

FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway DAMAGE SURVEY REPORT (Title 23, Federal-Aid System/Federal Domain)				Sheet No: <u>1</u> of <u>6</u>	
Applicant: Forest Service - Pisgah NF				USDA County: Burke State: NC	
Location of Damage (Route No., Name of Road and Mile Post, Map Grid) Mortimer Piedmont, NFSR 982, MP. 2.88				DSR No: 982-2.88 Disaster No: NC 2004-1-FS Inspection Date: 11-22-04	
Bridge Data:		Road Data:		Classification: ML4	
Type:		Traveled Way Width: 12		Surface Type: AGG Thickness:	
ID#:		Shoulder Width: 2		Pre-storm cond: good 4"	
Description and Cause of Damage: Due to excessive rainfall and existing culvert couldn't handle the water. Water overflowed over the roadbed and approximately 100' of the roadbed and fill slope became saturated and slid down the hill.				Scope/Description of Repair: Stabilize Existing Slope by means of Soil Nailing Failing Areas. 20 feet steel rod will be launched into the failure area stabilizing the fill slope and maintaining adequate travelway width. Rip-Rap nor Soil could be placed re regain the travelway width at this site and continue sloughing into the stream. We propose soil launching steel nails into this site using 3 rows on nails on 3 foot centers, supporting a 60' x 12' coconut mat and twisted wire mesh facing.	
COST ESTIMATE for EMERGENCY REPAIRS*					
Quantity	Unit	Item Description	Unit Price	Cost	
Proposed:		Force Account	Contract	Total Emergency Repairs	
COST ESTIMATE for PERMANENT REPAIRS*					
Quantity	Unit	Item Description	Unit Price	Cost	
1	LS	Mobilization , Trackhoe with Soil Nail Launcher	\$3,500.00	\$3,500	
60	LF	Launching Soil Nails including coconut matting with twisted wire mesh	\$600.00	\$36,000	
250	LF	Silt Fence	\$7.50	\$1,875	
180	SY	Seed and Mulch	\$7.50	\$1,350	
1	LS	Tempoary Traffic Control	\$1,800.00	\$1,800	
24	HR	Flaggers	\$32.00	\$768	
Subtotal Permanent Repairs (continuation sheet)					
Proposed:		Force Account	Contract XX	Total Permanent Repairs	
Identify Betterment, if any, and provide justification*			Preliminary Engineering	\$6,794	
			Construction Engineering	\$4,529	
			Right-of-Way		
			Other Bond (2.5%)	1132	
			TOTAL ESTIMATED COST (Emergency and Permanent Repairs)	\$57,749	
Submitted By: (Name and Title) Lynn Hicks Forest Engineer			Signature: / X /	Date: July 6, 2005	
Reviewed By: (Name and Title)			Eligible Ineligible	Signature:	Date:
Recommended By: (Name and Title)			Eligible Ineligible	Signature:	Date:

\*Attach Supplemental Sheets if necessary

Posted 4 February 2009

FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway

DAMAGE SURVEY REPORT (Supplemental Sheet)

(Title 23, Federal-Aid System/Federal Domain)

Sheet No: 2 of 6

DSR No: 982-2.88

Disaster No: NC 2004-1-FS

Applicant:  
USDA Forest Service - Pisgah NF

County:  
Burke

State: NC

Inspection Date:  
11-22-04

Location of Damage (Route No., Name of Road and Mile Post, Map Grid)  
Mortimer Piedmont, NFSR 982, MP. 2.88

