EMERGENCY WATERSHED PROTECTION REPORT SPRING AND SUMMER 1984

> Manti-LaSal National Forest Carbon, Emery, Juab, Sanpete, and Utah Counties, Utah

EMERGENCY WATERSHED PROTECTION REPORT SPRING AND SUMMER 1984

Manti-LaSal National Forest Carbon, Emery, Juab, Sanpete, and Utah Counties, Utah

File 35

This request is recommended for approval by:

ROSS E. BUTLER Acting Forest Supervisor

and endorsed by:

J.S. TIXIER, Regional Forester, R-4, Forest Service

FRANCIS T. HOLT, State Conservationist, Utah SCS

Quiferet 3 1444

Date

Date

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Emergency Watershed Protection Report Spring and Summer 1984

Manti-LaSal National Forest Carbon, Emery, Juab, Sanpete, and Utah Counties

I. EXECUTIVE SUMMARY

During the spring of 1984, the melt of a record snowpack caused hundreds of landslides and record flooding in several drainages of the Manti-LaSal National Forest. This event of 1984 seriously aggravated the problems caused by the floods and landslides of 1983, and created much new damage. Most resources and National Forest uses have been impacted. Access is severely curtailed, causing serious economic impacts.

A damage survey was conducted by the Interdisciplinary Team during the period of June 28 to July 18, 1984. Damage was widespread throughout the Manti and San Pitch Divisions of the Manti-LaSal National Forest. Landslides and high flood waters have destroyed Forest Development Roads and trails, range land and improvements, campground facilities, and fishery habitats, and have impaired the watersheds.

Impacts are serious to all resources. The present conditions threaten downstream lives and property and seriously impede normal Forest programs including dependent permittees. Many areas have been rendered unsafe due to ongoing geologic processes.

Emergency funding is needed to initiate repairs and in restoration of damage to resources and facilities. However, the restoration and healing process will take many years.

The purpose of this report is to describe the Interdisciplinary Team's findings and those recommendations for treatment that should be funded under Section 403 of the Agriculture Credit Act of 1978. A general description of the disaster event, contributing factors, and damaged sustained will be presented. A site specific description by incident, recommendations for treatment, and costs will also be shown for those areas that should qualify for 403 funding.

TABLE 1 - Total Funds Needed for Flood Damage Repairs

Emergency Watershed Protection (403)	\$ 724,837
Emergency Relief for Federal Off-System Roads (ERFO)	834,675
Forest Service Funds	
Road Betterment and Supplemental (FR&T)	109,000
Protection and Management (P&M)	1,343,079
	\$3,011,591

TABLE 2 - 403 Funds Requested by County and Ranger District

Ranger District

<u>No.</u>	Name	Carbon	Emery	Juab	Sanpete	Utah	Total
1	Sanpete			\$109,812	\$258,700	\$ 84,850	\$435,362
2	Ferron		\$40,000		2,100		42,100
3	Price	\$19,100	70,375			139,900	229,375
					·····		
		\$19, 100	\$110,375	\$109,812	\$260,800	\$224,750	\$724,837

TABLE 3

Total Program 403 and Forest Management Program By Incident Area

		(0 2	Forest Management	
<u>No.</u>	Incident	403	Program & ERFO	<u>Total</u>
1	West San Pitch	109,812	652,916	762,748
2	East San Pitch	0	59,153	59,153
3	Lake Fork	84,850	93,659	178,509
4	Thistle Creek	139,900	39,223	179,123
5	Fairview Canyon	24,950	70,287	95,237
6	Price River	16,100	105,834	121,934
7	Monument Peak	16,325	42,362	58,687
8	Huntington Creek	57,050	197,318	254,368
9	Scad Valley	0	4,417	4,417
10	Joes Valley	11,600	43,261	59,861
11	Ferron Canyon	30,500	62,955	93,455
12	Muddy Creek	0	169,688	169,688
13	Twelve Mile Creek	206,100	313,347	519,447
14	Six Mile	6,500	205,229	211,729
15	Manti Canyon	5,350	33,026	38,376
16	Ephraim Canyon	0	67,296	67,296
17	Knob Mountain	9,350	24,844	34,194
18	Moab	0	0	0
19	Pleasant Creek	0	94,891	94,891
20	San Pitch Canyon	0	0	0
21	Canal Canyon	6,450	7,028	13,478
	TOTALS	724,837	2,286,754	3,011,591

Seven hundred twenty four thousand eight hundred thirty seven dollars (\$724,837) is being requested for the Manti-LaSal National Forest under Section 403 of the Agriculture Credit Act of 1978 for Emergency Watershed Protection.

Within this report, threatened downstream property values are estimated for each project and incident. These property value estimates are based on review of maps, photographs, and personal observations. The values are based on the estimates of the team members for the 1983 report.

Downstream from the National Forest, the effects of the slides and floods damaged property and roads within 7 communities; at least 11 community water supplies, 2 U.S. Highways, many acres of agricultural lands, many acres of crops, and many irrigation diversions.

II. BRIEF DESCRIPTION OF THE DISASTER

Major areas on the Manti-LaSal National Forest have received severe impacts from landslides, mudflows, and abnormally high runoff. The record moisture conditions, combined with dipping bedrock and historic geologic instability, lubricated and released numerous landslides. All of these factors created hundreds of landslides on the Manti Division and San Pitch Division. Flooding caused additional damage.

The previous three moisture years, 1981 through 1983, were wet in terms of snowpack and total precipitation. This moisture year, 1983-1984, has broken records for total snowfall and total precipitation in these areas.

Several days of hot weather in mid-May caused severe flooding in low elevation watersheds. This was followed by an extended cool spring which lengthened the period of snowmelt at higher elevations, and provided extended periods of high water in the streams. Even so, the peak streamflows exceeded all records where gages were available.

This sequence of events has seriously aggravated the problems caused by the 1983 flood and landslide event, and created much new damage. Forestwide, there has been a 41 percent increase in the number of landslides and a 32 percent increase in the area of landslides. The damages to the stream channels have recurred with several new areas added.

Many of the landslides deposited directly in live stream channels and temporarily dammed streamflow before breaking loose (Photo #2). The failure of temporary dams caused increased flow levels and debris accumulations downstream. Roads were washed out, covered by slide debris, or fell victim to fill failures because of mass movements. Stream channel degradation and channel shifting was widespread. Trees were undercut along streambanks and contributed to the debris load.

Landslides obliterated Blue Lake in the Muddy Creek drainage and have created several new lakes and ponds in several areas. The number, size, and permanence of these new features is unknown. The damages to the fish habitats have increased over 1983. The damages to the Forest road system has rendered many areas of the Manti and San Pitch Divisions inaccessible to customary vehicles. This has greatly impacted many Forest users and workers. The costs to range permittees will be increased. Recreation facilities have been destroyed.

The area is generally characterized by high intensity summer thunderstorms in August and September. Small denuded areas have historically generated devastating mudflows into the communities in the San Pitch River Valley.

This spring, the high water and landslides have denuded widespread areas of the Manti and San Pitch Divisions, and have damaged property in nearby communities. When the summer thunderstorms hit these newly denuded areas and recent sediment deposits, it is anticipated that severe erosion of sediments and debris will occur and downstream damage will be extensive (see report in Incident #15, page 103).

III. DAMAGE TO NATIONAL FOREST IMPROVEMENTS AND RESOURCES - 1984 EVENT

A. Forest Access

40 Miles of Road	Cost to Repair	\$632,975
16½ Miles of Trails	Cost to Repair	81,700
3 Major Stream Crossings	Cost to Repair	120,000
Road Betterment and Supplem	ental FR&T	109,000

- B. Recreation
 - Damage to Campgrounds

Total

Chicken Creek Campground	\$300,000
Ferron Campground	10,000
Total	\$310,000

C. Lands

Based on maps of the landslides and known corners, four survey corners may have been damaged. Estimated cost of re-establishment is \$60,000.

D. Range

The loss of access is estimated to have affected 169 permittees, 56,542 head of livestock, 59,701 permitted AUM's, and 45 range allotments. Landslides have damaged 3,468 acres of rangelands (1,683 acres suitable).

\$943,675

E. Timber

This disaster has affected aspen, pinyon-juniper, cottonwood, and spruce fir. About 10 percent of the landslide area (450 acres) is estimated to have a high insect and disease hazard. Access to one timber sale (500 MBF) has been interrupted.

Refine Insect and Disease Inventory	\$15,000	
Initiate Insect and Disease Control		
Activities (lst Year)	35,000	
Re-establish Temporary Timber Sale Access	5,000	
Total	\$55,000	

F. Fish and Wildlife

During 1983, the fisheries habitats were severely damaged by landslides and flooding. In 1984, additional damage was sustained on an additional 9.4 miles of habitat. The estimated cost of repair is \$212,240.

G. Minerals

Landslides caused damage to the Skyline Mine facility in Eccles Canyon. Damage on the mine lease is a problem of the permittee, although the Forest Service must agree to the corrective action. Some of the damage may qualify for 403 funding if the lessee applies.

A landslide crossed a rehabilitated drill pad of a dry gas well in North Hughes Canyon.

H. Watershed

Landslide Areas	4,460 Acres
Stream Channel Damage	59 Miles
*Damage to Previous Watershed Treatments	
(Furrows and Trenches)	26 Acres
Areas Denuded by Landslides or Channel	
Scouring	1,244 Acres
The Estimated Cost to Repair These Damages	\$1,158,526

*The damage reported here is from a landslide that covered up a portion of the contouring in Rees Valley. No known failures of trenches or furrows have occurred. See Appendix, Photo 4.

I. Fire

The lack of road access has reduced the Forest's capability to provide quick and efficient initial attack for suppression of wildfire. In addition, the down and drying trees have increased and fuel loading and the risk for larger fires has increased. A locally based helicopter and crew is needed to provide initial attack capabilities. This need will continue yearly until the transportation system is restored. Estimated cost for one season is \$80,000.

J. Special Uses

Eleven special uses have been identified as damaged. New Environmental Assessments may be required before those special uses can be re-established. The estimated cost is \$55,000.

TABLE 4 - Municipal Watersheds

			W	atershed Cos	ts*
Municipality	Population	Watershed	403	P&M	Total
Levan	624	Chicken Creek	\$ 52,812	\$ 17,185	\$ 69,997
Fairview	912	Fairview Canyon	7,050	5,635	12,685
Milburn	100	Dry Creek	0	1,860	1,860
Price	15,565	Price River	16,850	14,055	30,905
Huntington	3,748	Huntington Creek	70,375	150,640	221,015
Orangeville Castle Dale	3,192	Joes Valley	11,600	8,605	20,205
Ferron	1,273	Ferron Canyon	30,500	6,085	36,585
Mayfield	391	Twelve Mile	206,100	47,868	253,968
Manti	2,080	Manti Canyon	5,350	2,100	7,450
Ephraim	2,810	Ephraim Canyon	0	10,008	10,008
Spring City	671	Oak Creek	9,350	10,435	19,785
Totals	31,366		\$409,967	\$274,476	\$684,463

*These are the costs to repair watershed damages within municipal watersheds. These costs are included in the \$1,158,526 watershed total on the previous page, Section H Watershed, page 6.

