

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CHATTAHOOCHEE-OCONEE NATIONAL FORESTS
CONASAUGA RANGER DISTRICT
ROAD PLANS
FOR
PINNACLE TIMBER SALE

ROAD NAME	ROAD#	LENGTH	RECONST./CONST.
PINNACLE	361	0.8	R


TRANSPORTATION ENGINEER


Date

REAL STAFF OFFICER Date

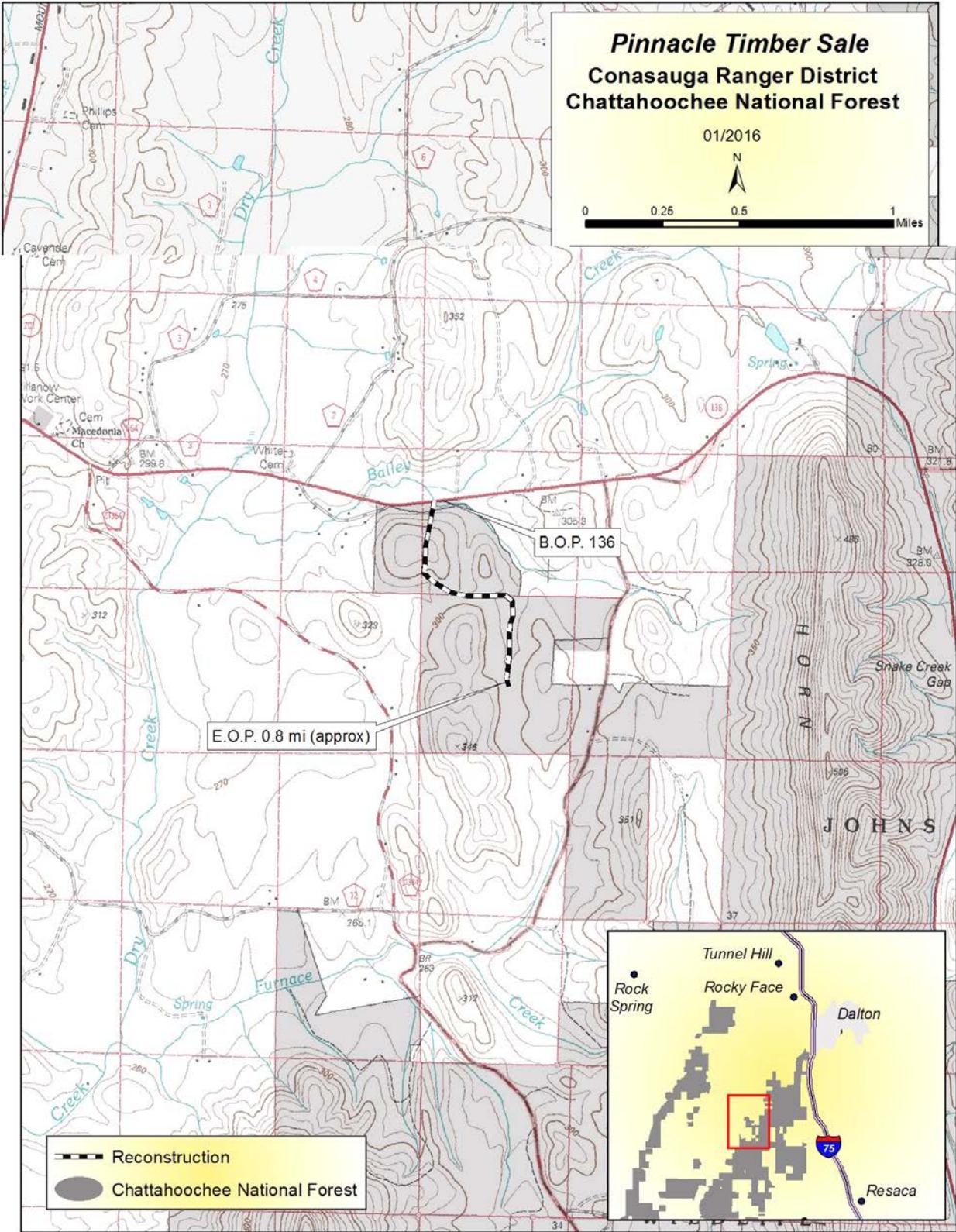
DISTRICT RANGER Date

FOREST SUPERVISOR Date

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AREA ROAD MAP



SUMMARY OF QUANTITIES

SCHEDULE OF ITEMS Timber Sales

Contract _____ Pinnacle Timber Sale _____
 Road _____
 Name Pinnacle

Item Number	Description	Method of Meas.	Unit	Quantity
20966	Crushed Aggregate for culvert backfill, crusher run, Compaction method B	AQ	TON	40.00
21201	Linear Grading	AQ	MI	0.80
21202	Linear grading for curve widening	LSQ	LUMP SUM	3.00
25101	Placed Riprap Class 1	AQ	TON	20.00
30802	Roadway Aggregate, GDOT grade 4, Compaction A	AQ	TON	580.00
60201B	24" Corrugated culvert	AQ	FT	40.00
60250	Georgia DOT standard safety end section, galvanized steel	AQ	Each	2.00
62519	Seeding and Mulching, Dry Method	CQ	Acre	0.50
63301	Furnish and install permanent traffic control sign, 30" x 30" Stop Sign, MUTCD standard	DQ	Each	1.00
65003	Furnish and install road closure barrier, Type gate, size 16'	CQ	Each	1.00

AGGREGATE LOCATIONS OTHER THAN DIPS*

Location*	Quantity
0.0-0.8	555

* Aggregate size may vary as directed by ER

CURVE WIDENING

Location	Length
0.018	50'
0.165	50'
0.19	50'

DIP LOCATIONS

0.018
0.22
0.15
0..29
0.32
0.36
0.49
0.55
0.7
0.8

NOTES

CLEARING & GRUBBING

On roads to be reconstructed, clear 2' on each side of the road for the entire length. Cut only trees and vegetation less than 7" in diameter. All trees, brush, and stumps beyond the roadbed shall be cut flush with the uphill ground line. Grubbing shall not be required unless the stump interferes with construction or reshaping of ditches, dips or other specified drainage work.

