulched using a non-exotic seed mixture designed by the Forest Service.
3. Areas seeded that are not receiving 50% or greater germination will be reseeded within 30 days, or the next suitable seeding season.
4. No open face of the pit will be closed without prior notification to the Forest Service.
5. When excavation of material is complete, the Forest Service will be notified to approve and document the reclamation work.

SCHEDULE OF ITEMS, SPECIFICATIONS & DRAWINGS FOR SPECIFIED ROADS

I. Road Summary	2
II. Schedule of Items	3-8
III. Specification List and Special Project Specifications	1-35 pages
IV. Road Plans: Mudlick Re-Ad Timber Sale	18 pages

ROAD SUMMARY

SPECIFIED ROADS

a. Description of Work:

Reconstruction: FR 110, 110A, 120, 120B, 141, 257, 257A

Pit run, Crushed Aggregate, Reconditioning of Roadbed, Mobilization, Culvert Installation, Seeding & Mulching, Removal of Culverts, Pit Development and Brushing

b. Construction Costs:

<u>Road No.</u>	<u>Miles</u>	<u>Estimated road cost</u>	<u>Engineer's Estimate</u>	<u>Reconst. Deposits</u>
110	0.5	\$1,750.00	\$2,500.00	\$250.00
110A	1.1	\$3,250.00	\$4,500.00	\$650.00
120	2.4	\$14,820.00	\$17,080.00	\$1,500.00
120B	0.9	\$2,750.00	\$3,700.00	\$300.00
141	0.9	\$36,952.00	\$42,336.00	\$6,500.00
257	0.9	\$5,856.00	\$7,123.00	\$600.00
257A	0.3	\$1,250.00	\$1,900.00	\$125.00
Total		\$66,628.00	\$79,139.00	\$9,925.00

Completion dates: 9/30/2012

FR 110

Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1000.00	\$ 1,000.00
23050	Brushing	Mile	0.5	1500.00	\$ 750.00	1800.00	\$ 900.00
30326	Road reconditioning	Mile	0.5	1000.00	\$ 500.00	1200.00	\$ 600.00
TOTAL					\$ 1,750.00		\$ 2,500.00

FR 110A							
Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1200.00	\$ 1,200.00
23050	Brushing	Mile	1.1	1500.00	\$ 1,650.00	1800.00	\$ 1,980.00
30326	Road reconditioning	Mile	1.1	1000.00	\$ 1,100.00	1200.00	\$ 1,320.00
TOTAL					\$ 3,250.00		\$ 4,500.00

FR 120							
Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1500.00	\$ 1,500.00
20301	Removal of culverts	Each	8	90.00	\$ 720.00	105.00	\$ 840.00
30103	Aggregate base course, grading pit run, compaction method B	Cubic Yard	144	9.00	\$ 1,296.00	10.00	\$ 1,440.00
60263	18 inch aluminumized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Linear Foot	318	28.00	\$ 8,904.00	30.00	\$ 9,540.00
60263	24 inch aluminumized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Linear Foot	62	32.00	\$ 1,984.00	34.00	\$ 2,108.00
62501	Seeding, hydraulic or dry method (Lump Sum)	All	1	1200.00	\$ 1,200.00	1400.00	\$ 1,400.00
65101	Pit and quarry development	Each	1	216.00	\$ 216.00	252.00	\$ 252.00
TOTAL					\$ 14,820.00		\$ 17,080.00

FR 120B							
Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1000.00	\$ 1,000.00
23050	Brushing	Mile	0.9	1500.00	\$ 1,350.00	1800.00	\$ 1,620.00
30326	Road reconditioning	Mile	0.9	1000.00	\$ 900.00	1200.00	\$ 1,080.00
TOTAL					\$ 2,750.00		\$ 3,700.00