TABLE 5 - Irrigation Systems

		Watershed Costs*	
Canyon	P&M	403	Total
Chicken Creek	\$ 17,185	\$ 52,812	\$ 69,997
Pigeon Creek	1,860	21,500	23,360
Four Mile Creek	1,085	0	1,085
Deep Creek	5,500	35,500	41,000
Log Hollow	3,000	0	3,000
Lake Fork	25,400	84,850	110,250
Mill Fork	1,100	18,200	19,300
Thistle Creek	8,158	29,000	37,158
Little Clear Creek	12,850	37,450	50,300
Rock Canyon	2,520	73,450	75,970
Fairview Canyon	5,635	7,050	12,685
Oak Creek	9,340	17,900	27,240
Crooked Creek	1,860	0	1,860
Huntington Creek	150,640	70,375	221,015
Joes Valley	8,605	11,600	20,205
Ferron Canyon	6,085	30,500	36,585
Muddy Creek	7,615	0	7,615
Twelve Mile	47,868	206,100	253,968
Six Mile	6,085	6,500	12,585
Manti Canyon	2,100	5,350	7,450
Ephraim Canyön	10,008	2,400	10,008
Knob Mountain	10,435	9,350	19,785
Canal Canyon	3,200	6,450	9,650
Totals	\$345,734	\$726,337	\$899,851

*These are the costs to repair watershed damages above irrigation systems. These costs are included in the total \$1,158,526 watershed costs shown on page 3. Many of the costs are shown on both pages 7 and 8.

Reference Section H Watershed on page 6.

IV. PROPOSED TREATMENTS AND JUSTIFICATION

A. Control of Erosion and Sediment Production

Small denuded areas have historically generated devastating mudflows into the communities of the San Pitch River Valley. This disaster of high water and landslides has damaged much property in several of these small communities, and denuded widespread areas of the Manti and San Pitch Divisions. Many areas are barren, due to sediment deposits and mudflows that have destroyed and/or buried existing vegetation.

When the summer thunderstorms and snowmelt high water occurs, newly denuded areas will erode severely and the mobilization of sediment and debris will occur. Downstream damage will be extensive. (See Incident #15, page 103).

Sediment in the water supply adds to the cost of municipal water treatment and has been known to carry disease organisms and protect them from water treatment. Water diversions, pipelines, culverts, and bridge openings may be clogged with sediment. Cropland may be destroyed by sediment deposits.

Most of the barren and denuded areas are highly susceptible to additional erosion and sediment production (Photo's 1, 5, 6, 7, 10, and 13). The slopes range from 5 to 100 percent. The area is characterized by high intensity summer thunderstorms in August and September. In Ephraim Canyon, Farmer and Fletcher report an average of more than 16 thunderstorms in August and September (Farmer and Fletcher, 1971, Precipitation Characteristics of Summer Storms at High Elevations in Utah, Forest Service. INT 110). The intensity at the 5 year recurrence 30 minute storm is about 1.2 inches per hour. These precipitation data are probably applicable throughout the Manti and San Pitch Divisions.

Revegetation is the best means for reducing erosion and sediment production from denuded areas. Revegetation of streambanks and flood plains will greatly reduce the potential for further erosion and downstream damage. Willows and other riparian plants form an effective cover, and the roots provide excellent binder for these sediments. Patches of willows provide excellent sediment retention during flood flows and tend to filter the sediments from the water. Planting riparian species will advance the plant succession and greatly hasten the good ground cover needed along streambanks. The vegetation acts as a buffer The vegetated areas overhanging streams to sediments from upslope. provides food and cover for aquatic species. Grass seeding, riparian planting, and some streambank stabilization measures are recommended for erosion and sediment control. This work is classified as MIH Code F03.

B. Debris Dams and Channel Clearing

This work is classed as MIH Code FO3. Large quantities of logs and smaller sized wood materials have accumulated in piles that block the stream channels (Photo's 2, 11, and 12). This type of debris is also often deposited in other areas along streams within the seasonal high water zone without completely blocking the stream.

Unless removed, these materials will be mobilized by flows from snowmelt and thunderstorms to create temporary dams and flood surges down the channel. Once mobilized, these materials have great power to damage and destroy channel crossings, structures, and facilities within the high water zone.

Experience shows that debris mitigates not only down channel, but also down slope. Therefore, debris clearing should be quite extensive.

The wood materials should be piled and burned or scattered well above the high water zone. In certain locations, it will be possible to anchor logs into banks for stabilization and/or fish habitat improvements. In other locations where raw, steep, and erodible slopes are directly above the stream channel, it may be possible to place logs above the flood plain parallel to the contour to act as sediment traps. Some of the wood debris may be used by fuelwood cutters.

C. Riprap

This work is classed as MIH Code FO3. Where streams are actively undercutting otherwise stable slopes or roads, "riprap" or other channel structures may be justified (Photo #13). Downstream sediment damage will be reduced. Fish habitat improvement structures will also provide some of these same benefits.

D. Bank Reshaping and Revegetation

This work is classed as MIH Code FO3. In several instances, the stream has cut a new channel, downcut the channels so that the banks are steep and raw. In some of these cases, the stream channel banks should be laid back to gentler slopes and revegetated. This treatment will reduce erosion and sediment production.

V. ENVIRONMENTAL IMPACT OF PROPOSED PROJECTS

The implementation of these proposed repairs will reduce downstream sediment, reduce downstream debris, reduce threats to downstream lives, health, and property.

On site, the impacts will vary. A form environmental assessment is included for each site in this report. An environmental assessment was prepared in 1983 for 403 projects in many of the same areas. The assessments in this report will be reviewed along with the 1983 assessments. Supplemental environmental assessment reports will be prepared if necessary, using the Forest Service NEPA process.

VI. PRIVATE AND STATE LANDS

Some other ownerships within the National Forest boundary have been damaged by flooding and landslides (1984).

Estimates of bank stabilization, removing stream obstructions and revegetation of scoured areas to reduce sediment impacts to municipal and irrigation systems are nearly \$70,000. Additional work near the Skyline Mine may be much more.

The costs to repair the damage to lands and structures owned by others are not incorporated in this report.

VII. INCIDENT REPORTS

A. Incident Delineation

Due to the widespread nature of the disaster, individual projects were grouped geographically into incidents. The incident boundaries are shown on the incident maps at the beginning of the data for each incident. A map of each incident was prepared that shows the stream reaches where damage occurred. Table 6 is a list of incidents.

TABLE 6 - Incident and Project Names

Incident #	Name
1	West San Pitch Project – Chicken/Pigeon/Levan Project – Deep Creek/Levan
2	East San Pitch - No 403 Projects
3	Lake Fork Project – Lake Fork
4	Thistle Creek Project - Little Clear/Rock/Thistle
5	Fairview Canyon Project – Fairview Canyon Project – Oak Creek/Fairview
6	Price River
7	Monument Peak
8	Huntington Creek
9	Scad Valley - No 403 Projects
10	Joes Valley
11	Ferron Canyon
12	Muddy Creek - No 403 Projects
13	Twelve Mile Creek
14	Six Mile
15	Manti Canyon
16	Ephraim Canyon - No 403 Projects
17	Knob Mountain Project - Oak Creek/Spring City
18	Moab - No 403 Projects
19	Pleasant Creek - No 403 Projects
20	San Pitch Canyon - No 403 Projects
21	Canal Canyon



Site 1 - Chicken Creek Site 2 - Pigeon Creek

ELIGIBILITY WORKSHEET

Location West	: San Pitch - Chicken Cree	k and Pigeon Creek.	State Utah
Team Members	Ed Schoppe	G. Dennis Kelly	Dy Dennis Kelly
	Carl Andersen	Irene Savanyo-Lemley	
		Holger Theobalt	
. Threat to L	ife? Yes. Interstate 15	, U-28, Community of Levan in t	he flood plain
Threat to P	roperty? Yes. Communit irrigation sys	y of Levan, Levan water system, tems, National Forest roads and	Highways I-15 and U- campground.
2. New Hazard	created		
by this dis	a Ster Yes. This event flooded property	filled the channels with debri . The next event will create f	s, eroded banks, and urther damage.
3. More than o	ne	······································	
beneficiary			
	National Forest	System Lands, Manti-LaSal Nation	nal Forest.
4. Recommend t	reatment		
or measures	(least E-1 revege	tation riparian areas 4.2 miles	of stream,
costly for	return to $E-2 6 debr = 3 4.850$	is jams 3.2 miles channel clear feet E-5 rechanneling 3 000 fe	ing, et of stream
pre disaste	r condition		
5. Sponsor-cap	ability		
for O&M la	ndrights, _{Fore}	st Service	
permits, et	C.		
6. Commitment	of other		
funds - loc	al, state Funde have	heen requested see page 2	
federal		been requested, see page	
T Annual 200	+		
7. Approx. Cos	s 7	4,312	
Approx. thr	eatened damage 🔋 🔉	120 ,000	
B. Eligibility	· <u>····································</u>		
	Yes, project meets eligi	bility requirements.	
9. Remarks			
Other footnotes	•		
Measures:			
E-1 Vegetativ	e 		
L-2 Kemoving	channel obstruction		
c-s streampan E.A grides se	K SLOUILIZALIUN d maad etabilitation	n	
priuye an	u ivau stavilizativi	•	

E-5 other (describe)

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: Manti-LaSal National Forest	
	(County, City, etc.)	
2.3.	Location Map: Location, identification and description of damage A. Channel Name <u>Chicken and Pigeon Creeks</u> B. Channel Reach <u>Within the National Forest, Chicken Cr. Reache</u> C. Description of hazard <u>Debris and sediment have filled th</u> Additional Flows will cause flood damage to adjacent roads and campga mobilize debris causing damage to downstream roadstream crossings,	s 162, Pigeon Creek Reach 1. te natural channel. counds. Additional flows will and to the community of Levan.
4.	Scope of proposed work: <u>Remove debris from the channel, re</u> stream banks, revegetate riparian areas at locations shown on the att	channel stream, stabilize ached map.
5.	Proposed work will require:	
	A. Construction easements B. Fee simple title	No No
6.	Preliminary Estimated cost of proposed work: \$74,31	2
7.	Preliminary Estimated value of potential damage: \$1,1	20,000
8.	Plans and specifications:	_ 1
	A. EXISTING	· · · · · · · · · · · · · · · · · · ·
	C To be prepared by others Forest Service	Yes
9	Estimated date construction should start As soon as funde	are sustiable
10.	Estimate date construction should stop summer 1985	are available
11.	Signatures:	
	A. Recommended by	Date:
	(SCS Field Representative)	
	B. Concurred by	Date:
	(Applicant Representative)	
12.	Approval of exigency request	
		A .
	Approved byN/A	Date:
	(Assistant State Conservationist)	
• •	(usually approved via telephone call)	ou for expension
13.	Review & approval for nonexigencies and followup revi	ew for exgencies.
	A Coordination SCE	S.B.C.
	(date)	(date)
	S.A.O.	ASTC
	B. Approved by:	Date:
	STC or his representative	
13.	Attachments:	
	A. Application Justification Documentation - See Pro	oject Docket
	Documentation Check List.	