Merchantable timber is timber that meets AT2-Volume Estimate and Utilization Standards of the applicable Timber Sale Contract.

Branches on remaining trees or shrubs shall be trimmed to give a clear height of 12' above the roadbed.

Disposal of unmerchantable timber and construction slash shall be scattered, except that this material shall be windrowed in areas where the centerline is within 100' (horizontal distance) of a protected stream course.

EXCAVATION

Excess excavation shall be sidecast but not within 200' of culverts or drains.

Dips shall be constructed or reshaped by the end of the construction season. the description of work and dip location chart. Pay item 30318 includes construction of new dips and reshaping existing dips.

A turnaround that will accommodate a gravel truck shall be constructed at the E.O.P of all roads unless the area will be used as a log landing.

ROADBED WIDTH

Minimum width shall be 14'. Additional width is necessary to accommodate a 40' trailer at the locations listed in the in the DESCRIPTION OF WORK.

Curve widening is paid under pay item 20212 which includes clearing, grubbing excavation and seeding.

RECONDITIONING OF ROADBED

Scarification of roadbed is only required where necessary to reduce outslope of roadbed to less than 6%. Reconditioning also includes reshaping dips.

EROSION CONTROL

All disturbed material at dips, and excess sidecast excavation shall be seeded immediately after disturbance

Seeding season shall be from April 15 to June 15 and from Sept 1 to Nov 1. The Engineer shall have the authority to modify this season, in writing, due to the prevailing weather conditions.

THE FOLLOWING MIXTURE SHALL BE APPLIED AT EACH DIP:

	<u>Quantity</u>
Limestone:	110 lbs
Fertilizer (10-10-10):	15 lbs
Straw mulch:	2 bales
Rye Grass:	1 pound

THE FOLLOWING MIXTURE SHALL BE APPLIED ON DISTURBED AREAS:

	<u>Quantity (per Acre)</u>
Limestone:	3000 lbs
Fertilizer (10-10-10):	1000 lbs
Straw mulch:	200 bales at 80% coverage

Seed - Pounds of Live Seed* (per Acre):

- Spring Planting
 - Partridge Pea: 5
 - Brown Top Millett: 10
 - Switch Grass; 4
- Fall Planting
 - Crimson Clover: 5
 - Virginia Wild Rye 10
 - Big Blue Stem 4
 -

*Determine the amount of live seed in container by the following formula: Net weight of seed in container multiplied by the purity percentage multiplied by the germination percentage (e.g. if seed is 96% pure and tests 80% germination, then a 100 ounce container would contain 76.8 ounces of live seed).

The seedbed shall be prepared as stated in section 625.04.

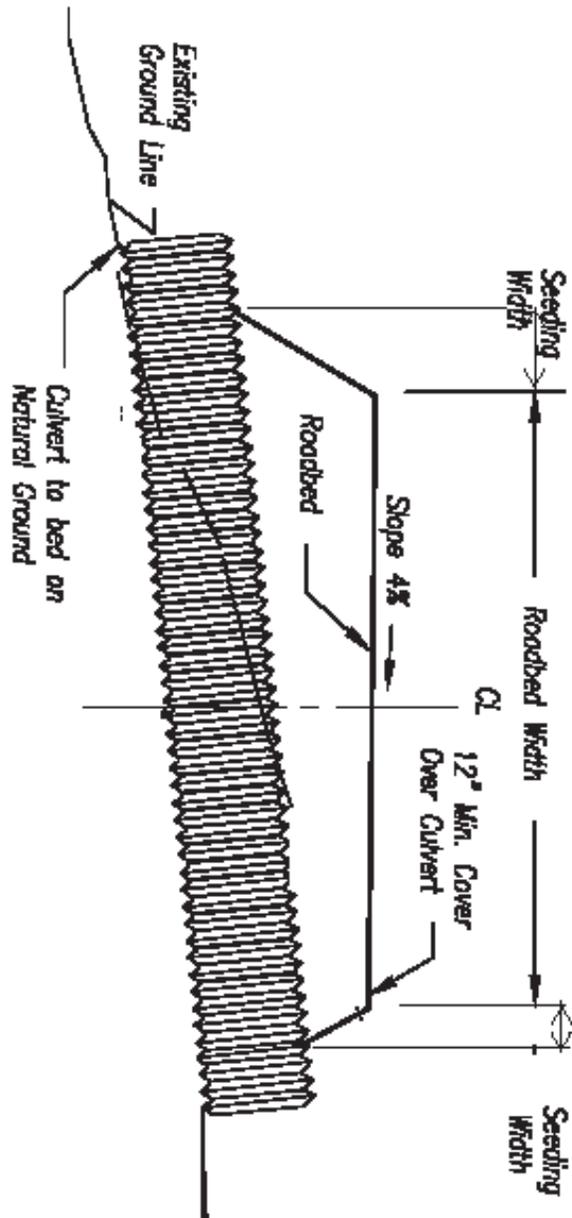
TEMPORARY EROSION CONTROL

Excavation work done for drainage structures (pipes, dips, ditches, etc.) shall receive temporary erosion control measures immediately after construction (bales at pipe outlets shall be placed prior to excavation for pipe installation) as described below.

Stake 2 straw/hay bales at the edge of the clearing limits at each pipe outlet and 1 bale in all newly constructed ditchlines. After permanent seeding is established, bales shall be removed as approved by the Engineer.