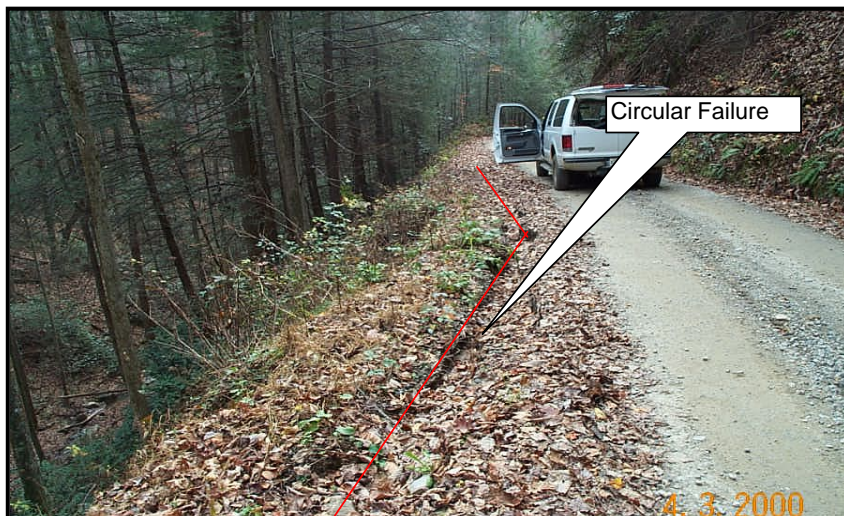
ADT: 75



982-2.88-01



982-2.88-02



982-2.88-03

**DSR No. NFNC 4663-1.78**  
 Betterment Justification  
 Replace Earth Embankment vs.Stablization by Soil Nailing

ITEM	REPAIR IN-KIND				BETTERMENT			
	Replace Earth Embankment				Stabilize Earth by Soil Nailing Failure Areas			
	UNIT	QUANTITY	UNIT PRICE	COST	UNIT	QUANTITY	UNIT PRICE	COST
Mobilization	LS	1	\$1,000	\$1,000	LS	1	\$3,500	\$3,500
Excavation (60' x 10' x 12')	CY	260	\$8	\$2,080				
Borrow	CY	260	\$10	\$2,600				
Aggregate Base Surfacing	Ton	72	\$25	\$1,800	Ton	46	\$25	\$1,150
Sub Grade Base	Ton	72	\$22	\$1,584	Ton	46	\$22	\$1,012
Seed all disturbed areas	SY	800	\$8	\$6,000	SY	180	\$8	\$1,350
Silt fence	LF	200	\$8	\$1,500	LF	200	\$8	\$1,500
Stabilization using Soil Nailing					LF	60	\$600	\$36,000
<b>TOTAL</b>				<b>\$16,564</b>				<b>\$44,512</b>

Cost to repair damage in the future (w/betterment)	Assume minor repair every 5 years @ \$2500 / event. (Design Life = 20 Years) Soil Nailing: \$2500(P/F, 7%,5,10,15,10)	\$4,600
Cost to repair damage in the future (w/o betterment)	Assume major repair every 5 years @ \$65,000 / event. (Design Life = 20 Years) Earth Replacement: \$65,000(P/F, 7%,5,10,15,20)	\$119,600
<b>BENEFIT</b>	(Difference in future repair costs over equal life)	<b>\$115,000</b>
<b>COST</b>	(Additional Cost to repair the site as a result of adding the betterment)	<b>\$27,948</b>
<b>BENEFIT / COST</b>		<b>4.115</b>
<b>REMARKS</b>	Stabilization using Soil Nail Launching offers substaintal costs benefits and reduces impacts local residents.	

FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway DAMAGE SURVEY REPORT (Title 23, Federal-Aid System/Federal Domain)				Sheet No: <u>4</u> of <u>6</u>	
Applicant: USDA Forest Service - Pisgah NF			County: Burke	State: NC	DSR No: <u>982-2.88</u>
Location of Damage (Route No., Name of Road and Mile Post, Map Grid) Mortimer Piedmont, NFSR 982, MP. 2.88				Disaster No: NC 2004-1-FS	
Bridge Data:		Road Data:	Classification: ML4		Inspection Date: 11-22-04
Type:		Traveled Way Width:	Surface Type: AGG	Thickness:	
ID#:		Shoulder Width: 2	Pre-storm cond: good	4"	
Description and Cause of Damage: Due to excessive rainfall and existing culvert couldn't handle the water. Water overflowed over the roadbed and approximately 100' of the roadbed and fill slope became saturated and slid down the hill.			Scope/Description of Repair: <u>Alternative 1 - In-Kind</u> <u>This is not the preferred alternative</u> Replace embankment from the toe of the fill to the top of the subgrade. (60' length x 10' high x 12' wide)		
COST ESTIMATE for EMERGENCY REPAIRS*					
Quantity	Unit	Item Description	Unit Price	Cost	
			\$0.00	\$0	
				\$0	
				\$0	
				\$0	
				\$0	
				\$0	
Proposed:			Force Account	Contract	Total Emergency Repair
					\$0
COST ESTIMATE for PERMANENT REPAIRS*					
Quantity	Unit	Item Description	Unit Price	Cost	
1	LS	Mobilization	\$1,000.00	\$1,000	
260	CY	Excavation Unsuitable Material	\$8.00	\$2,080	
260	CY	Borrow Material	\$10.00	\$2,600	
72	Ton	Aggregate Base Surfacing	\$25.00	\$1,800	
72	Ton	Sub Grade Base	\$22.00	\$1,584	
800	SY	Flaggers	\$7.50	\$6,000	
200	LF	Silt Fence	\$7.50	\$1,500	
1	LS	Tempoary Traffic Control	\$1,800.00	\$1,800	
24	HR	Flagers	\$32.00	\$768	
				\$0	
				\$0	
				\$0	
				\$0	
Subtotal Permanent Repairs (continuation sheet)					\$0
Proposed:			Force Account	Contract XX	Total Permanent Repairs
					\$19,132
Identify Betterment, if any, and provide justification*			Preliminary Engineering		\$2,870
			Construction Engineering		\$1,913
			Right-of-Way		\$0
			Other Bond (2.5%)		478
			TOTAL ESTIMATED COST (Emergency and Permanent Repairs)		\$24,393
Submitted By: (Name and Title) Lynn Hicks Forest Engineer			Signature: / X /		Date: July 6, 2005
Reviewed By: (Name and Title)		Eligible Ineligible	Signature:		Date:
Recommended By: (Name and Title)		Eligible Ineligible	Signature:		Date:

\*Attach Supplemental Sheets if necessary

**FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway**  
**DAMAGE SURVEY REPORT (Supplemental Sheet)**

Sheet No: 5 of 6

DSR No: 982-2.88

(Title 23, Federal-Aid System/Federal Domain)