U. S. DEPARTMENT OF AGRICULTURE Soil Conservation Service Utah

Date: July 20, 1984

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job:	West San Pitch - Chicken and Pigeon Creek	HSR#	
			a second s

District: Manti-LaSal National Forest, Juab County, Utah Prepared by: G. Dennis Kelly

What was site condition before event?

Stream Channel open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Channel accumulated much debris and meandered severely causing downstream sediment loads.

What damage will occur if no action taken?

Flood water and debris will damage Levan community, its water supply, irrigation systems, State and US Highways, Forest roads and campground.

What alternatives for protection were considered?

Do nothing, Debris removal, revegetation, channelization, riprapping.

What alternative was selected and why?

Sediment and erosion control to protect downstream municipal and irrigation water systems by bank reshaping and riparian revegetation by willow planting. Restore channel capacity by removing debris jams; prevent new jams and prevent clogging of water diversions, and water crossings by removing scattered debris. Protect the existing road and campground with riprap, and rechanneling the stream.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on types of work approved and accomplished in 1983.

Description of work.

Remove at least 6 debris jams, clear debris 3.2 miles of channel, riprap 200 feet of channel to protect road and campground, reshape and revegetate 4,850 feet of bank, rechannel 500 feet of stream,

16

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

 Applicant
 Manti-LaSal National Forest
 HSR No.

 Channel
 Pigeon and Chicken Creeks
 Channel Reach Chicken Cr. 162; Pigeon Cr., 1.

 Scope of Work:
 Bank Stabilization and Channel Clearing, riprapping and revegetation.

Assessment Team Ed Schoppe, Carl Anderson, Jeff Lucero, Dennis Kelly, Irene Lemley, Holger Theobalt

Date July 20, 1984

I. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	1 _	-	1 I +) +
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion	-	-	+	+
Sedimentation	-	-	+	+
Effect on Soil	-	- 1	+	+
Vegetative Alteration	_	- 1	+	+
Change in Air Quality	0	0	0	0
Flood Plains	-	-	+	+
Wetlands	-	-	+	+
Stream Channel	_	-	+	+
Water Quality	-	-	+	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	-	-	+	+
Wildlife Habitat	-	-	+	+
Threatened/Rare or Endangered	0			
Plants or Animals				
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	-	-	+	+
Other:		1		
	<u> </u>	<u> </u>	l	<u> </u>

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: <u>No action will cause</u>

 damage to the community, municipal and irrigation water supplies, State and US Highways, Forest roads
 and campgrounds, and will continue to allow excessive erosion and sedimentation. Action will alleviate
 the threat to the facilities posed by the debris in the channel and will reduce the sediment damage to
 the irrigation systems and channel capacities.

Affects on downstream wat to diversion structures and co	ter rights and water users: <u>Action will reduce the damage</u> sts of operations.
Degree of Public Interes	L: Interest is high.
Potential Controversy:	Lack understanding of the need for this type of work may cause comments.
Setting, Urban or Rural:	Rural
Social Impacts: Protection	of Levan Community - Provides employment in an area of high unemploymen
Other:	

- II. Rational of Economic Defensibility (Price Base 19 83)
 - A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Irrigation systems	\$ 250,000	\$ 25,000	0.8	\$ 20,000
Levan City Residential	\$1,500,000	\$ 500,000	0.8	\$ 400,000
	\$	\$		\$
<u></u>	5	5		<u>\$</u>
<u> </u>	\$	\$		2

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0Two year event causes damage = 0.5Three year event causes damage = .33Four year event causes damage = .25Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Highway U-28	\$ 250,000	\$ 250,000	0.8	\$ 200,000
Highway US 91	\$ 500,000	\$ 500,000	0.8	\$ 400,000
Forest Roads	\$ 40,000	\$ 20,000	0.8	\$ 16,000
Campgrounds	\$ 100,000	\$ 30,000	0.8	\$ 24,000
Levan City Culinary Water	\$ 75,000	\$ 75,000	0.8	\$ 60,000

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
	s	\$		\$
	<u> </u>	<u>s</u>		\$
	\$	\$		\$
······································	\$	\$		\$
TOTAL	\$ 2,715,000	\$ 1,625,000		<u>\$ 1,120,000</u>

Near Term

Near Term

III. Summary

- A. Present value of near term damages to be sustained:
 - \$ 1,120,000
- B. Estimated cost of emergency work: \$ 74,312
- C. Conclusion of environmental assessment: <u>Action will reduce many of the negative</u> effects of present conditions.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.

H. Eemis Herky G. Dennis Kelly, Team Leader July 20, 1984 Date

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date

Incident #1 West San Pitch

Site 3 Deep Creek

ELIGIBILITY WORKSHEET

	Emergency Watershed Protection Work (40	3) H	SR#	
	LOCATION West Sampitch - Deep Creek Canyon		State	Utah
	Team Members Ed Schoppe - Range Con. G	. Dennis Kelly	Hydrologisty G.	Dennis Kelly
	Carl Anderson - Forester I	rene Lemley	date	July 20, 1984
	Jeff Lucero - Hydrologist H	olger Theobalt		
1.	 Threat to Life? Yes, Highway US 29. Threat to Property? Yes, Irrigation system 			<u>.</u>
2.	• New Hazard created Yes. This event filled by this disaster streambanks and road too	the channel wes. The next	ith debris, eroded event will	l the
3.	. More than one			
	beneficiary National Forest System Lands,	Manti-LaSal	National Forest.	
4.	 Recommend treatment or measures (least E-2 Remove debris costly for return to pre disaster condition E-4 Riprap to pro 	jams and sca	ttered debris.	<u> </u>
5.	• Sponsor-capability for O&M landrights, permits, etc. Forest Service			
6.	 Commitment of other funds - local, state federal 	uested, see p	age <u>2</u> .	
7.	. Approx. cost of protection \$35,500		<u> </u>	
	Approx. threatened damage \$ 62,000			
8.	Eligibility Yes, project meets eligibility	requirements.	·	
9.	. Remarks			<u> </u>
Ot	ther footnotes:			

Measures:

- E-1 Vegetative
- E-2 Removing channel obstruction
- E-3 Streambank stabilization
- E-4 Bridge and road stabilization
- E-5 other (describe)

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

H	S	R	#
	_		

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name <u>West San Pitch - Deep Creek</u> B. Channel Reach <u>Deep Creek #1</u> C. Description of haZard <u>Debris and sediment have accumulat</u> Additional flows will mobilize the debris and cause damage to th Highway crossings. Debris caused meandors will wash out the For	ed in the natural channel. e irrigation system and est road.
4.	Scope of proposed work: <u>Remove debris from the channel and ri</u> Forest Road.	prap to protect the
5.	Proposed work will require: A. Construction easements B. Fee simple title	NO NO
6.	Preliminary Estimated cost of proposed work: \$35.50	••••••••••••••••••••••••••••••••••••••
7.	Preliminary Estimated value of potential damage: sea	<u> </u>
8.	Plans and specifications: A. Existing B. To be prepared by SCS	Yes NO YES
9.	Estimated date construction should start As soon as funds	are available.
10.	Estimate date construction should stop summer 1985	
11.	Signatures:	
	A. Recommended by	Date:
	(SCS Field Representative)	
	B. Concurred by	Date:
	(Applicant Representative)	
12.	Approval of exigency request	
	Approved by N/A	Date:
	(Assistant State Conservationist)	· · · · · · · · · · · · · · · · · · ·
	(usually approved Via telephone call)	
13.	Review & approval for nonexigencies and followup revi	ew for exgencies.
	A. Coordination: S.C.E.	S.R.C.
	S.A.O.	ASTC
	B. Approved by:	Date:
	STC or his representative	
13.	Attachments:	ingt Dockat
	A. Application Justification Documentation - See Pro Documentation Check List.	JECC DOCKEL

Date: July 20, 1984

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

JOD: Wes	t San Pitch - Deep Creek	c Canyon	_ HSR#	
Distric	t: Manti-LaSal National	Forest	Prepared by: G. Denn	ais Kelly

What was site condition before event?

The stream channel was open and capable of handling normal runoff. Road was away from the creek.

What occurred as a result of the storm?

The channel accumulated much debris and eroded the bank into the toe of the road slope.

What damage will occur if no action taken?

Flood water and debris will damage the irrigation system, and Highway U-28 and the Forest Road.

What alternatives for protection were considered?

No action, riprap, bank reshaping and revegetation, riparian revegetation, removal of debris jams and scattered debris.

What alternative was selected and why?

Debris removal to reduce downstream damage to irrigation system and highway. Riprapping to protect Forest Road.

What conservation practice standard was used to establish design criteria? Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Clear debris from 3.2 miles of channel \$5,500 Riprap stream bank to protect road 500 feet \$30,000

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant Manti-LaSal National Forest	HSR No.
Channel West San Pitch - Deep Creek	Channel Reach Deep Creek #1
Scope of Work: Riprapping and channel clearing	

Assessment Team Ed Schoppe, Range Con Carl Anderson, Forester

Jeff Lucero, Hydrologist

G. Dennis Kelly, Hydrologist Environmental Assessment: Ι.

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact		1		
Dring and Unique Familand		-	1 + 	+
Prime and Unique Farmiand		0	0	0
Change in Land Use	0	0	0	0
Erosion		<u> </u>	+	l +
Sedimentation	-	-	+	1 +
Effect on Soil	-	-	+	+
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
r d Plains	-	-	+	+
i . ands	0	0	0	0
Stream Channel	_	_		0
Water Quality	-	-	0	0
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0	0	0
Wildlife Habitat	0	0	0	1 0
Threatened/Rare or Endangered		1		
Plants or Animals	0	0	0	0
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	-	-	+	+
Other:				
	1			

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: No action will cause damage to an irrigation system, a State Highway and a Forest road. Action will alleviate the threat posed

	by the exessive debris in the channel and will reduce the sediment loads to the irrigation system and
-	protect the roads.

Date July 20, 1984

Affects on down	stream water m system.	rights and w	ater users:	Action will	reduct the dam	age
Degree of Publi	c Interest:	Interest is hi	lgh.			
Potential Contr	OVERSY: Lack	of understanding	g of the need fo	or this type of	work may caus	e comments.
Setting, Urban	or Rural: Ruz	al				
Social Impacts:	Protect_the ro	ads and provides	s employment in	an area of hig	h unemployment	
Other:						
	· - · · · · · · · · · · · · · · · · · ·					
		<u> </u>				

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Irrigation System	\$ 150,000	\$ 75,000	0.4	\$ 30,000
	\$	\$		\$
·	<u> </u>	<u> </u>		<u> </u>
	\$	\$	<u></u>	\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0Two year event causes damage = 0.5Three year event causes damage = .33Four year event causes damage = .25Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
St <u>ate Highway U-</u> 28 Forest Road	\$ <u>70,000</u> \$10,000	\$ 70,000 \$ 10,000	0.4	\$ <u>28,000</u> \$ 4,000
	\$ \$	\$		\$
	\$	\$	·	\$

C. Business Losses:

Properties	Values \$	Damage \$	<u>Factor*</u>	Damage
	ş	\$		\$
	<u>s</u>	\$		\$
·	š	\$		\$
	\$	\$		\$
TOTAL	\$ 230,000	\$ 155,000		\$_62,000

Near Term

III. Summary

A. Present value of near term damages to be sustained:

\$ 62,000

B. Estimated cost of emergency work: \$ 35,500

C. Conclusion of environmental assessment: <u>Action will reduce or eliminate many</u> of the negative effects of the present conditions.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.