DESCRIPTION OF WORK FOR NFSR # 361

<u>MP</u>	<u>ITEM</u>
0.0	Intersection with SR 136. Begin reconstruction. Widen intersection: 36' wide for 50'. Replace existing culvert with 24" x 40' CMP pipe. Install GADOT safety end sections on both ends of new culvert. Stake straw bales at inlet and outlet during installation. Remove existing culvert and dispose of off government property. Install 30" x 30" Stop Sign in accordance with MUTCD standards. Begin road reconstruction and place GDOT gravel # 4 as staked.
0.09	Replace existing farm gate with 16' steel bar gate. Remove existing gate from Government land.
0.018	Reshape dip. Place 5 tons # 4 stone
0.018-0.028	Widen curve approx. 6 x 50' . Place 10 tons stone.
0.06-0.16	Widen curve approx. 6'x 50' . Place 10 tons stone
0.19-0.21	Widen curve approx. 6'.x 50'. Reshape dip. Place 10 tons stone.
0.22	Reshape dip. Place 5 tons stone.
0.25 to 0.8	Steep hill and damp soils. Place gravel as staked.
0.29	Reshape dip. Place 5 tons stone.
0.32	Reshape dip. Place 5 tons stone.
0.36	Reshape dip. Place 5 tons stone.
0.49	Reshape dip. Place 5 tons stone.
0.55	Reshape dip. Place 5 tons stone.
0.7	Reshape dip. Place 5 tons stone.
0.8	Reshape dip. Place 5 tons stone. EOP

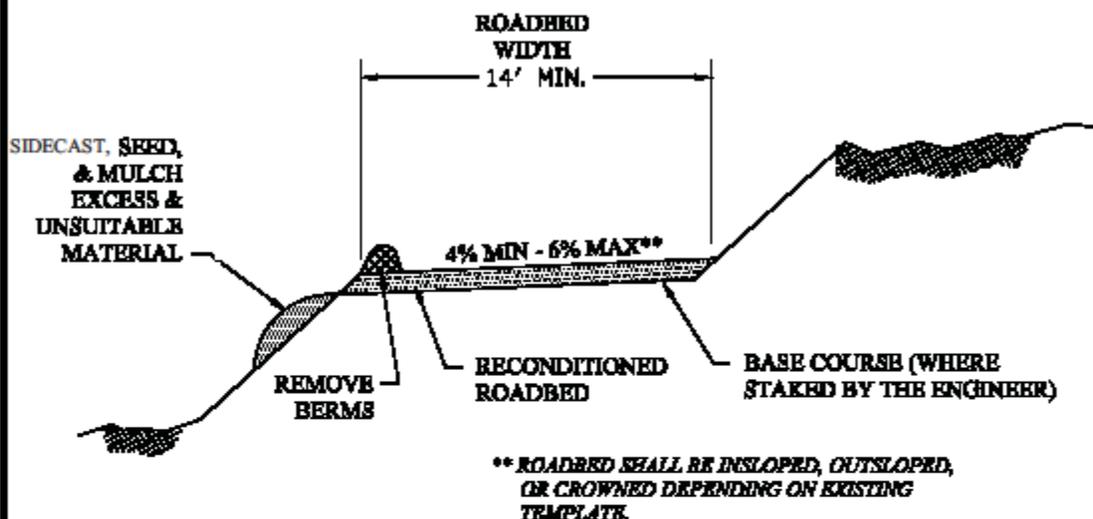


NOTE: FM Slopes are 1.5:1 or as Staked

TYPICAL CULVERT SECTION
NO SCALE

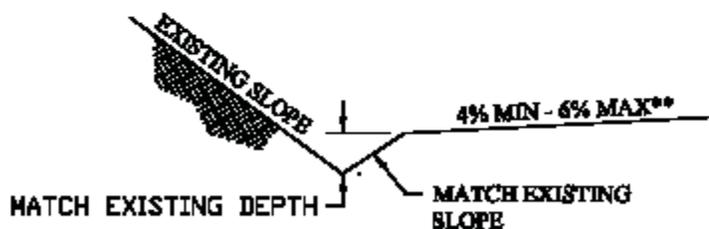
TYPICAL SECTION RECONDITIONING ROADBED

NO SCALE



DITCH GRADING DETAIL

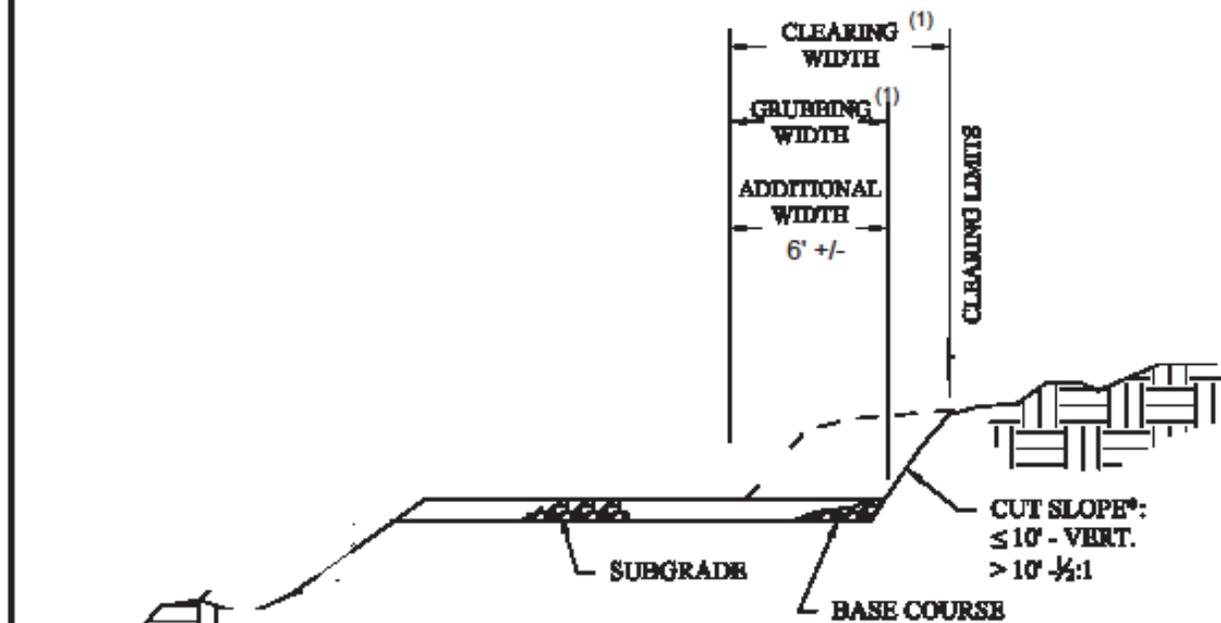
NO SCALE



AREAS CALLING FOR RECONDITIONING THE ROAD SHALL BE GRADED TO DRAIN, EXISTING ROADSIDE DITCHES SHALL BE REPULLED AND CLEANED PRIOR TO GRAVEL PLACEMENT. SCARIFICATION SHALL BE LIMITED TO WHAT IS REQUIRED TO CUT OUT RUTS, POTHOLES, AND OBTAIN MINIMUM OR MAXIMUM INSLOPE OR OUTSLOPE, ETC. ENTIRE ROAD SHALL BE GRADED PRIOR TO FINAL ACCEPTANCE.