FR 141

Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	3500.00	\$ 3,500.00
20301	Removal of culverts	Each	9	90.00	\$ 810.00	105.00	\$ 945.00
23050	Brushing	Mile	0.9	1500.00	\$ 1,350.00	1800.00	\$ 1,620.00
30103	Aggregate base, grading pit run, compaction method B	Cubic Yard	132	8.00	\$ 1,056.00	9.00	\$ 1,188.00
30115	Aggregate surface course, grading 1" minus, compaction method B	Ton	814	27.00	\$ 21,978.00	28.00	\$ 22,792.00
30326	Road reconditioning	Mile	0.9	1000.00	\$ 900.00	1200.00	\$ 1,080.00
60263	18 inch aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Linear Foot	236	28.00	\$ 6,608.00	30.00	\$ 7,080.00
60264	57 inch span, 38 inch rise aluminized steel, type 2, corrugated steel pipe, 0.109 inch thickness, method A	Linear Foot	30	85.00	\$ 2,550.00	90.00	\$ 2,700.00
62503	Seeding, hydraulic or dry method	All	1	1000.00	\$ 1,000.00	1200.00	\$ 1,200.00
65101	Pit and quarry development	Each	1	200.00	\$ 200.00	231.00	\$ 231.00
TOTAL					\$ 36,952.00		\$ 42,336.00

FR 257							
Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1000.00	\$ 1,000.00
20301	Removal of culverts	Each	3	90.00	\$ 270.00	105.00	\$ 315.00
23050	Brushing	Mile	0.9	1500.00	\$ 1,350.00	1800.00	\$ 1,620.00
30103	Aggregate base course, grading pit run, compaction method B	Cubic Yard	36	7.00	\$ 252.00	8.00	\$ 288.00
30326	Road reconditioning	Mile	0.9	1000.00	\$ 900.00	1200.00	\$ 1,080.00
60263	18 inch aluminumized steel, type 2, corrugated steel pipe, 0.064 inch thickness, method A	Linear Foot	78	28.00	\$ 2,184.00	30.00	\$ 2,340.00
62501	Seeding, hydraulic or dry method (Lump Sum)	All	1	300.00	\$ 300.00	360.00	\$ 360.00
65101	Pit and quarry development	Each	1	100.00	\$ 100.00	120.00	\$ 120.00
TOTAL					\$ 5,856.00		\$ 7,123.00

FR 257A							
Pay Item	Description	Pay Unit	Estimated Quantity	Unit Price	Extended Total	Engineer's Estimate Unit Price	Engineer's Extended Total
15101	Mobilization (Lump Sum)	All	1	500.00	\$ 500.00	1000.00	\$ 1,000.00
23050	Brushing	Mile	0.3	1500.00	\$ 450.00	1800.00	\$ 540.00
30326	Road reconditioning	Mile	0.3	1000.00	\$ 300.00	1200.00	\$ 360.00
TOTAL					\$ 1,250.00		\$ 1,900.00

Specification List

The following specifications will be used for this contract:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects – FP-03 U.S. Customary Units. FP-03 is available on the internet at the following site: <http://flh.fhwa.dot.gov/resources/pse/specs/>

Supplemental Specifications – These specifications were prepared by the Forest Service and are a supplement to or change the FHWA specifications. These are designated SS.

Special Project Specifications – Are specifications prepared on the Allegheny National Forest and pertain to Pennsylvania Department of Transportation nomenclature. These are designated SPS.