H. Dennis 9416 G. Dennis Kelly, Team Leader

8/2/84 Nato

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date

R4E 1 R5E

R5EI R6E



Site 1: Lake Fork

ELIGIBILITY WORKSHEET

Emergency Wa	atershed Protection Work ((403) HSR#	
Location	Lake Fork		State Utah
leam Members	5 Gary Say	G. Dennis Kelly	DY <u>G. Dennis Kelly</u>
	Alan_Gallegos	Holger Theobalt	0alle7/20/84_
	leff_lucero	NOIGET THEODETC	
1. Threat to I	ife? No		
Threat to I	Property? Yes. Forest Road,	l Forest Service Bridge,	Irrigation System
2. New Hazard	created Yes		
by this di	Saster New debris accumula abutments, potentia and erosion of road	ations, erosion of wing- al for road losses by me d fills.	walls on bridge andering of stream
3. More than (one		
beneficiary	/ National Forest Sy:	stem Lands, Manti-LaSal I	National Forest.
4. Recommend	treatment	······································	
or measure	S(least E-2 - Remove deb)	ris jams and scattered d	ebris.
costly for	return to the vegetative	control of streambank e	ros10n.
pre disast	er condition		
5. Sponsor-ca	padrichts		
nermits, e	tc.	e	
,,,,,,,, .			
6. Commitment	of other		
funds - lo	cal, state Funds have bee	en requested, see page _	2.
federal		_	
	et of protoction		
7. Approx. co	\$84,850 \$84,850	0	
Annrox, th	reatened damage \$99 oor	`	
		<i>.</i>	
8. Eligibilit	<u>Y</u>		
J .	Yes. Project meets elf	igibility requirements.	
9. Remarks			
Other footnote	<u><u> </u></u>		
Measures:			
E-1 Vegetati	ve		
E-2 Removing	channel obstruction		
E-3 Streamba	nk stabilization		
E-4 Bridge a	nd road stabilization		
E-5 other (d	escribe)		

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

	USDA-SCS	.
EMERGENCY	WATERSHED	PROTECTION
HAZAI	RD SURVEY	REPORT

1.	Applicant: <u>Hanti-LaSal National Forest</u> (County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Lake Fork B. Channel Reaches 5, 6, and 7 C. Description of haZard Debris and sediment have accumula Additional flows will mobilize the debris and cease damage to the irrigation system. Debris caused meanders will washout the Forest erosion and sediment will damage the irrigation system.	ted in the natural channel. Dridge, Forest Road, and Roads. Excessive bank
4.	Scope of proposed Work: <u>Remove débris jams and scattered de</u> revegetate eroding banks.	bris from the channel and
5.	Proposed work will require: A. Construction easements B. Fee simple title C.	No
6. 7. 8.	Preliminary Estimated cost of proposed work: Preliminary Estimated value of potential damage: \$99,00 Plans and specifications: A. Existing B. To be prepared by SCS C. To be prepared by others	50 20 20 20 21 21 22 22 22 22 22 22 22 22
9. 10. 11.	Estimated date construction should start <u>As soon as fund</u> Estimate date construction should stop <u>Summer 1985</u> Signatures: A. Recommended by <u>(SCS Field Representative)</u>	Date:7/20/84
12	B. Concurred by(Applicant Representative)	Date:
14.	Approved by N/A (Assistant State Conservationist) (usually approved Via telephone call)	Date:
13.	Review & approval for nonexigencies and followup revi	ew for exgencies.
	A. Coordination: S.C.E(date) S.A.O	ASTC(date)
	B. Approved by:	Date:
13.	Attachments: A. Application Justification Documentation - See Pro Documentation Check List.	ject Docket

HSR#_____

U. S. DEPARTMENT OF AGRICULTURE Soil Conservation Service Utah

D	a	te	:	7/20/84	
-	-	~~	•		

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job:	Lake Fork	HSR#	
District:	Manti-LaSal National Forest	Prepared by:	G. Dennis Kelly

What was site condition before event?

Channel was clogged with severe debris loads from 1983 event. Road was seriously damaged, but bridge was intact.

What occurred as a result of the storm?

Landslides and flooding added additional debris to the channel. The bridge was damaged. The road suffered additional damage. Debris luckily did not catch at the bridge.

What damage will occur if no action taken?

Flood waters and debris will damage the irrigation system and the bridge and the Forest roads. Excessive erosion and sediment yields will damage the irrigation system.

What alternatives for protection were considered?

No Action Riprap Bank Reshaping and Revegetation Riparian Revegetation Removal of Debris Jams and Scattered Debris

What alternative was selected and why?

Debris removal to protect the Forest road and bridge and prevent downstream damage to the irrigation system.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved for 1983.

Description of work.

Remove 9 Debris Jams Clear 3.4 Miles of Channel Willows 11.8 Miles of Channel 29

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant	Manti-LaSal National Forest			HSR No.						
Channel	La	ke Fork				Channel	Reaches	5,6	, and 7.	
Scope of W	lork:	Debris	Removal	and	Riparian	Revegetation		_		
	•							_		Ī

Assessment Team Gary Say Jeff Lucero Date 7/20/84 Alan Gallegos G. Dennis Kelly

I. Environmental Assessment:

Environmental Factors	EFFECT with	out action	EFFECT with action		
	Short Term	Long Term	Short Term	Long Term	
Economic Impact	-	-	+	+	
Prime and Unique Farmland	0	0	0	0	
Change in Land Use	0	0	0	0	
Erosion	_		+	· ·	
Sedimentation		T	· ·	1	
Effect on Soil	_		+	+	
Vegetative Alteration		-	+	+	
Change in Air Quality	0	0	0	0	
r d Plains	-	-	· ·	+	
· . ands	-	-	· ·	+	
Stream Channel	_	-	+	+	
Water Quality	_		+	+	
Water Quantity	0	0	I	0	
Watertable Alteration	0	0	0	l o	
Fish Habitat	-	·	+	1	
Wildlife Habitat	-		1	•	
Threatened/Rare or Endangered	1				
Plants or Animals) o	1 0	l	0	
Archaelogical or Historical Sites	0	0	ο	0	
Appearance of Landscape	_	T	1 +	· ·	
Other:		1	1	1	
			1		
				1	

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

	No action will cause damage to an irrigation system, a Forest road, and bridge. Action will alleviate
	the threat posed by excessive debris in the channel, and will reduce the sediment loads to the
•	irrigation system.

Degree of Public	Interest:	Intere	est is low.	
Potential Controv	ersy:	Lack of und	lerstanding of the b	enefits may cause comment.
Setting, Urban or	Rural:	Rural		
Social Impacts:	Protects	the road and	irrigation system.	Provide employment in an area of
Uther:				
		· · · · · · · · · · · · · · · · · · ·		······································

II. Rational of Economic Defensibility (Price Base 19 83)

A. Property Protected (Private):

Properties	Values S	Damage \$	Factor*	Near Term Damage
Irr. System	\$ 20,000	\$ 20,000	1.0	\$ 20,000
	ş	Ş	<u></u>	\$
	\$	<u>s</u>	·	\$
	\$	s		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
FS Bridge	\$ 40,000	\$ 40,000	1.0	\$ 40,000
FS Road	\$ 78,000	\$ 39,000	1.0	\$ 39,000
<u> </u>	\$	\$		s
	\$	\$		\$
				······

C. Business Losses:

<u>Properties</u>	Values \$	Damage \$	Factor*	Damage
	\$	s		\$ \$
	s2	\$		\$
<u> </u>	5	\$		\$
	\$	\$		\$
TOTAL	\$ 138,000	\$_99,000		\$_99,000

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Near Term
III. Summary

IV.

<u> </u>	Present value of near term damages to be sustained:	
	\$	
8.	Estimated cost of emergency work: \$84,850	
с.	Conclusion of environmental assessment: <u>Action will reduce or or many of the negative effects of the present conditions.</u>	eliminate
D. 1 Rec	Proposed work qualifies EWP criteria (Yes or No)	
Α.	Emergency work is enconomical, environmentally, and administ justifiable and approval is recommened.	cratively
	J. Dennis Helly 7/20/84 G. Dennis Kelly, Team Leader Dat	te
Β.	Emergency work is not justified and is disapproved.	
	Team Leader Da	te
с.	Emergency is not justified with data available to team. Emwork has the following unevaluated benefits not included in damage analysis.	ergency the
	Beneficial Affects:	
	Adverse Affects:	
	Based on unevaluated benefits, I recommend the project be (approved/disapproved).	
	Team Leader	Date



Incident #4 - Thistle Creek

Site 1 - Thistle Creek Site 2 - Little Clear Creek Site 3 - Rock Creek

ELIGIBILITY WORKSHEET

	Location Incident #4 - Thistle Greek	(403) 110.00	State urab
	Team Members Ed Schoppe	G. Dennis Kelly	by G. Dennis Kel
	Carl Anderson	Irene Lemley	date 7/20/84
	Jeff_Lucero	Holger Theobalt	
1.	Threat to Life? Yes. Indianola farms: threatened by su Threat to Property? debris jams. Yes Threat to F	tead, out-buildings, and ourges in flow from the fait	county road are llure of temporary
2.	New Hazard created Accumulations of by this disaster flow surges that	debris block the stream a would damage Indianola, h	and threaten to cause buildings and roads.
3.	More than one beneficiary National Forest System	Lands, Manti-LaSal Nation	mal Forest.
4.	Recommend treatmentE-4Road Stateor measures (leastE-2Removalcostly for return toE-1Revegetapre disaster conditionE-3Streamba	abilization of Debris Jams and Scatte ate Riparian Areas ank Stabilization	ered Debris
5.	Sponsor-capability for O&M landrights, Forest Service permits, etc.	ce	
6.	Commitment of other funds - local, state Funds have be federal	een requested, see page	<u>2</u>
7.	Approx. cost of protection \$139,90		<u> </u>
	Approx. threatened damage \$225,00	00	
8.	Eligibility Yes. Project meets eligibi	lity requirements.	
	Demonit		

Other footnotes:

Measures:

E-1 Vegetative

E-2 Removing channel obstruction

E-3 Streambank stabilization

E-4 Bridge and road stabilization

E-5 other (describe)

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

orest
'iption of damage tle Clear Creek, Rock Creek each 1, Rock Creek Reach 1 & 2. Thistle Greek Reach 1 & 2 nd sediment have accumulated in the natural channels ional flows will mobilize debris to cause surges in
buildings at Indianola.
Fis jams and scattered debris from the channel and
No
,
osed work: \$139,900
cential damage:\$225,000
II
Yes
Forest Service
d ctart .
ston current loss
3 cop
Date:
Representative)
Date:
t Representative)
Date:
Conservationist)
ia telephone call)
es and followup review for exgencies.
5 0 0
(date)
ASTC
//0//0
Date:
Date:
Date: representative

Date: 7/20/84

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job:	Incident #4 - Thistle Creek	HSR#	
District:	Manti-LaSal National Forest	Prepared by:	G. Dennis Kelly

What was site condition before event?