**TYPICAL SECTION
CURVE WIDENING**

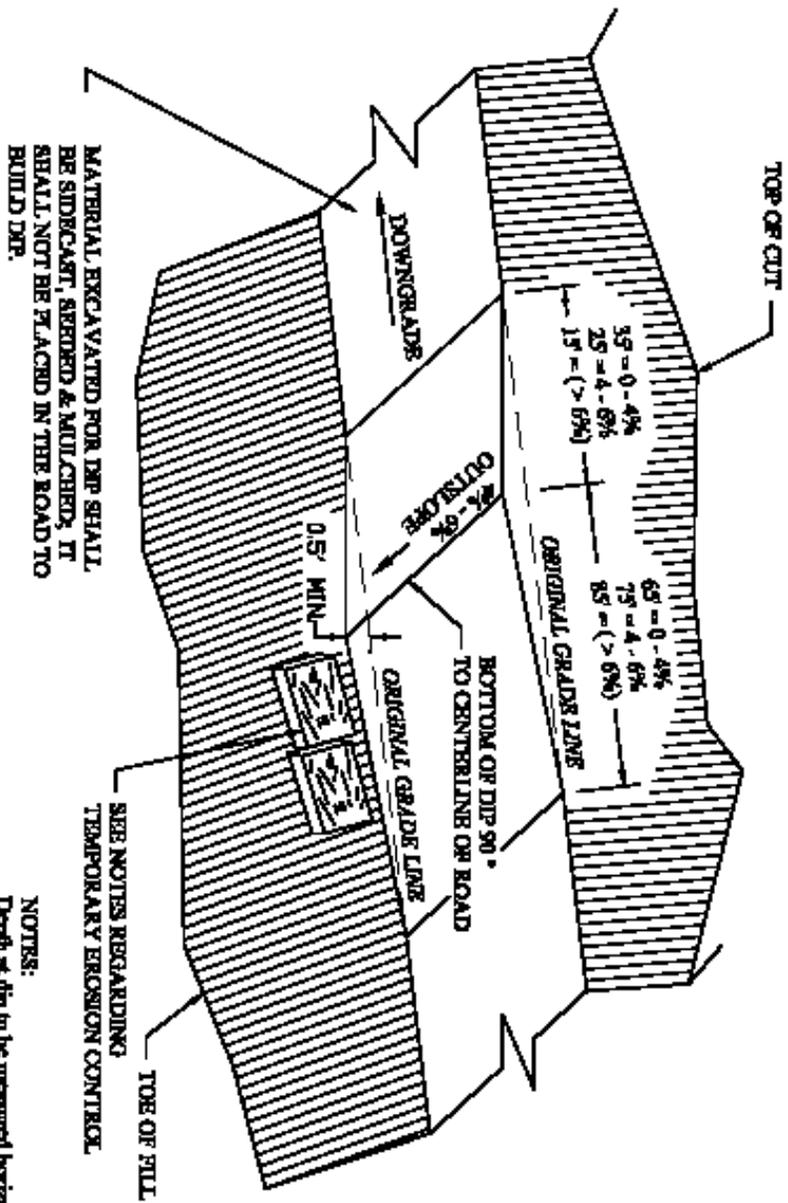
NO SCALE



**EXCESS EXCAVATION SHALL BE
SIDECAST, SEEDED & MULCHED**

*** CUT SLOPES $\frac{1}{2}$:1 & FLATTER
SHALL BE SEEDING.**

(1) SCATTER ANY STUMPS, LOGS, LIMBS, & SLASH



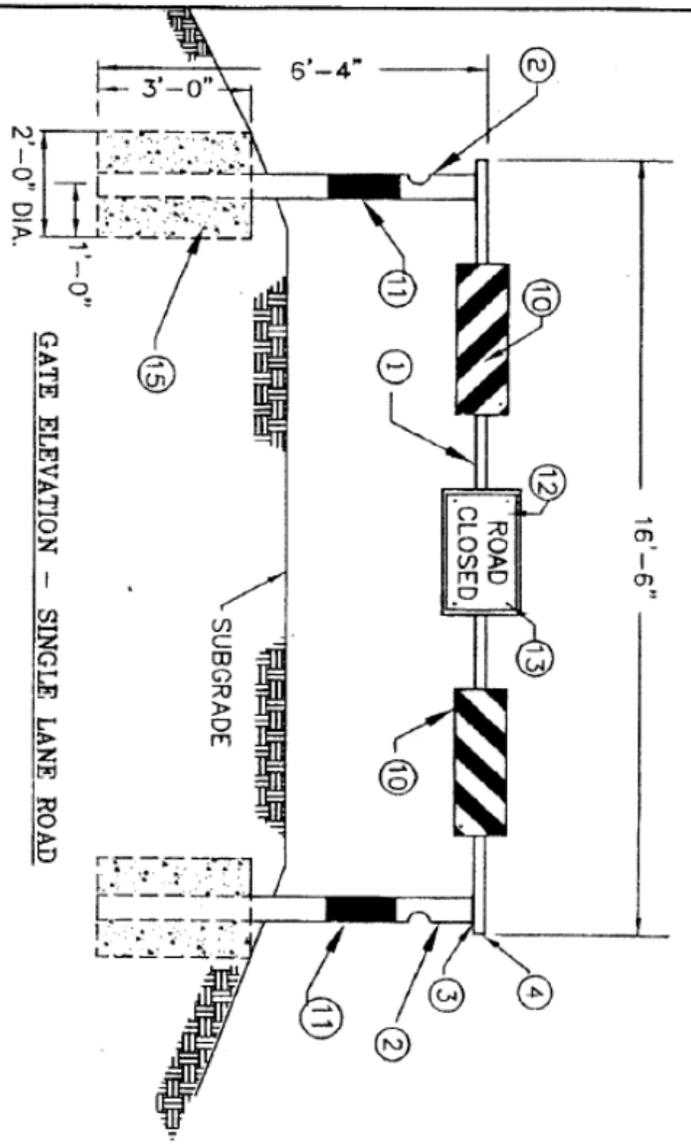
MATERIAL EXCAVATED FOR DIP SHALL BE SUBCAST, SEEDED & MULCHED. IT SHALL NOT BE PLACED IN THE ROAD TO BUILD DIP.