Preface

101 - Terms, Format, and Definitions

SS101 - Terms, Format, and Definitions

102 - Bid, Award, and Execution of Contract

SS102 - Bid, Award, and Execution of Contract

103 - Scope of Work

SS103 - Scope of Work

104 - Control of Work

SS104 - Control of Work

105 - Control of Materials

SS105 - Control of Materials

106 - Acceptance of Work

SS106 - Acceptance of Work

107 - Legal Relations and Responsibility to the Public

SS107 - Legal Relations and Responsibility to the Public

108 - Prosecution and Progress

SS108 - Prosecution and Progress

109 - Measurement and Payment

SS109 - Measurement and Payment

151 - Mobilization

153 - Contractor Quality Control

SS153 - Contractor Quality Control

155 - Schedules for Construction Contracts

SS155 - Schedule for Construction Contracts

201 - Clearing and Grubbing

203 - Removal of Structures and Obstructions

SS203 - Removal of Structures and Obstructions

SS230 - Roadside Brushing

251 - Riprap

SS251 - Riprap

301 - Untreated Aggregate Courses
SS301 - Untreated Aggregate Courses
303 - Road Reconditioning
SS303 - Road Reconditioning
602 - Culverts and Drains
SS602 - Culverts and Drains
625 - Turf Establishment
SS625 - Turf Establishment
635 - Temporary Traffic Control
SS651 - Development of Pits & Quarries
703 - Aggregate
SS703 - Aggregate
SPS703 - Aggregate
705 - Rock
SPS705 - Rock

Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	<u>National Institute of Standards and Technology</u>
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

Contractor--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "purchaser".

Culvert--No definition.

Right-of-Way--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

Adjustment in Contract Price--"Equitable adjustment," as used in the Federal Acquisition Regulations, or "construction cost adjustment," as used in the Timber Sale Contract, as applicable.

Change--"Change" means "change order" as used in the Federal Acquisition Regulations, or "design change" as used in the Timber Sale Contract.

Design Quantity--"Design quantity" is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term "Contract Quantities".

Forest Service--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line--A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road--Temporary construction access built along the route of the project.

Purchaser--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

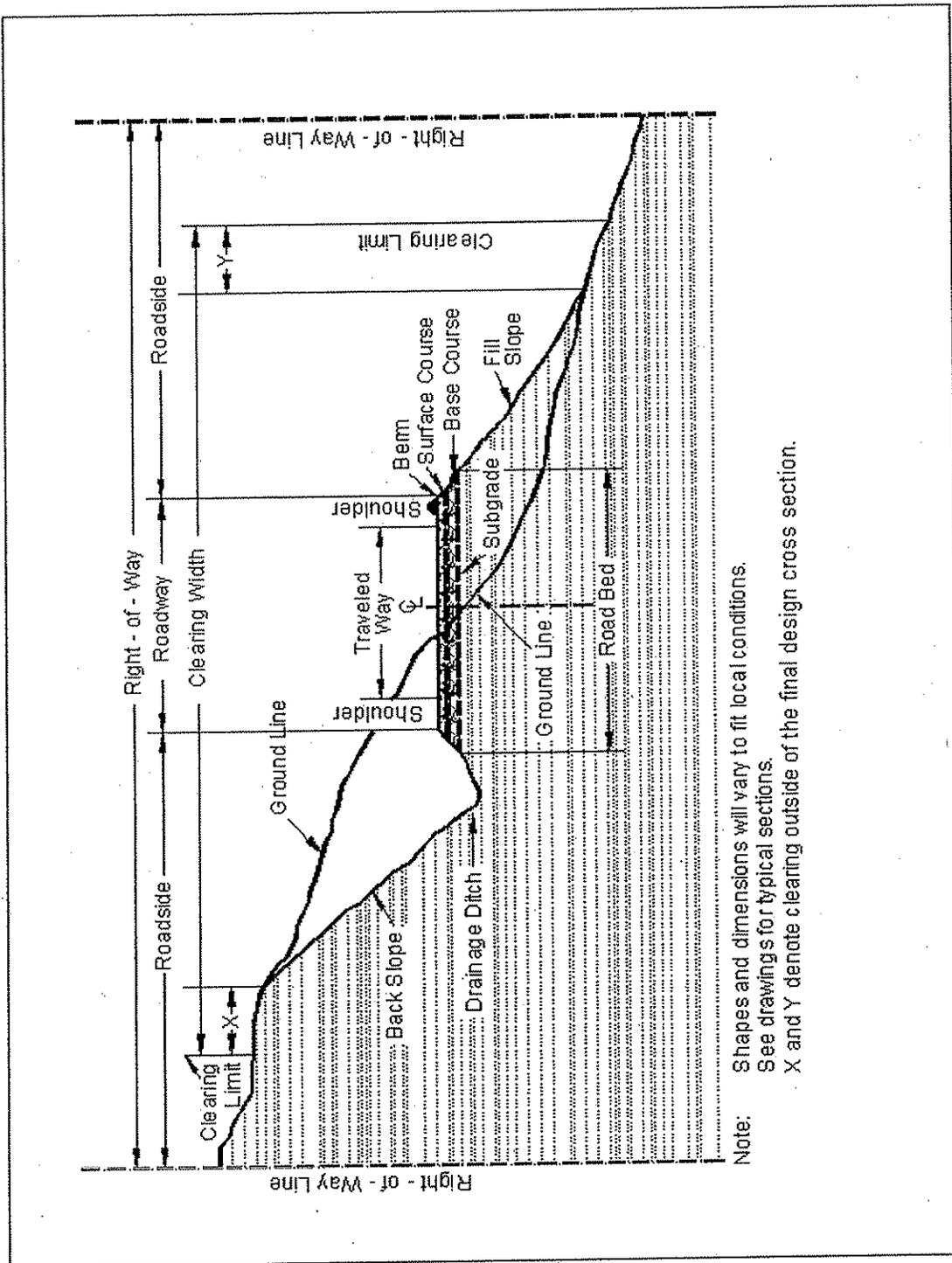
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