Stream channels were clear, open, and able to handle normal flows.

What occurred as a result of the storm?

Culverts were washed out, damage to out-buildings, landslides added severe debris accumulation in all channels.

Channel capacities were severely reduced. Channel and bank scouring left many new areas void of vegetation and susceptible to erosion and sediment production.

What damage will occur if no action taken?

Next flows will cause the failure of debris jams and the mobilization of debris causing damage to large culverts, out-buildings, and summer homes.

What alternatives for protection were considered?

No Action Debris Removal Revegetation of Riparian Areas for Erosion and Sediment Control Debris Basins Riprap Streambank Reshaping

What alternative was selected and why?

Removal of debris jams and scattered debris to reduce stream meandering and protect road crossings and out-buildings.

Riparian revegetation to reduce erosion and sedimentation that would reduce channel capacity and clog Riprap to protect Forest road.

Streambank reshaping to reduce erosion and sediment.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved in 1983, and the cost data gained from that work.

Description of	wor	k.								
	Deb Re	emoval	Channel	Clearing	Reveg	etation	Rij	orap	Cha Modii	annel fication
	No.	Cost	Miles	Cost	Niles	Cost	Ft.	Cost	Ft.	Cost
Thistle Creek	9	\$22,500	2.9	\$ 6,500						
Little Clear Creek	3	13,500	3	11,250	3.2	\$3,200	125	\$7,500	500	\$2,000
Rock Creek	14	54,200	5	17,750	0.5	1,500				
	26	\$90,200	10.9	\$35,500	3.7	\$4,700				

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EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant	Manti-LaSal	National Forest	HSR No.	
Channel _	Thistle, Little	Clear Creek, Rock Creek	Channel	Reach Little Clear Cr. 1,
Scope of	Work: Debris	Removal and Riparian Reveg	etation	Thistle Cr. 1 & 2.

Assessment Team	Ed Schoppe	Holger TheobaltDate	7/20/84	
	Carl Anderson	G. Dennis Kelly		
	Jeff Lucero	Irene Lemley		

I. Environmental Assessment:

Environmental Factors	I EFFECT with	out action	EFFECT wit	th action
	Short Term	Long Term	Short Term	Long Term
Economic Impact	-	l l –	1 +	+
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion	-	-	+	+
Sedimentation	- 1	-	+	+
Effect on Soil	_	-	+	+
Vegetative Alteration	_l	-	+	+
Change in Air Quality) 0	0	0	0
F nd Plains		-	+	+
ands		-	+	+
Stream Channel			+	+
Water Quality	-	-	+	+
Water Quantity	0	0	o	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0	0	+
Wildlife Habitat	0	0	0	•
Threatened/Rare or Endangered			1	
Plants or Animals	0	0	0	0
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	0	0	0	0
Other:	ļ			
				ļ
		<u> </u>	1	l
	<u> </u>	<u> </u>	<u> </u>	I

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

No action will cause damage to Forest Road, Indianola farm buildings, county roads, U.S. Highway,
 Action will alleviate the threat posed by excessive debris in the channel, and will reduce sediment
 loads to the irrigation system.

Affects	on	downstream	water	rights	and	water	users:
Actio	n wi	11 reduce dama	e to th	e irrigat	ion «	vstem.	

Potent	ial Controvers	SY: Lack of understanding of benefits of the types of treatments
Setting	g, Urban or Ru	Jral: <u>Rural</u>
Social empl	Impacts: I	Protects the road, irrigation system, and community of Indianola. Provides a of high unemployment.
Other:		

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Railroa <u>d Stream Cross</u> ing Indianola Community	\$ <u>60,000</u> \$200,000	\$ <u>60,000</u> \$100,000	<u> 1.0</u> 1.0	\$ <u>60,000</u> \$ 100,000
	\$	\$		\$
	<u></u>	2		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0Two year event causes damage = 0.5Three year event causes damage = .33Four year event causes damage = .25Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Highway Crossing US-89	\$ 60,000	\$_60,000	0.5	\$
Forest <u>Development Ro</u> ad	\$ 70,000	\$_70,000		<u>\$_35.000</u>
·····	<u>s</u>	<u>\$</u>		\$
	2	<u> </u>		· · · · · · · · · · · · · · · · · · ·
	٠ <u>ـــــــ</u>	J		*

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
	\$	s		<u>s</u>
	\$	s		\$
	š	s		\$
	\$	\$		\$
TOTAL	\$ 390,000	\$ 290,000		\$

Near Term

Near Term

III. Summary

IV.

٨.	Present value of near term damages to be sustai	ined:
	\$	
3.	Estimated cost of emergency work: \$_139,000	
<u> </u>	Conclusion of environmental assessment: <u>Actimost of the near term effects of the present conditions.</u>	on will reduce or eliminate
).	Proposed work qualifies EWP criteria (Yes or No))Yes
Rec	commendation	
A.	Emergency work is enconomical, environmentally justifiable and approval is recommened.	, and administratively
	A. Dennis Helly	7/20/84
	G. Dennis Kelly Team Leader	Date
3.	Emergency work is not justified and is disappr	oved.
Β.	Emergency work is not justified and is disappr Team Leader	oved. Date
3.	Emergency work is not justified and is disappr Team Leader Emergency is not justified with data available work has the following unevaluated benefits no damage analysis.	oved. Date to team. Emergency t included in the
B.	Emergency work is not justified and is disappr Team Leader Emergency is not justified with data available work has the following unevaluated benefits no damage analysis. Beneficial Affects:	oved. Date to team. Emergency t included in the
в.	Emergency work is not justified and is disappr Team Leader Emergency is not justified with data available work has the following unevaluated benefits no damage analysis. Beneficial Affects: Adverse Affects:	oved. Date to team. Emergency t included in the
B.	Emergency work is not justified and is disappr Team Leader Emergency is not justified with data available work has the following unevaluated benefits no damage analysis. Beneficial Affects: Adverse Affects:	oved. Date to team. Emergency t included in the
3.	Emergency work is not justified and is disappr Team Leader Emergency is not justified with data available work has the following unevaluated benefits no damage analysis. Beneficial Affects: Adverse Affects: Based on unevaluated benefits, I recommend the	oved. Date to team. Emergency t included in the project be

Team Leader

Date



Site 1 - Fairview Canyon

ELIGIBILITY WORKSHEET

Eme	rgency Wate	ershed P	rotect	tion Wo	ork (403)	HSR#	C
LOC	ation <u>Inci</u> m Members	.dent #5 -	Fairvie	ew Canyo	n			StateUtah
100		Carl A	oppe			<u> </u>	ennis kelly	date 7/20/86
	-	Jeff L	UCETO			~~		
	-			· · _ · _ · _			· · · · ·	
1. Th	reat to Li	e?	Yes.	Threat caused	of sur by the	ges of w failure	ater through of temporary	the community of Fairy debris jams.
Th	reat to Pro	operty?	Yes.					
2. New by	w Hazard Ci this disa:	reated ster	Channel caused water.	l was ope debris a	en and accumul	capable ation th	of carrying r at will be mo	normal flows. The even obilized by normal high
3. Moi be	re than one neficiary	Natio	nal Fore	est Syste	em Land	s, Manti	-LaSal Nation	mal Forest.
4. Re or co pr	commend tre measures (stly for re e disaster	eatment least eturn to conditi	E-2) On	. Remove	e debri	s jams a	nd scattered	debris along the chann
5. Sp fo pe	onsor-capat r O&M land rmits, etc.	oility Irights,	F	orest So	ervice			
6. Co fu fe	mmitment o nds - loca deral	f other 1, state	Fu	inds have	e been	requested	d, see page _	_2
7. Ap	prox. cost	of prot	tection	n \$	7,050			
Ap	prox. threa	atened o	lamage	\$1	875,000			
8. E1	igibility	Yes.	Project	meets el	ligibil	ity requ	irements.	
9. Re	marks							
Other	footnotes:		-			<u> </u>		
Measur	es:							

- E-1 Vegetative
- Removing channel obstruction E-2
- Streambank stabilization E-3
- Bridge and road stabilization other (describe) E-4
- E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

|--|

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Fairview Canyon B. Channel Reach Fairview Canyon Reaches 1 and 2. C. Description of hazard Debris has accumulated in the chann Additional flows will mobilize debris to cause surges in flow and facilities and structures.	attached [<u>Yes</u>] mel as a result of landslides. I downstream damage to
4.	Scope of proposed work:	
5.	Proposed work will require: A. Construction easements B. Fee simple title	No No
6. 7. 8.	Preliminary Estimated cost of proposed work: \$7,050 Preliminary Estimated value of potential damage: \$875 Plans and specifications: A. Existing. B. To be prepared by SCS	9,000
9. 10. 11.	Estimated date construction should start <u>As soon as func</u> Estimate date construction should stop <u>Summer 19</u> Signatures: A. Recommended by	ls are available. 85 Date:
	(SCS Field Representative)	
12.	Approval of exigency request	
	Approved by(Assistant State Conservationist) (usually approved Via telephone call)	Date:
13.	Review & approval for nonexigencies and followup revi	ew for exgencies.
	A. Coordination: S.C.E. (date)	_ S.R.C(date)
	B. Approved by:	
13.	STC or his representative Attachments: A. Application Justification Documentation - See Pro Documentation Check List.	oject Docket

Date: 7/20/84	7/20/84	Date:
---------------	---------	-------

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job: In	cident #5 - Fairview Canyon	HSR#	
District:	Manti-LaSal National Forest	Prepared by: G. Denni	is Kelly

What was site condition before event?

Stream channel was open and capable of handling the normal event.

What occurred as a result of the storm?

Channel filled with debris and sediment forcing water out of the channel, causing flood damage to property, highways, and threatened the community.

What damage will occur if no action taken?

Flood water and debris will damage home, businesses, transportation systems, and culinary water supplies.

What alternatives for protection were considered?

No Action Debris Clearing Riprapping Riparian Revegetation Debris Basins

What alternative was selected and why?

Clear channel of debris jams and scattered debris to restore channel capacity and to prevent debris damage downstream.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved for 1983.

Description of work.

Remove one debris jam and remove scattered debris from 2.7 miles of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant <u>Manti-LaSal National Forest</u> HSR No. Channel Reaches 1 and 2. Channel Fairview Canyon Scope of Work:

Removal of Debris Jams and Scattered Debris

Assessment Team Ed Schoppe Carl Anderson Jeff Lucero

G. Dennis Kelly Irene Savanyo-Lemley Holger Theobalt

Date

7/20/84

Ι. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Terin
Economic Impact	-	-	1 I +	l ł +
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion		· ·	•	•
Sedimentation	_	-	· ·	+
Effect on Soil	-	_	+	+
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
Flood Plains		Ţ	↓	· ·
· . ands	-	-	L +	· ·
Stream Channel	-	T	+	+
Water Quality	-	-	+	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0	0	0
Wildlife Habitat	0	0	0	0
Threatened/Rare or Endangered		T		
Plants or Animals	o	0	o	0
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape		-	1 +	· ·
Other:	1			
			1	<u> </u>
		<u> </u>	<u> </u>	ļ
	l			

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

	_	No action will cause do	ownstream (damage as debris moves down canyon into the community. blocking the
•		channel and causing flo	ooding, A	ction will alleviate the threat posed by excessive debris in the
	_	channel.		