SEE NOTES REGARDING TEMPORARY EROSION CONTROL.

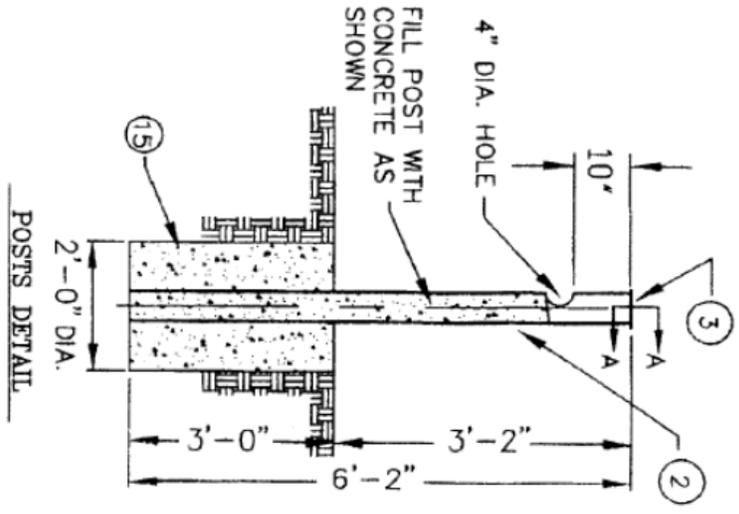
DIP PLAN

NO SCALE

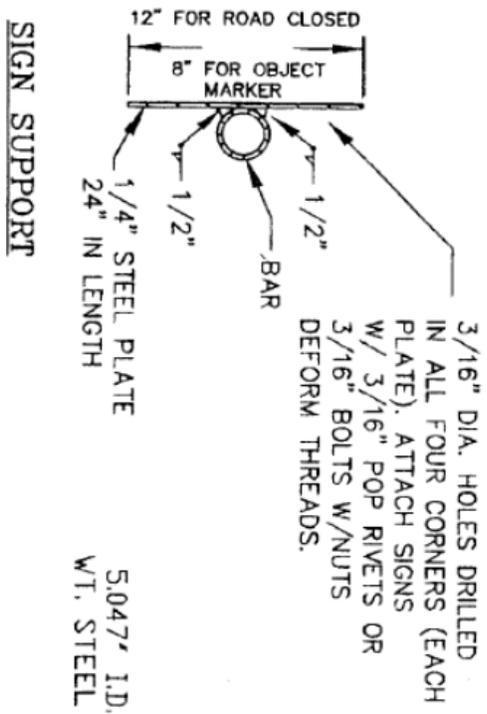
NOTES:
 Depth of dip to be measured horizontally from downslope end of dip.
 Place 5: ton grade 4 aggregate in bottom of dip.