Utilization Standards--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



Note: Shapes and dimensions will vary to fit local conditions.
 See drawings for typical sections.
 X and Y denote clearing outside of the final design cross section.

102 - Bid, Award, and Execution of Contract

102.00_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.02_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

153 - Contractor Quality Control

153.04_nat_us_10_24_2007

153.04 Records.

Delete all but the first sentence

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

203 - Removal of Structures and Obstructions

203.01_nat_us_02_25_2005

203.01 Description.

Delete and replace with the following:

This work consists of disposing of construction slash and debris, salvaging, removing, and disposing of buildings, fences, structures, pavements, culverts, utilities, curbs, sidewalks, and other obstructions.

203.02_nat_us_02_18_2005

203.02 Material.

Add the following:

Geotextile 714

203.04_nat_us_02_18_2005

203.04 Removing Material.

Replace the fourth and fifth paragraphs with the following:

Where part of an existing culvert is removed, remove the entire culvert upstream from the removal. The remaining downstream culvert may be left in place if no portion of the culvert is within 12 inches of the subgrade, embankment slope, or new culvert or structure; and the culvert ends are sealed with concrete.

Remove structures and obstructions in the roadbed to 12 inches below subgrade elevation.

Remove structures and obstructions outside the roadbed to 12 inches below finished ground or to the natural stream bottom.

230 - Roadside Brushing

230.00_0114_us_08_04_2005

Description

230.01 Work. This work consists of removing all vegetative material including limbs, residual slash, live roadside brush, and small trees within the brushing limits designated on the plans.

Construction

230.02 Brushing. Cut all brush and small trees (6 inches diameter, or less, at the point of cut) inside the brushing limits and outside the roadbed no higher than 4 inches above ground level (6 inches for machine brushing). If rocks or other obstructions are encountered, cut no higher than 6 inches above the obstruction. Limb live trees with a diameter larger than 6 inches to provide a clear height of 14 feet above the road surface.

Cut all brush and trees located on the roadbed as nearly flush to the road surface as possible so stumps will not become a hazard to vehicle tires.

230.03 Windfalls. Limb windfalls lying within or across the brushing limits, cut off at the top of the existing cut slope or 5 feet from the shoulder on the fill slope. Dispose of windfall material as slash.

230.04 Road Junctions. Do not deposit brushing debris on the roadway of adjoining roads.

230.05 Slash Treatment. Scatter slash outside the brushing limits without damaging residual trees. Slash is defined as any material that has a length greater than 36 inches or a diameter greater than 2 inches at any point. Do not deposit material in streams, streambeds, culvert inlets or outlets, drainage ways, or cattle guards.