Affects on downstream water rights and water users: Will reduce damages to diversion works.

Degree of Public Interest: Interest is high.

Potential Controversy: Lack of understanding of the benefits of this treatment may

Setting, Urban or Rural: Rural

cause comment.

Social Impacts: Protects the community of Fairview from damage by debris during high flows. Provides employment in an area of high unemployment. Other:

Rational of Economic Defensibility (Price Base 1983) II.

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Residences	\$ 830,000	\$ 210,000	1.0	\$ 210,000
Hydro Power Plant	\$ 250,000	\$ 65,000	1.0	\$ 65,000
Irrigation System	\$ 100,000	\$ 50,000	1.0	\$ 50,000
Railroad	\$ 60,000	\$ 60,000	1.0	\$ 60,000
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0Two year event causes damage = 0.5 Three year event causes damage = .33Four year event causes damage = .25Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Fairview Streets	\$ 320,000	\$ 320,000	1.0	\$_ <u>320,000</u>
Culinary Water Supply	\$ 200,000	\$ 50,000	1.0	\$ <u>50,000</u>
Highway US-89	\$ 70,000	\$ 70,000	1.0	\$ 70,000
USCS-Gaging Station-	S-10,000-	\$ 10,000		S _ 10,000
	\$	\$		\$

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
Businesses	\$ 160,000	\$ 40,000	1.0	\$_ <u>40,000</u>
	\$	\$\$		\$
	\$	\$		\$
	\$	\$		5 K 2/5 m
TOTAL	\$ 2,000,000	\$ 875,000		

Near Term

Near Term

Near Term

III. <u>Summary</u>

IV.

•	Estimated cost of emergency work: \$_7,050 Conclusion of enviromnental assessment:	on will reduce or eliminate
1	lear term damage from debris in the flood waters.	
. P	roposed work qualifies EWP criteria (Yes or No)) Yes
eco	mmendation	<u></u>
••	Emergency work is enconomical, environmentally justifiable and approval is recommened.	v, and administrative
	A. Oumo Helly	7/20/84
	G. Dennis Kelly Team Leader	Date
•	Emergency work is not justified and is disappr	roved.
	Team Leader	Date
•	Emergency is not justified with data available work has the following unevaluated benefits no damage analysis.	e to team. Emergency ot included in the
	Beneficial Affects:	
	Adverse Affects:	

Team Leader

Date

ELIGIBILITY WORKSHEET

	Team Members	ident #3 - F4	hirview Canyon S	ite 2 - Oak Greek	DV C Donnis Kall
		Carl Ar	derson	Trana Savanyo_Lemiay	date 7/22/04
	-	Jeff Lu	cero	Holger Theobalt	
	-				
1.	Threat to Li	fe? ye	s. Utah Highwa	y 91, Rio Grande Railroad	
	Threat to Pro	operty? _{Ye}	s. Irrigation	System	
2.	New Hazard c by this disa	reated ster Th mo	e event caused g bilized by norma	greater accumulations of de al high water and damage do	bris that will be bwnstream facilities.
3.	More than one beneficiary	2 National	. Forest System I	Lands, Manti-LaSal National	Forest
4.	Recommend tro or measures costly for ro pre disaster	eatment (least eturn to condition	E-2 Remove deb	oris jams and scattered deb	oris along the channe
5.	Sponsor-capal for O&M land permits, etc	bility drights, •	Forest Servi	ice	
6.	Commitment o funds - loca federal	f other 1, state	Funds have bee	en requested, see page <u>2</u>	·
7.	Approx. cost	of protec	tion \$ 17,9	900	
	Approx. three	atened dam	age \$155,0	000	
8.	Eligibility	Yes projec	t meets eligibil	ity requirements.	

Other footnotes:

Measures:

- E-1 Vegetative
- E-2 Removing channel obstruction
- E-3 Streambank stabilization
- E-4 Bridge and road stabilization
- E-5 other (describe)

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#		

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Hanti-LaSal National Forest</u> (County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Oak Creek B. Channel Reach <u>Reaches 2, 3, and 4.</u> C. Description of hazard <u>Debris has accumulated in the ch</u>	hannel as a result of
	and downstream damage to roads, railroad, and irrigation system	and cause surges in flow
4.	Scope of proposed work: <u>Debris removal from the channel.</u>	
5.	Proposed work will require:	
	A. Construction easements B. Fee simple title	No
6.	Preliminary Estimated cost of proposed work: \$17,900	····· (<u></u>)
7. 8.	Preliminary Estimated value of potential damage: Plans and specifications: A. Existing B. To be prepared by SCS C. To be prepared by others	155,000
9.	Estimated date construction should start As soon as fun	ds are available.
10.	Estimate date construction should stop Summer 198	5
11.	Signatures: A. Recommended by	Date:
	(SCS Field Representative)	<u> </u>
	B. Concurred by	Date:
12.	Approval of exigency request	
	Approved by	Date:
	(Assistant State Conservationist) (usually approved Via telephone call)	
13.	Review & approval for nonexigencies and followup rev	lew for exgencies.
	A. Coordination: S.C.E(date)	_ S.R.C(date)
	S.A.O.	_ ASTC
	B. Approved by:	_ Date:
12	SIC or his representative	
12.	A. Application Justification Documentation - See Pr Documentation Check List.	oject Docket

Date:	_	7/23/84
	-	1/23/04

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Jop: -	Incident	#5 - Site 2 - Oak	Creek	HSR#			
Distri	ict:	Manti-LaSal Nation	nal Forest	Prepared b	y:	G. Dennis Kelly	

What was site condition before event?

The channel was damaged by the 1983 event and the capacity was greatly reduced by debris.

What occurred as a result of the storm?

Several landslides deposited much debris in Oak Creek. Several new debris jams have reduced the channel capacity.

What damage will occur if no action taken?

Flood waters, debris and sediment will probably damage State Highway U-91 and the irrigation system.

What alternatives for protection were considered?

No Action Riprapping Debris Jam Removal and Channel Clearing Riparian Revegetation

What alternative was selected and why?

Debris jam removal to increase the channel capacity and assure free water flow.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved in 1983.

Description of work.

Remove five debris jams and scattered debris along 4.1 miles of Oak Creek.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

ApplicantHanti-LaSal National ForestHSR No.ChannelIncident #5 - Fairview, Site 2 - Oak CreekChannelScope of Work:Clear Debris from ChannelChannel

Assessment Team <u>Ed Schoppe</u> Carl Anderson Jeff Lucero Date G. Dennis Kelly Irene Savanyo-Lemley Holger Theobalt 7/23/84

I. Environmental Assessment:

Environmental Factors	EFFECT with	out action	EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact		-	1 I +	 +
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	ō	0	0
Erosion		-	+	+
Sedimentation		-	· ·	+
Effect on Soil	-	-	+	+
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
J od Plains	-	-	+	+
ands	0	0	0	0
Stream Channel	-	-	+	+
Water Quality			<u> </u>	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	-	-	0	0
Wildlife Habitat	0	0	0	0
Threatened/Rare or Endangered			T T	
Plants or Animals	l o	0	0	l o
Archaelogical or Historical Sites	0	0	Τ	1 <u>0</u>
Appearance of Landscape	0	0	0	0
Other:		1	1	T
		T	Τ	T
		T	Τ	1

1/ Code Items: + Beneficial Effect, O no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

No action will create excessive erosion and sedimentation damage to the irrigation system. Surges in flow as debris jams fail will damage the county road and State Highway. Action will alleviate the debris accumulations and re-establish channel conditions that will handle normal stream flow. Affects on downstream water rights and water users: Action will reduce sediment and debris damage to the irrigation system.

cause comment.	-	LACK OL	general unde	rstanding o	of the need	for this tr	eatment may
etting, Urban or	Rural:	Rural			····		
Ocial Impacts: high unemploymen	Prevents t.	damage to	transportati	on system.	Provides	employment i	n an area of
ther:							

II. Rational of Economic Defensibility (Price Base 19 83)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Ri <u>o Grande Railr</u> oad Irrigation system	\$ <u>70,000</u> \$ <u>30,000</u>	\$ 70,000 \$ 15,000	<u> </u>	\$ 70,000 \$ 15,000
	s	\$ \$		\$ \$
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Highway U-91	\$ 70,000	\$ 70,000	1.0	\$ 70,000
U.S. 68 Gas - Station	\$ 10,000	\$ 11.30	1.0	<u>\$ 10,000</u>
	<u>s</u>	<u>s</u>		<u>s</u>
	\$	\$		<u>}</u>
	·	<u>م</u>		·

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
	s	s		s
	\$	\$		\$
	\$	s		\$
	\$	\$		\$
	·			165.000
TOTAL	\$ 170,000	\$ 155,000		\$_155.000

Near Term

Near Term

Near Term

III. Summary

IV.

Α.		
	Present value of near term damages to be sustained	•
	\$	
Β.	Estimated cost of emergency work: \$_17,900	
с.	Conclusion of environmental assessment: <u>Action wil</u> near term damages from debris in the flood waters.	l reduce or eliminate
D.	Proposed work qualifies EWP criteria (Yes or No)	Yes
Rec	commendation	
Α.	Emergency work is enconomical, environmentally, an justifiable and approval is recommened.	d administratively
	A. Dennes Helly	7/23/84
	G. Dennis Kelly Team Leader	Date
Β.	Emergency work is not justified and is disapproved	•
	Team Leader	Date
c.	Emergency is not justified with data available to work has the following unevaluated benefits not ir damage analysis.	team. Emergency cluded in the
с.	Emergency is not justified with data available to work has the following unevaluated benefits not in damage analysis. Beneficial Affects:	team. Emergency cluded in the

Team Leader

Date



ELIGIBILITY WORKSHEET

Emergency Watershed Protection Work	(403) HSR#	
Location Incident #6 - Price River		State Utah
Team Members Allan Gallegos	G. Dennis Kelly	DY G. Dennis Kelly
Gary Say	Irene_Lemley	date July 23, 1984
Jeff Lucero	Holger Theobalt	
1. Threat to Life? Yes, threatens potential crossings. Threat to Property? Yes	ily sudden destruction of	two county road-stream
2. New Hazard created by this disaster cause excessive erost	sed accumulations of debr The next high water wil sion and sedimentation da	is, scoured channels, 1 mobilize debris and maging downstream facility.
3. More than one beneficiary National Forest System 1	Lands, Manti-LaSal Nation	al Forest.
4. Recommend treatment or measures (least $E-1$ Revegetation costly for return to $E-2$ Removal of C pre disaster condition	n of riparian areas. debris along the channel. g 150 feet to protect a F	orest Road.
5. Sponsor-capability for O&M landrights, permits, etc. Forest Service	ce	
6. Commitment of other funds - local, state federal Funds have b	een requested, see page _	2
7. Approx. cost of protection \$16,10	0	
Approx. threatened damage \$64,00	0	
8. Eligibility		
Yes, project meets eligibi	lity requirements.	
9. Remarks		
Other footnotes:		
Maacurac		
F=1 Vegetative		
E-2 Removing channel obstruction		
E-3 Streambank stabilization		
E-4 Bridge and road stabilization		
E-5 other (describe)		