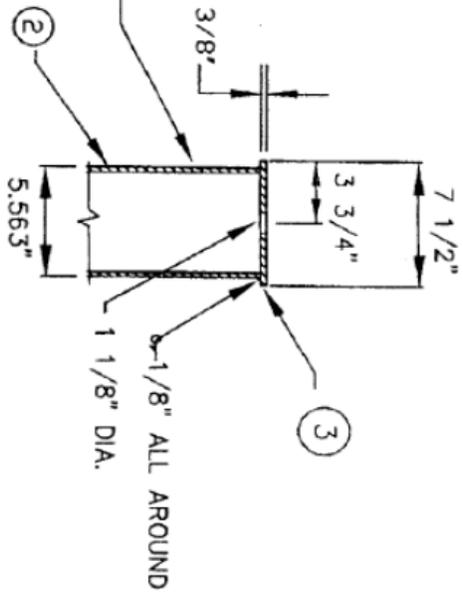
GATE ELEVATION - SINGLE LANE ROAD



POSTS DETAIL



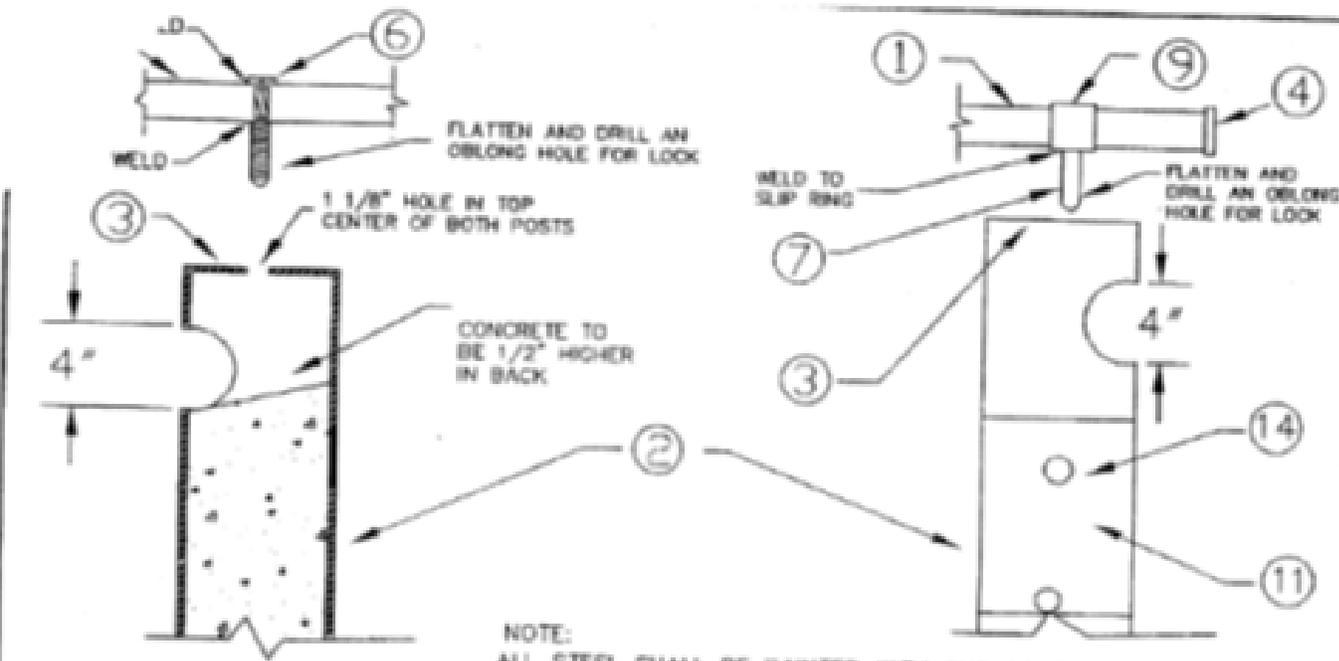
SIGN SUPPORT



SECTION A-A

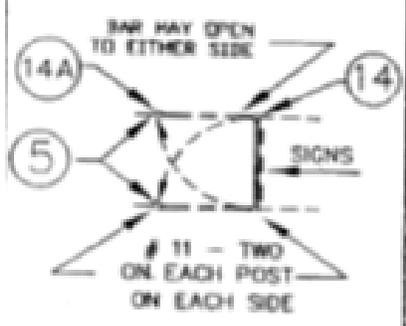
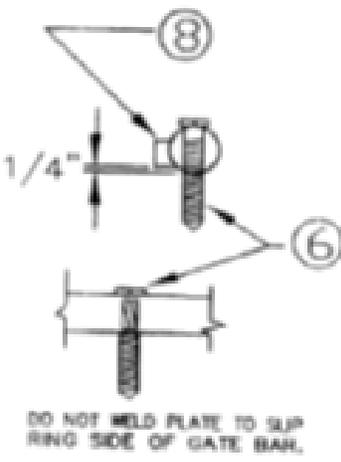
F. S. GATE

NOT TO SCALE



NOTE:
 ALL STEEL SHALL BE PAINTED WITH ONE COAT OF CONTROL PRIMER (SHERWIN-WILLIAMS A57R17 OR EQUAL) AND TWO COATS OF HIGH VISIBILITY BLACK LIQUID. ALL STEEL SHALL BE STRUCTURAL GRADE, SCHEDULE 40 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

NO.	NAME	DESCRIPTION	QTY
1	GATE BAR	2" DIA. x 198" STEEL PIPE	1
2	GATE POST	5.047" Ø x 74" STEEL PIPE	2
3	POST CAP	3/8" x 7 1/2" DIA. PLATE	2
4	GATE BAR CAP	3/8" x 2 1/2" DIA. PLATE	2
5	V NOTCHED TREATED POST, BURIED 2'	4" x 4" x VARIES	2
6	HEX BOLT	1" x 3 1/2"	1
7	STEEL PEN	1" DIA. X 1 1/2"	1
8	WELDED STEEL PLATE	1" x 1" x 1/4"	1
9	SLIP RING	2 1/8" I.D. X 3" PIPE	1
10	BARRICADE MARKER, 24" X 8"	BM-L-R	1
		BM-R-R	1
11	OBJECT MARKER, 6" X 12"	OM-2-B	8
12	ROAD CLOSED SIGN, 24" X 12"	FR11-2-24	1
13	SIGN FASTENER, POP RIVETS OR BOLT DEFORM THREADS	3/16"	12
14	ROUND HEAD BOLTS W/NUTS AND WASHERS,	3/16" x 1"	8
14A	WOOD SCREWS	3/16" x 1"	8
**15	CONCRETE FOR POST	CUBIC YARD	1.0



PAGE 2 OF 2
 NOT TO SCALE

▲ DENOTES FILLET WELD, WELD ALL AROUND
 **ALL CONCRETE SHALL MEET REQUIREMENTS OF ITEM 602 - METHOD C OR A.

SEDIMENT BARRIER

Sd1



SILT FENCE

THE MANUFACTURER SHALL HAVE EITHER AN APPROVED COLOR MARK YARN IN THE FABRIC OR LABEL THE FABRICATED SILT FENCE WITH BOTH THE MANUFACTURER AND FABRIC NAME EVERY 100 FEET.

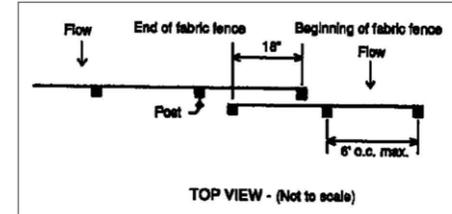
THE TEMPORARY SILT FENCE SHALL BE INSTALLED ACCORDING TO THIS SPECIFICATION, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. FOR INSTALLATION OF THE FABRIC, SEE FIGURES 6-20.4, 6-20.5, AND 6-20.6 RESPECTIVELY.

POST INSTALLATION SHALL START AT THE CENTER OF THE LOWPOINT (IF APPLICABLE) WITH REMAINING POSTS SPACED 6 FEET APART FOR TYPE A AND B SILT FENCES AND 4 FEET APART FOR TYPE C SILT FENCE. WHILE TYPE A AND B SILT FENCES CAN BE USED WITH BOTH WOOD AND STEEL POSTS, ONLY STEEL POSTS SHALL BE USED WITH TYPE C SILT FENCE. FOR POST SIZE REQUIREMENTS, SEE TABLE 6-20.3. FASTENERS FOR WOOD POSTS ARE LISTED IN TABLE 6-20.4.

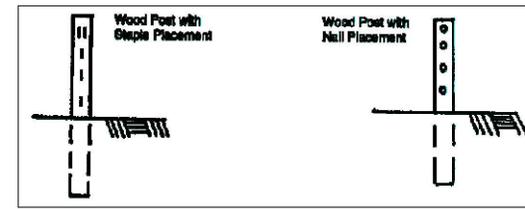
ALONG STREAM BUFFERS AND OTHER SENSITIVE AREAS, TWO ROWS OF TYPE C SILT FENCE OR ONE ROW OF TYPE C SILT FENCE BACKED BY HAYBALES SHALL BE USED.