230.06 Acceptance. Roadside brushing will be evaluated under Subsection 106.02.

Measurement

230.07 Method. Measure the Section 230 items listed in the bid schedule according to Subsection 109.02 and the following.

Linear measurements will be horizontal along the road centerline.

Quantities will be the number of miles (or stations) and fractions thereof along the road centerline.

Payment

230.08. The accepted quantities will be paid at the contract price per unit of measurement for the section 230 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05.

251 - Riprap

251.03_nat_us_08_05_2009

Construction Requirements

251.03 General.

Add the following:

Place riprap under or adjacent to structures before placing prefabricated superstructure units or constructing superstructure falsework unless otherwise approved by the CO.

251.08 Measurement.

Add the following:

Payment for excavation and embankment required for placement of riprap is indirectly included in the pay item for riprap.

301 - Untreated Aggregate Courses

301.00_nat_us_03_03_2005

301 Title Change.

Change the title to: Section 301 Aggregate Courses

301.01_nat_us_03_03_2005

301.01 Work.

Add the following:

Work includes producing aggregate by pit-run, grid rolling, screening, or crushing methods, or placing Government-furnished aggregate. Work may include additive mineral filler, or binder.

301.02_nat_us_05_16_2005

301.02 Material.

Add the following:

Bentonite	725.30
Calcium Chloride Flake	725.02
Lignon Sulfonate	725.20
Magnesium Chloride Brine or Calcium Chloride Liquid	725.02

301.03_nat_us_09_14_2005

301.03 General.

Add the following:

Written approval of the roadbed is required before placing aggregate.

For pit run or grid-rolled material, furnish material smaller than the maximum size. No gradation other than maximum size will be required for pit-run or grid-rolled material. For grid rolling, use all suitable material that can be reduced to maximum size. After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

Provide additives or binder, if required, at the proportions specified.

Develop and use Government furnished sources according to Section 105.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at locations approved. Clear and grub stockpile sites according to Section 201.

301.04 Mixing and Spreading.

Delete the first sentence of the first paragraph and add the following:

Ensure that aggregate and any required additives, water, mineral filler, and binder are mixed by the specified method except, if crushed aggregate products are being produced and mineral filler, binder, or additives are required, uniformly blend following crushing. Control additive proportions to 0.5 percent dry weight.

- (a) **Stationary Plant Method.** Mix the aggregate with other required materials in an approved mixer. Add water during the mixing operation in the amount necessary to provide the moisture content for compacting to the specified density. After mixing, transport the aggregate to the jobsite while it contains the proper moisture content, and place it on the roadbed or base course using an aggregate spreader.
- (b) **Travel Plant Method.** After placing the aggregate for each layer with an aggregate spreader or windrow-sizing device, uniformly mix it with other required materials using a traveling mixing plant. During mixing, add water to provide the necessary moisture content for compacting.
- (c) **Road Mix Method.** After placing the aggregate for each layer, mix it with other required materials at the required moisture content until the mixture is uniform throughout. Mix aggregate, water, and all other materials until a uniform distribution is obtained.

Spread the aggregate in a uniform layer, with no segregation of size, and to a loose depth that will provide the required compacted thickness.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

Route and distribute hauling and leveling equipment over the width and length of each layer.

301.05_nat_us_05_17_2005

301.05 Compacting

Delete and replace with the following:

Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the road. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact the aggregate using one of the following methods as specified:

Compaction A. Operating spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

Compaction F. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

For all compaction methods, blade the surface of each layer during the compaction operations to remove irregularities and produce a smooth, even surface. When a density requirement is specified, determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

301.06_nat_us_03_03_2005

301.06 Surface Tolerance.

Add the following:

Thickness and Width requirements:

The maximum variation from the compacted specified thickness is $\frac{1}{2}$ inch. The compacted thickness is not consistently above or below the specified thickness and the average thickness of 4 random measurements for any $\frac{1}{2}$ mile of road segment is within $+\frac{1}{4}$ inch of the specified thickness.