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u>	
2.	Location Map:attached [<u>yes</u>]	
5.	A. Channel Name Incident 6 - Fish Creek: Site - Price River	
	 B. Channel Reach <u>Reach 1: Woods Canyon, Reach 1 & 2: Pontown Creek. Reach 1: French Creek</u>, C. Description of hazard <u>Debris accumulation in the channel and scoured streambed and</u> 	Reach 1,2,63: Price River, Reach 3.
	banks threaten downstream road crossings and water uses. Additional flows will mobilize debris	
	and cause additionsl scouring, damaging downstream values.	
4.	SCOPE OF proposed Work: Remove scattered debris, revegetate riparian areas along the	
	Indicated stream reaches. Riprap 150 feet to protect bridge.	
5.	Proposed work will require:	
	A. Construction easements	
	B. Fee simple title	
6	C	
7.	Preliminary Estimated value of potential damage: \$64,000	
8.	Plans and specifications:	
	A. Existing	
	B. To be prepared by SCS	
•	C. To be prepared by others	
9.	Estimated date construction should stor <u>As soon as funds are available</u>	
10.	Signatures:	
11.	A. Recommended by Date:	
	(SCS Field Representative)	
	B. Concurred by Date:	
12.	(Applicant Representative) Approval of exigency request	
	Approved by Date:	
	(Assistant State Conservationist)	
	(usually approved Via telephone call)	
13.	Review & approval for nonexigencies and followup review for exgencies.	
	A. Coordination: S.C.E S.R.C (date)	
	S.A.O ASTC	
	B. Approved by: Date:	
	STC or his representative	
13.	Attachments:	
	A. Application Justification Documentation - See Project Docket	

Date:	July	23,	1984
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EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

JOD: Price River HSR#

District: Manti LaSal National Forest Prepared by: G. Dennis Kelly

What was site condition before event?

The channel was clear and open and well vegetated.

What occurred as a result of the storm?

Debris clogged the channel causing excessive erosion and greatly increased sediment yields damaging downstream roads and municipal water supply.

What damage will occur if no action taken?

The next flows will mobilize debris and sediments to damage Forest and County Roads and add excessive sediments to the streams and water supplies.

What alternatives for protection were considered?

No Action, remove debris jams and scattered debris from along the channel, riparian revegetation, riprap.

What alternative was selected and why?

Channel clearing to prevent damage to Forest and county roads and to prevent excessive channel erosion and sedimentation. Revegetate riparian areas to prevent excessive erosion and sedimentation. Riprap to prevent additional damage to Forest road.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved in 1983.

Description of work.

Remove debris along 0.4 miles of stream channel. Revegetate riparian areas along 1.7 miles of stream. Riprap 150 feet of channel to protect a bridge in Reach 1 at Pontown Creek.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

 Applicant
 Manti-LaSal National Forest
 HSR No.

 Channel
 Incident #6 Fish Creek: Price River
 Channel Reach See earlier page.

 Scope of Work:
 Remove scattered debris, revegetate riparian areas. Riprap 150 feet to

 protect a bridge.
 Assessment leam Allan Gallegos, Gary Say, Jeff LuceroDate
 July 23, 1984

 Irene Lemley, Holger Theobalt,
 G. Dennis Kelly.

I. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	1 -	-	 +	 +
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	1 0		
Erosion		-	+	L +
Sedimentation			+	+
Effect on Soil	- 1	- 1	+	+
Vegetative Alteration	-		+	L
Change in Air Quality	0	0	0	1 0
F od Plains	T	_	+	+
ands	O	0	0	0
Stream Channel		-	+	+
Water Quality	-	-	+	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	-	-	0	+
Wildlife Habitat	-	-	0	+
Threatened/Rare or Endangered			1	
Plants or Animals	1 0	1 ⁰	0	0
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	-	-	+	1 <u>+</u>
Other:			1	
		1		ļ
	l.	l	1	<u> </u>

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: <u>No Action will cause</u>

damage to County and Forest roads from debris mobilized during the next high water. Excessive erosion.

 and sedimentation will occur from the unprotected stream banks and channel changes caused by debris. Action
 will reduce erosion and sedimentation and reestablish channel conditions that will handle normal
 streamflows.

Affects on downstream water rights and water users: <u>Action will reduce sediment</u> in water used for municipal and recreation purposes.

Degree of Public Interest: High

Potential Controversy: Lack of general understanding of the need for this treatment may cause comment.

Setting, Urban or Rural: Rural

Social Impacts: Action prevents damage to the transportation system and reduces sediment imparts in the water. Other:

II. Rational of Economic Defensibility (Price Base 19 83)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
	\$	\$	·	\$
	\$	\$		<u>s</u>
	<u>s</u>	s		<u>s</u>
	\$	\$	·	\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
2 County Road Crossings	\$ 80,000	\$ 80,000	0.8	\$ 64,000
FSKON' Non Lowalicant	\$ 10,000	\$ 10,000	1.0	5 10,000
	\$	\$		·
	<u>}</u>	è	<u></u>	\$
	<u>ک</u>	* <u></u>		•

C. Business Losses:



Noar Torm

III. Summary

- A. Present value of near term damages to be sustained: $5 \quad 54,000 \quad 74,000$
- B. Estimated cost of emergency work: \$ 16,100

C. Conclusion of environmental assessment: <u>Action will reduce or eliminate</u> near term damages from sediment and debris in the flood waters.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.

H. Dennis Helly		July 23, 1984
G. Dennis Kelly	Team Leader	Date

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date



Incident #7 Monument Peak Site 1: Eccles Canyon		
Site 3: North Hughes ELIGIBILITY	WORKSHEET	61
Emergency Watershed Protection Work	(403) HSR#	
LOCATION Incident #7 Monument Peak		State Utah
Team Members Allan Gallegos	G. Dennis Kelly	by G. Dennis Kelly
Gary Say	Irene Lemley	date July 23, 1984
Jeff Lucero	Holger Theobalt	
1. Threat to Life? Yes. Traffic along U-31,	municipal water supply,	Skyline Mine.
Threat to Property? Yes. 7 bridges alo	ng U-31, county roads, Sk	yline Mine, Forst Read and
2. New Hazard created by this disaster debris and cause exc facilities.	sed accumulation of debri arian areas. The next hi essive erosion and sedime	s in stream channels and gh water will mobilize ntation to downstream
3. More than one beneficiary National Forest S	ystem Lands, Manti-LaSal	National Forest
4. Recommend treatment or measures (least E-1 Revegetation costly for return to E-2 Remove debr pre disaster condition	n of riparian areas to re is jams and scattered deb	duce erosion and sediment. ris.
5. Sponsor-capability for O&M landrights, permits, etc. Forest Service		
6. Commitment of other funds - local, state federal Funds have been r	equested, see page _2	<u></u>
7. Approx. cost of protection \$16,325		· · · · · · · · · · · · · · · · · · ·
Approx. threatened damage \$164,00	0	
8. Eligibility		
Yes, project meets eligibilit	y requirements.	
9. Remarks	····	
Other feetreter		
other toothotes:		
Massurace		
ncasures. F_1 Vogotativo		
C-1 YEYELALIYE 5.2 Domoving channel chatematics		
L-2 Removing channel obstruction		
C-J STREAMDANK STADILIZATION		
L-4 Bridge and road stabilization		

other (describe) E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

- 11	С	D	#
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USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)
2. 3.	<pre>Location Map:attached yes Location, identification and description of damage A. Channel Name North Hughes, Upper Huntington, and Eccles. B. Channel Reach Reaches 1 and 2, Reach 1 and Reach 1 respectively. C. Description of hazard The event caused accumulation of debris in stream channels and severely riparian areas. The next high water will mobilize debris, cause damage to road- stream crossings and cause excessive erosion and sedimentation damage to downstream facilities</pre>
4.	Scope of proposed work: <u>Removal of debris jams and scattered debris along the channels</u> and riparian revegetation.
5.	Proposed work will require: A. Construction easements
6. 7. 8.	C. Preliminary Estimated cost of proposed work: <u>\$16,325</u> Preliminary Estimated value of potential damage: <u>\$170,000</u> Plans and specifications: A. Existing. B. To be prepared by SCS.
9. 10.	Estimate date construction should stop <u>Summer 1985</u>
11.	A. Recommended by Date: (SCS Field Representative)
	B. Concurred by Date: (Applicant Representative)
12.	Approval of exigency request Approved by
13.	(usually approved Via telephone call) Review & approval for nonexigencies and followup review for exgencies.
	A. Coordination: S.C.E
	B. Approved by: Date:
13.	STC or his representative Attachments: A. Application Justification Documentation - See Project Docket Documentation Check List.

Date: July 23, 1984

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job:	Incident	7 Monument	Peak		 HSR#				
Distric	t: 1	Manti-LaSal	National	Forest	 Prepared	by:	G. Dennis	Kelly	

What was site condition before event?

Stream channel was open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Channel has filled with sediment and debris forcing water to erode stream banks. The debris threatens 7 bridges on Highway U-31, culinary water supplies for Huntington, and water uses in Price River Drainage.

What damage will occur if no action taken?

Flood water debris and sediments will damage culverts, bridges, municipal water supplies and irrigation systems and the Skyline Mine facilities.

What alternatives for protection were considered?

No action, riprapping, removal of debris jams and scattered debris along the channel. Riparian revegetation to control erosion and sediment damage downstream. Channelization of streams.

What alternative was selected and why?

Removal of debris jams and scattered debris to prevent the accumulation of debris at bridges and culverts and the eventual loss of structures. Riparian revegetation of areas scoured by the flooding to reduce erosion and sediment to municipal and irrigation water supplies.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove 6 debris jams and clear scattered debris from 0.9 miles of stream channel. Revegetate riparian sreas along 0.5 miles of stream.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

 Applicant
 Manti-LaSal National Forest
 HSR No.

 Channel Eccles, North Hughes, Upper Huntington
 Channel Reach ES 1, 162, and 1 respectively

 Scope of Work:
 Removal of debris jams and scattered debris along the channel revegetation

 of scoured riparian areas.
 Allan Gallegos, Gary Say, G. DennisDate
 July 23, 1984

 Kelly, Irene Lemley, Holger
 Kelly
 Kelly

Theobalt, Jeff Lucero.

I. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action		
	Short Term	Long Term	Short Term	Long Term	
Economic Impact		1 _	l +	↓ <u> </u>	
Prime and Unique Farmland	0	0	0	0	
Change in Land Use	0	0	0	0	
Erosion		-	+	+	
Sedimentation	-	-	+	+	
Effect on Soil	-		+	+	
Vegetative Alteration	-	-	+	+	
Change in Air Quality	0	0	0	0	
r d Plains		-	+	+	
ands	0	0	0	0	
Stream Channel		-	+	+	
Water Quality	-	-	l +	+	
Water Quantity	0	0	0	0	
Watertable Alteration	0	Q	T	0	
Fish Habitat	-	-	0	+	
Wildlife Habitat	-	-	1 0	+	
Threatened/Rare or Endangered		T	T		
Plants or Animals			U		
Archaelogical or Historical Sites	0	0	T 0	0	
Appearance of Landscape	0	0	0	0	
Other:		1	T	1	
		1	T	1	
		1	T		
······································			T		

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: <u>No action will cause</u> <u>damage to State Highway and Forest Road from debris mobilized during the next high flow. Excessive erosion</u> <u>and sedimentation will occur from the unprotected stream banks and channel changes caused by debris. Action</u>

will reduce erosion and sedimentation and reestablish channel conditions that will handle normal flows.