MAINTENANCE

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.



OVERLAP AT FABRIC ENDS



FASTENERS FOR SILT FENCES

DEFINITION

SEDIMENT BARRIERS ARE TEMPORARY STRUCTURES TYPICALLY CONSTRUCTED OF SILT FENCE SUPPORTED BY STEEL OR WOOD POSTS. OTHER TYPES OF BARRIERS MAY INCLUDE SANDBAGS, STRAW BALES, BRUSH PILES OR OTHER FILTERING MATERIAL.

PURPOSE TO PREVENT SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE AND ENTERING NATURAL DRAINAGE WAYS OR STORM DRAINAGE SYSTEM BY SLOWING STORM WATER RUNOFF AND CAUSING THE DEPOSITION OF SEDIMENT AT THE STRUCTURE.

CONDITIONS

BARRIERS SHOULD BE INSTALLED WHERE RUNOFF CAN BE STORED BEHIND THE BARRIER WITHOUT DAMAGING THE FENCE OR THE SUBMERGED AREA BEHIND THE FENCE. SILT FENCE SHALL NOT BE INSTALLED ACROSS STREAMS, DITCHES, WATERWAYS, OR OTHER CONCENTRATED FLOW AREAS.

DESIGN CRITERIA

SILT FENCE

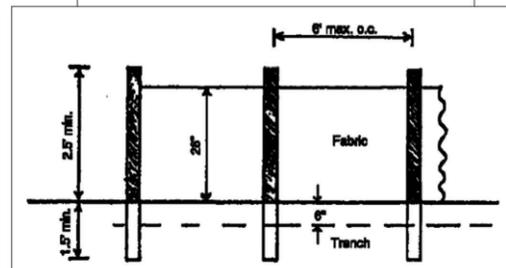
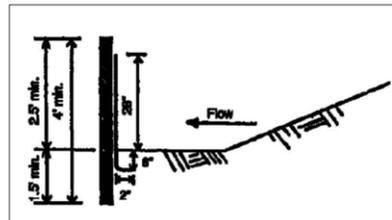
LIKE HAY OR STRAW BALES, SILT FENCE IS DESIGNED TO RETAIN SEDIMENT TRANSPORTED BY SHEET FLOW FROM DISTURBED AREAS. SILT FENCE PERFORMS THE SAME FUNCTION AS HAY OR STRAW BALES, ALLOWS A HIGHER FLOW RATE, AND IS USUALLY FASTER AND CHEAPER TO INSTALL. APPROVED SILT FENCE FABRICS ARE LISTED IN THE GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST #36 (OPL-36), SEE TABLE 6-20.5 FOR CURRENT GEORGIA DOT SILT FENCE SPECIFICATIONS.

WHERE ALL RUNOFF IS TO BE STORED BEHIND THE FENCE (WHERE NO STORMWATER DISPOSAL SYSTEM IS PRESENT), MAXIMUM SLOPE LENGTH BEHIND A SILT FENCE SHALL NOT EXCEED THOSE SHOWN IN TABLE 6-20.2. THE DRAINAGE AREA SHALL NOT EXCEED 1/4 ACRE FOR EVERY 100 FEET OF SILT FENCE.

TYPE C SILT FENCE SD1-C

TYPE C FENCE IS 36-INCHES WIDE WITH WIRE REINFORCEMENT. THE WIRE REINFORCEMENT IS NECESSARY BECAUSE THIS FABRIC ALLOWS ALMOST THREE TIMES THE FLOW RATE AS TYPE A SILT FENCE. TYPE C SILT FENCE SHALL BE USED WHERE RUNOFF FLOWS OR VELOCITIES ARE PARTICULARLY HIGH OR WHERE SLOPES EXCEED A VERTICAL HEIGHT OF 10 FEET. PROVIDE A RIPRAP SPLASH PAD OR OTHER OUTLET PROTECTION DEVICE FOR ANY POINT WHERE FLOW MAY TOP THE SEDIMENT FENCE. ENSURE THAT THE MAXIMUM HEIGHT OF THE FENCE AT A PROTECTED, REINFORCED OUTLET DOES NOT EXCEED 1 FT. AND THAT SUPPORT POST SPACING DOES NOT EXCEED 4 FT.

CONSTRUCTION SPECIFICATIONS



SILT FENCE - TYPE A

NOTES:
USE 36" D.O.T APPROVED FABRIC.
USE STEEL POSTS ONLY

TABLE 6-20.2. CRITERIA FOR SILT FENCE PLACEMENT

LAND SLOPE	MAXIMUM SLOPE LENGTH
	ABOVE FENCE
PERCENT	FEET
< 2	100
2 TO 5	75
5 TO 10	50
10 TO 20	25
>20	15

TABLE 6-20.3. POST SIZE

TYPE	MINIMUM LENGTH	TABLE 6-20.3	
		TYPE OF POST	SIZE OF POST
TYPE A	4'	SOFT WOOD	3" DIA. OR 2X4
		OAK	1.5" X 1.5"
		STEEL	1.3LB./FT. MIN.
TYPE B	3'	SOFT WOOD	2" DIA. OR 2X2
		OAK	1" X 1"
		STEEL	.75LB./FT. MIN.
TYPE C	4'	STEEL	1.3LB./FT. MIN.

* INFORMATION TAKEN FROM MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA FIFTH ED. 2000 PG. 6-127 THROUGH 6-130.



U.S. FOREST SERVICE
SOUTHERN REGION

FSR-316
RECONSTRUCTION
CONASAUGA RANGER DISTRICT
CHATTahoochee-Oconee NATIONAL FOREST

PROJECT NO.
CAD FILE NAME
DRAWN BY & DATE
CHECKED BY
Sheet Title
SILT FENCE
DETAILS

EC2

16-17

DEFINITION

SEDIMENT BARRIERS ARE TEMPORARY STRUCTURES TYPICALLY CONSTRUCTED OF SILT FENCE SUPPORTED BY STEEL OR WOOD POSTS. OTHER TYPES OF BARRIERS MAY INCLUDE SANDBAGS, STRAW BALES, BRUSH PILES OR OTHER FILTERING MATERIAL.