The maximum variation from the specified width will not exceed +12 inches at any point. The compacted width is not consistently above the specified width and the average of any four random measurements along any $\frac{1}{2}$ mile of road segment is within +4 inches of the specified width.

301.09 Measurement.

Replace the second paragraph with the following:

Measure aggregate by cubic yard compacted in place when payment is by contract quantities.

301.10 Payment

Delete the following:

adjusted according to Subsection 106.05

303 - Road Reconditioning

303.01_nat_us_03_02_2005

303.01 Work.

Delete and add the following:

This work consists of reconditioning ditches, shoulders, roadbeds, cattleguards, asphalt surfaces, and aggregate surfaces.

303.06_nat_us_08_05_2008

303.06 Aggregate Surface Reconditioning.

Delete and replace with the following:

303.06 Asphalt and Aggregate Surface Reconditioning.

Repair soft and unstable areas to the full depth of the aggregate surface and according to Subsection 204.07. Scarify to the depth of the aggregate surface or to a depth of 6 inches, whichever is less, and remove surface irregularities. Reshape, finish, and compact the entire aggregate surface according to Subsection 301.05, Subsection 321.05, or Subsection 322.05 as applicable.

For asphalt surfaces, clean the existing surface of all loose material, dirt, or other deleterious substances by approved methods. Remove and dispose of unsuitable material that shows evidence of distress, excess asphalt material, or settlement in the roadbed. Patch the areas with approved material that conforms to and is compatible with the adjacent pavement structure. Perform the patch work according to Section 301, 404, 430, or other sections as applicable for the layer or courses being repaired. Clean and seal cracks in the existing asphalt surface according to Subsection 414.05. Correct surface irregularities exceeding 6 inches in depth with a specified aggregate. Place and compact the aggregate according to Subsections 301.04 and 301.05. Prelevel other dips, depressions, sags, excessive or nonexistent crown, or other surface irregularities with asphalt concrete according to Section 404. Spread and compact the asphalt concrete in layers parallel to the grade line not to exceed 2 inches in compacted depth.

303.07 Roadway Reconditioning.

Add the following:

Remove cattleguard decks. Clean the deck and the area beneath the cattleguard of soil and other material to the bottom of the original foundation over the entire width of the installation.
Reinstall the cattleguard deck.

303.11_nat_us_03_29_2005

303.10 Measurement

Modify the second paragraph as follows:

Measure ditch reconditioning and shoulder reconditioning by the mile, station, or foot horizontally along the centerline of the roadway for each side of the roadway.

602 - Culverts and Drains

602.03_nat_us_09_06_2005

602.03 General.

Add the following:

Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 feet, whichever is less.

625 - Turf Establishment

625.03_nat_us_07_02_2007

625.03 General.

Delete this subsection and replace with the following:

Apply turf establishment to prepared ground or any disturbed area between April 15th and September 30th. Apply turf establishment to the areas shown on the plans or worklists within 7 days after completion of ground disturbing activities. Unless otherwise specified in writing by the CO apply turf establishment after each 1000 foot section of road has been constructed to template lines. Seeded areas damaged by construction activities shall be reseeded within 10 days of the damage. Do not seed during windy weather or when the ground is excessively wet, frozen, or snow covered. Assure that all seed and mulch used in the work conforms to the weed free requirements of Section 713.

625.04 Preparing Seedbed.

Delete entire subsection and replace with the following:

Ensure that the surface soil is in a roughened condition favorable for germination and growth.

625.05 Watering

Delete entire subsection.

625.06 Fertilizing.

Delete entire subsection and replace with the following:

Apply fertilizer having a chemical analysis as listed below by the following methods.

(a) Dry Method. Apply the fertilizer with approved mechanical equipment. Hand operated methods are satisfactory on areas inaccessible to mechanical equipment.

(b) Hydraulic method. Use hydraulic-type equipment capable of providing a uniform application using water as the carrying agent. Add fertilizer to the slurry and mix before adding seed. Add the tracer material when designated by the CO.