Disaster No: NC 2004-1-FS

Applicant:  
 USDA Forest Service - Pisgah NF

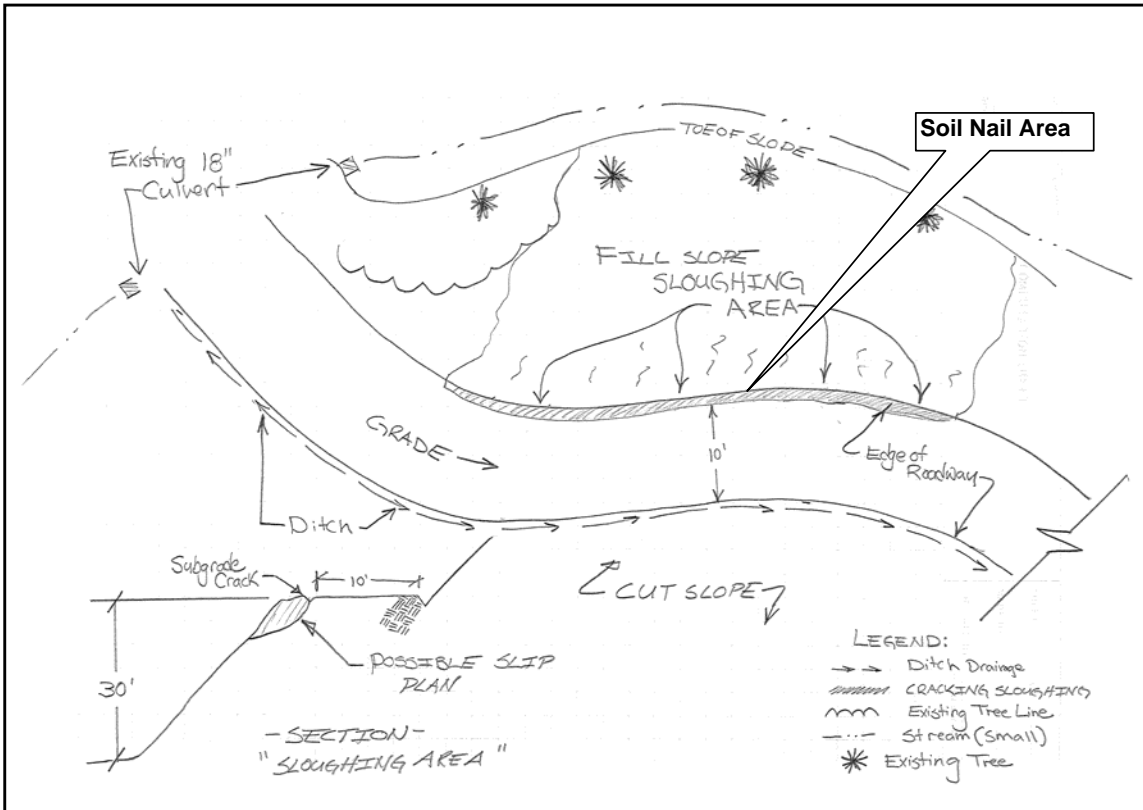
County:  
 Burke

State: NC

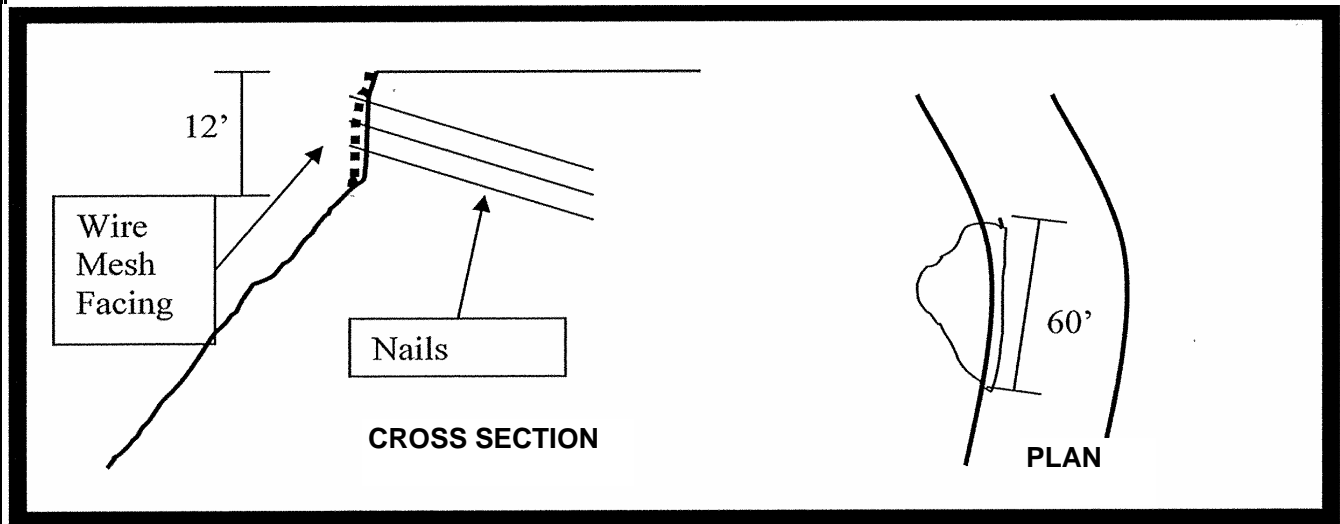
Inspection Date:  
 11-22-04

Location of Damage (Route No., Name of Road and Mile Post, Map Grid)  
 Mortimer Piedmont, NFSR 982, MP. 2.88

ADT: 75



Flaggers



**FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway**  
**DAMAGE SURVEY REPORT** (Supplemental Sheet)  
 (Title 23, Federal-Aid System/Federal Domain)

Sheet No: 6 of 6

DSR No: 982-2.88

Disaster No: NC 2004-1-FS

Applicant:  
 Forest Service - Pisgah NF

USDA

County:  
 Burke

State:  
 NC

Inspection Date:

11-22-04

Location of Damage (Route No., Name of Road and Mile Post, Map Grid)  
 Mortimer Piedmont, NFSR 982, MP 2.88

ADT: 75