PURPOSE TO PREVENT SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE AND ENTERING NATURAL DRAINAGE WAYS OR STORM DRAINAGE SYSTEM BY SLOWING STORM WATER RUNOFF AND CAUSING THE DEPOSITION OF SEDIMENT AT THE STRUCTURE.

CONDITIONS

BARRIERS SHOULD BE INSTALLED WHERE RUNOFF CAN BE STORED BEHIND THE BARRIER WITHOUT DAMAGING THE FENCE OR THE SUBMERGED AREA BEHIND THE FENCE. SILT FENCE SHALL NOT BE INSTALLED ACROSS STREAMS, DITCHES, WATERWAYS, OR OTHER CONCENTRATED FLOW AREAS.

DESIGN CRITERIA

HAY OR STRAW BALES

HAY OR STRAW BALES RETAIN SEDIMENT LOAD TRANSPORTED BY SHEET FLOW FROM DISTURBED AREAS. THE BALES' COMPARATIVELY LOW FLOW RATE SHOULD BE CONSIDERED WHEN CHOOSING THE APPROPRIATE SEDIMENT BARRIER. PONDING ABOVE THE BALE CAN OCCUR RAPIDLY. THE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A BALE BARRIER CANNOT EXCEED THOSE LISTED IN TABLE 6-20.1. STRAW AND HAY BALES SHALL NOT BE USED IF THE PROJECT DURATION IS EXPECTED TO EXCEED THREE MONTHS.

CONSTRUCTION SPECIFICATIONS

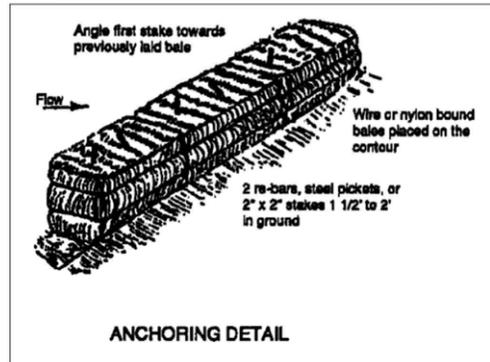
HAY OR STRAW BALES SD1-HB

(IF APPROVED BY LOCAL ISSUING AUTHORITY) BALES WILL BE PLACED IN A SINGLE ROW, LENGTHWISE, ON THE CONTOUR AND EMBEDDED IN THE SOIL TO A DEPTH OF 4 INCHES. BALES MUST BE SECURELY ANCHORED IN PLACE BY STAKES OR BARS DRIVEN THROUGH THE BALES OR BY OTHER ACCEPTABLE MEANS TO PREVENT DISPLACEMENT. SEE FIGURES 6-20.1 AND 6-20.2 FOR INSTALLATION REQUIREMENTS.

MAINTENANCE

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

LAND SLOPE	MAXIMUM SLOPE LENGTH ABOVE BALE
PERCENT	FEET
<2	75
2 TO 5	50
5 TO 10	35
10 TO 20	20
>20	10



STAKED HAYBALES BARRIERS

- NOTES:
- ANCHOR AND EMBED INTO SOIL TO PREVENT WASHOUT OR WATER WORKING UNDER BARRIER.
 - REPAIR OR REPLACEMENT MUST BE MADE PROMPTLY AS NEEDED.

FIGURE 6-20.2

* INFORMATION TAKEN FROM MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA FIFTH ED. 2000 PG. 6-127 THROUGH 6-130.

NOTES - EROSION CONTROL PLAN NOTES

PHASE 1

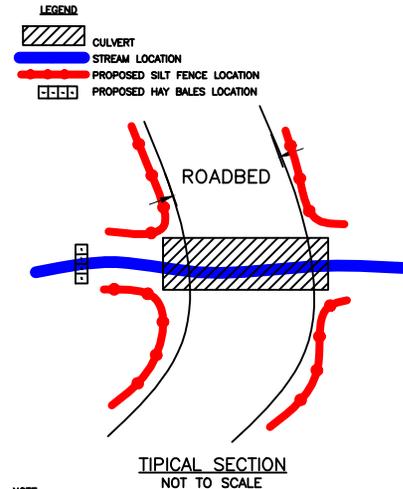
- A. INSTALL SILT FENCE PRIOR TO ANY GROUND DISTURBANCE AND IN ACCORDANCE TO WORK DESCRIPTION.
- B. MAINTAIN SILT FENCE THROUGH OUT PROJECT BY REGULAR INSPECTION AND REGULAR CLEAN OUT OF ANY BUILT UP SEDIMENTATION.

PHASE 2

- A. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED ONCE DISTURBING ACTIVITIES HAVE CEASED.
- B. SILT FENCE SHALL REMAIN IN PLACE UNTIL PROJECT IS COMPLETED AND SEED HAS CAUGHT ROOT.

PHASE 3

- A. REMOVE ALL EROSION CONTROL DEVICES AFTER SEED HAS CAUGHT ROOT.



- NOTE:
1. INSTALL ONE ROW OF SILT FENCE.
 2. EXTEND SILT FENCE AT EACH SIDE OF CONSTRUCTION SITES.
 3. SEE DESCRIPTION OF WORK FOR LOCATIONS OF SILT FENCE OR HAY BALES.
 4. ALL MATERIALS, INSTALLATION AND WORKMANSHIP FOR EROSION CONTROL SHALL BE PAID UNDER PAY ITEMS 15702.



U.S. FOREST SERVICE
SOUTHERN REGION

FSR 361
RECONSTRUCTION
CONASAUGA RANGER DISTRICT
CHATTAHOOCHE-OCONEE NATIONAL FOREST

DATE	DESCRIPTION

PROJECT NO:
DWD FILE NAME:
DRAWN BY: D. WATTS
CHECKED BY:
DATE: 11/11/11

HAY BALE DETAILS & EROSION CONTROL NOTES

EC3

17-17