Fertilizer. Apply fertilizer at the rate of 500 pounds per acre. Insure that the fertilizer meets the following chemical analysis:

<u>Nutrient</u>	<u>Percent</u>
Nitrogen, N	<u>10</u>
Phosphorus, P ₂ O ₅	<u>20</u>
Potassium, K	<u>20</u>

625.07 Seeding.

Delete the first sentence and add the following.

Apply seed mix by the following methods:

(a) **Dry method.** Delete the third sentence.

Add the following after subsection (b).

Seed Mix. Furnish and apply the following kinds and amounts of pure live seed from the Ernst Conservation Seeds, 9006 Mercer Pike, Meadville, PA. 16335 (800) 873-3221 or Fax (814) 336-5191 or www.ernstseed.com Native Right-of-Way Woods Seed Mix with Annual Ryegrass-ERNMX-132-1:

Type of Seed	Quantity of Pure Live Seed (Lbs/Acre)
1. 30% Virginia Wild Rye	9
2. 20% Annual Ryegrass	6
3. 15% Shelter Switchgrass	4.5
4. 10% Creeping Red Fescue	3
5. 5% Autumn Bentgrass	1.5
6. 5% Fox Sedge	1.5
7. 5% Showy Tick Trefoil	1.5
8. 5% Nimble Will	1.5
9. 5% Tioga Deer Tongue	1.5

Total Seeding rate 30 lb per acre

Determine the pounds of seed to be furnished per acre by dividing the pounds of pure live seed required per acre by the product of the percent purity and percent germination.

625.08 Mulching.

Delete the entire subsection and replace with the following:

Apply Mulch within 24 hours after seeding by the following methods.

(a) **Dry Method.** Apply mulch with a hand spreader or a spreader utilizing forced air at a rate of 4000 pounds per acre. Anchor the mulch with an approved stabilizing emulsion tackifier at a rate of 0 gallons per acre. Do not mark or deface structure, pavements, utilities, or plant growth with tackifier.

(b) **Hydraulic Method.** Apply mulch in a separate application from the seed using hydraulic-type equipment according to Subsection 625.07(b).

Apply wood fiber or grass straw cellulose fiber mulch at a rate of 775 pounds per acre.

Apply bonded fiber matrix hydraulic mulch at a minimum rate of 775 pounds per acre. Apply so no hole in the matrix is greater than 0.04 inches. Apply so that no gaps exist between the matrix and the soil.

Inaccessible areas may be mulched by hand. Apply mulch uniformly over the entire disturbed area.

625.09 Protecting and Caring for Seeded Areas

Delete the first sentence and add the following:

Protect and care for seeded areas until final acceptance.

625.11 Measurement.

Delete the entire Subsection and replace with the following:

Measure the Section 625 items listed in the bid schedule according to Subsection 109.02.

SPS 703 AGGREGATE

Add the following: **703.20 Driving Surface Aggregate**. All Driving Surface Aggregate (DSA) is to be derived from natural limestone formations. Stone is defined as rock that has been crushed; rock is defined as consolidated mineral material. For use in this program, both are restricted to that which has been mined or quarried from existing bedrock formations.

All components of the aggregate mix are to be derived from crushed parent rock material that meets program specifications for abrasion resistance, pH and freedom from contaminants. Ninety-eight percent (98%) of the fines passing the #200 sieve must be parent rock material. No clay or silt soil may be added. The amount of particles passing the #200 sieve shall be determined using the washing procedures specified in PTM No. 100.

Size: The required amount and allowed ranges, determined by weight, for various size particles are:

PASSING SIEVE	LOWER%	HIGH%
1 ½ inch	100%	
¾ inch	65%	90%
#4	30%	65%
#16	15%	30%
#200	10%	20%

LA Abrasion: The acceptable limit is measured by weight loss is "less than 40% loss". Los Angeles Abrasion test, AASHTO T-96 (ASTM C 131) shall be used to determine this property. Existing tests made for and approved by PennDOT will be accepted.

Sulfate Test: Soundness or resistance to freeze/thaw (i.e. sulfate test) is not specified for this application because a gravel road driving surface aggregate is not bound within a concrete or asphalt mix.

pH: Aggregate must be within the range of pH 6 to pH 9 as measured by EPA 9045C.

Optimum Moisture: Material is to be delivered and placed at optimum moisture content as determined for the particular source. The optimum percentage moisture is to be identified by the supplier in the bid purchasing documents. Loads with excessive moisture shall be rejected. Water draining from the tailgate, excess material sticking to the roller drum or the inability to compact the material are field indicators of excess moisture. In addition, if a load is too dry or does not have enough fines it will be rejected. Visual inspection of the load and poorly consolidated material after compactive effort are field indicators of low moisture or poor product gradation.

Transport: Tarps are to be used to cover 100% of the load's exposed surface from the time of loading until immediately before dumping. This requirement includes standing time waiting to dump.

Aggregate producers are required by the program to certify that the aggregate they deliver conforms to the program specifications. To eliminate segregation of material, stockpiling of material at jobsite will not be permitted unless authorized by COR.

The following are "Local" sources for this material:

Hawbaker - Turtlepoint, PA. 814-237-1444 or 814-642-2500

New Enterprise Stone & Lime Co. Tyrone, PA 814-695-4405

Road Preparation Specifications: The road surface to receive the aggregate should have template with crown of 2% or $\frac{1}{4}$ inch per foot. The receiving surface is to be scarified to permit knitting of the aggregate.

Driving Surface Aggregate Placement: Minimum compacted depth of four inches is to be established for driving surface. Driving Surface Aggregate is to be applied by tailgate spreading full depth in small quantities and with a spreader box in quantities over 5000 tons. Material when placed shall be compacted as follows: Beginning on the lower or berm side of the crown, begin rolling and work your way to the top of the crown by overlapping the successive longitudinal passes. Do not run the roller lengthwise directly on the crown. Compaction with truck tires is not accepted. Steel wheel rollers other than vibratory shall be capable of exerting a force of not less than 250 pounds per inch of width of the compression roller or rollers. Rollers shall be self propelled with a minimum weight of 6 tons. Contractor must have certification in writing that material placed is Driving Surface Aggregate meeting this specification.

1" Minus Aggregate (DSA Gravel non limestone) Size: The required amount and allowed ranges, determined by weight, for various size particles are:

PASSING SIEVE	LOWER%	HIGH%	
1 $\frac{1}{2}$ inch	100%		
$\frac{3}{4}$ inch	65%	95%	
#4	30%	65%	LA Abrasion < 40%
#16	15%	30%	Sulfate Test - Not Applicable
#200	10%	15%	PH between 6 and 9

Material available at Glenn O. Hawbacker - Pittsfield Pit 814-563-7911.

Pennsylvania 2A Gradation:

The required amount and allowed ranges, determined by weight, for various size particles are:

PASSING SIEVE	LOWER%	HIGH%	
2 inch	100%		
$\frac{3}{4}$ inch	52%	100%	
#4	24%	50%	LA Abrasion < 40%
#16	10%	30%	Sulfate Test - Not Applicable
#200	0%	10%	PH between 6 and 9

SPS 705 - Rock

Replace 705.02 with the following:

705.02 Riprap Rock. Furnish rock sound, free from structural defects and foreign substances such as soil, shale, and organic materials. Use rock conforming to the following requirements:

No shale seams

Hard and angular shaped rock with neither width nor thickness less than one-third its length.

Minimum specific gravity of 2.5 as determined according to AASHTO T 85, bulk saturated, but surface-dry basis.

Each load of rock well-graded, from smallest to the largest size

Class, Size No.	Percent Passing (Square Openings)				
	R-7	R-6	R-5	R-4	R-3
Rock Size (inches)					
30	100				
24		100			
18	15-50		100		
12	0-15	15-50		100	
9			15-50		
6		0-15		15-50	100
4			0-15		
3				0-15	15-50
2					0-15
Nominal					
Thickness	36	30	24	18	12