Affects on downstream water rights and water users: <u>Action will reduce sediment in</u> water used for municipal and irrigation purposes.

Degree of Public Interest: High

Potential Controversy: Lack of understanding of the need for treatment may cause comment.

Setting, Urban or Rural: Rural

Social Impacts: <u>Action prevents damage to the transportation, improve the quality of municipal</u> water supplies, and provide employment in high unemployment areas. Other:

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Irrigation Systems	\$ 200,000	\$ 20,000	1.0	\$ 20,000
	\$	\$	·	\$
	\$	\$		\$
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Forest Road	\$ 3,000	\$ 3,000	1.0	\$ 3,000
7 bridges on State Hwy U-31	\$ 280,000	\$ 280,000	0.5	\$ 140,000
Municipal water supply	\$ 1,000	\$ 1,000	1.0	\$ 1,000
	\$	\$		\$
	\$	\$		\$

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
·····	\$	s		\$
	ş	ş	-	\$
	s	s		\$
	\$	\$		\$
	·	·		
TOTAL	\$ 484,000	\$ 304,000		\$ <u>164,000</u>

Near Term

Near Term

Near Term

III. Summary

IV.

<u> </u>	Present value of near term damages to be sustained:			
	\$ 164,000			
Β.	Estimated cost of emergency work: \$ 16,325			
C. Conclusion of environmental assessment: Action will reduce the damages from debris and sediment in the flood waters.				
 D.	Proposed work qualifies EWP criteria (Yes or No) yes			
Rec	ommendation			
Α.	Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.			

<u>A. Dennis Hells</u> G. Dennis Kelly, Team Leader July 23, 1984 Date

B. Emergency work is not justified and is disapproved.

Team Leader

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date

Date


ELIGIBILITY WORKSHEET

	Emergency watersned Protection work (403) HSK#	<u>Stato</u>
	Team Members Aller Colleges	C Deserte Kelle	State Utah
	Gary Say	Irene Lemley	date min 23 1984
	Jeff Lucero	Holger Theobalt	Gute July 23, 1984
			<u> </u>
1.	Threat to Life? Yes. Traffic along U-31, m	unicipal water supply	•
	Threat to Property? Yes. 7 bridges along municipal and water su	U-31, irrigation sys upply.	tem power plant diversions,
2.	New Hazard created by this disaster severely scoured and will produce excessive erost irrigation water uses.	d accumulation of deb n Canyon. The next e ulverts. In several ion and sediment to d	ris in the stream channels and tributar vent will mobilize this debris and dama areas, the riparian areas were amage municipal, industrial, and
3.	More than one beneficiary National Forest System Lands,	Manti-LaSal National	Forest.
4.	Recommend treatment or measures (least $E-1$ Revegetate Ripar E+2 Remove debris jan costly for return to $E-3$ Streambank stability pre disaster condition	ian areas. ms and scattered debr lization.	is along the channel.
5.	Sponsor-capability for O&M landrights, Forest Service. permits, etc.		
6.	Commitment of other funds - local, state Funds have been re federal	quested, see page	<u> </u>
7.	Approx. cost of protection \$57,050		
	Approx. threatened damage \$260,000		
8.	Eligibility		
	Yes, project meets eligibility	requirements.	
9.	Remarks		
Oth	er footnotes:		<u></u>
Ma -			
riea	Sures:		

- E-2
- E-3
- Removing channel obstruction Streambank stabilization Bridge and road stabilization other (describe) E-4
- E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)
2. 3.	Location Map:attached [<u>YES</u>] Location, identification and description of damage A. Channel Name <u>Huntington Canyon</u> B. Channel Reach ES 1, 4, 5, 6, 8, 9, 10, 12, and 14. C. Description of hazard <u>The event caused accumulation of debris in the main and tributary</u> channels of Huntington Creek. The next event will mobilize this debris and damage several
	bridges and culverts. In several areas the riparian areas were severely scoured and will produce excessive erosion and sedimentation to damage municipal, industrial, and irrigation water supplies.
4.	Scope of proposed work: Remove debris jams and scattered debris along the channel, plant willows to revegetate riparian areas, stabilize stream banks by riprapping to prevent erosion and sedimentation.
5.	Proposed work will require: A. Construction easements
6. 7. 8.	Preliminary Estimated cost of proposed work: \$57,050 Preliminary Estimated value of potential damage: \$260,000 Plans and specifications: A. Existing. B. To be prepared by SCS. C. To be prepared by others. Forest Service
9. 10. 11.	Estimated date construction should start <u>As soon as funds are available</u> Estimate date construction should stop <u>Summer 1985</u> Signatures: A. Recommended by Date: (SCS Field Representative)
12.	B. Concurred by Date: (Applicant Representative) Approval of exigency request
12	Approved by Date: (Assistant State Conservationist) (usually approved Via telephone call)
13.	A. Coordination: S.C.E
	S.A.O ASTC
	B. Approved by: Date: Date:
13.	Attachments: A. Application Justification Documentation - See Project Docket Documentation Check List.

Date: July 24, 1984

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Jop:	Inciden	t #8:	Huntington	Canyon	HSR#	
Distr	ict:	Manti	LaSal Natio	nal Forest	Prepared	hv: G. Dennis Kelly

What was site condition before event?

The stream channels were clear and open and capable of handling the normal spring runoff.

What occurred as a result of the storm?

The channel filled with sediment and debris diverting the water to cause points of severe erosion threatening roads, bridges, municipal and irrigation water systems.

What damage will occur if no action taken?

During the next high water, debris will be mobilized with a high probability of damaging seven bridges. Denuded banks and scoured channels will erode causing damage and/or increases costs to municipal and irrigation water systems.

What alternatives for protection were considered?

No action, riparian revegetation, streambank stabilization, bridge and road stabilization, channelization of the creek, removing channel obstructions.

What alternative was selected and why?

Remove debris jams and scattered debris from obstructing the channel, willow planting to revegetate the riparian areas and reduce damage to municipal, industrial, and irrigation water supplies caused by excessive erosion and sedimentation, streambank stabilization to reduce damage from excessive erosion and sedimentation.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove debris jams and scattered debris from 0.7 miles of stream channel. Revegetate scoured riparian areas along 0.8 miles of stream. Riprap 805 feet of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

 Applicant
 Manti-LaSal National Forest
 HSR No.

 Channel
 Huntington Canyon
 Channel ReachES 1,4,5,6,8,9,10,12, and 14.

 Scope of Work:
 Removal of debris jams and scattered debris: along the channels.

Assessment Team Gary Say, Allan Gallegos, Jeff LuceroDate July 24, 1984 G. Dennis Kelly, Irene Lemley, Holger Theobalt.

I. Environmental Assessment:

Environmental Factors	EFFECT with	out action	EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact				1
Prime and Unique Farmland		<u> </u>	++	<u>+</u> +
Change in Land Hee		0	0	ļ
change in Lang Use		0	0	0
Lrosion	<u> </u>	<u> </u>	+	<u> </u>
Sedimentation	-	<u> </u>	+	+
Effect on Soil	-	-	+	l +
Vegetative Alteration	-	-	0	+
Change in Air Quality	0	0	0	0
r d Plains	_	_	+	↓ ↓
ands .		-	+	+
Stream Channel	-		+	
Water Quality		-	+	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat		_	L +	
Wildlife Habitat	0	0	+	↓
Threatened/Rare or Endangered				
Plants or Animals	0) 0) O	j o
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	-	-	+	+
Other:				1
	1	l		

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

No action will cause

damage to State Highway and Forest Roads from debris mobilized during the next high flow. Excessive erosion and sedimentation will damage municipal industrial and irrigation water systems. Action will reduce erosion and sedimentation and reestablish channel conditions that will handle normal flows. Affects on downstream water rights and water users: <u>Action will reduce sediment loads on</u> municipal, industrial, and irrigation water.

Degree of Public Interest: Interest is high.

Potential Controversy: Lack of understanding of the need for treatment may cause comment.

Setting, Urban or Rural: Rural

Social Impacts: <u>Action prevents damage to the transportation system, improves the quality of</u> <u>municipal, industrial, and irrigation water supplies and provides employment in an area of high unemployment.</u> Other:

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Power <u>plant diversion</u>	\$_300_000	\$ <u>50,000</u>		\$ 10,000
structure	\$	\$		\$
······	\$	\$		\$
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Highway U-31	\$ 1,200,000	\$ 1,200,000	0.2	\$ 240,000
Culinary Water System	\$ 100,000	\$ 50,000	0.2	\$ 10,000
For (st Roads	\$	<u>s</u>		ş
	\$	\$	<u></u>	s
	•	•		

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
	s	s		\$
·····	\$	\$		s
	\$	\$		\$
	\$	\$		\$
TOTAL	\$ 1,600,000	\$1,300,000		\$ 260,000

Near Term

Near Term

Near Term

A. Present value of near term damages to be sustained:

\$ 260,000

B. Estimated cost of emergency work: \$ 57,050

C. Conclusion of environmental assessment: <u>Action will reduce the damages from</u> debris and sediment in the next flood waters.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommende.

H. Dennis Helly G. Dennis Kelly, Team Leader

<u>July 23, 1984</u> Date

Date

B. Emergency work is not justified and is disapproved.

Team Leader

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date



ELIGIBILITY WORKSHEET

	Emergency wale	rsned Protection work	((210) h5k#	State
	Team Members	Iohn Niebergall	Irene Savanyo-Lepley	DV C Despis Kel
		Steve Robison	Holger Theobalt	
	-	Jeff Lucero	G. Dennis Kelly	
1.	Threat to Lif	e?	······································	- <u></u>
	Threat to Pro	perty? Yes. Two summer	r homes and two bridges on Fo	rest Roads.
2.	New Hazard cr by this disas	eated Yes. Debris and s ter Ganyon channels ar in Seely Creek th	sediment have filled the Lowr nd diverted the stream near t reatened the Seely Creek and	y Water and Reeder he homes. Debris Olsen Creek bridge:
3.	More than one beneficiary	National Forest System	n Lands, Manti-LaSal National	Forest
4.	Recommend tre or measures (costly for re pre disaster	atment least $E-2$ Remove debut turn to condition	ris and sediment obstructions	from the channels
5.	Sponsor-capab for O&M land permits, etc.	ility Fights, Forest Sei	rvice, Manti-LaSal National F	orest
6.	Commitment of funds - local federal	other , state Funds have bee	en requested, see page2	·
7.	Approx. cost	of protection \$ 11	1,600	<u></u>
	Approx. threa	itened damage \$135	5,000	
8.	Eligibility	Yes. Project meets eligibi	ility requirements.	
9.	Remarks			

Measures:

E-1 Vegetative

E-2 Removing channel obstruction

- E-3
- Streambank stabilization Bridge and road stabilization other (describe) E-4
- E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#	
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USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u>	
	(County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Incident #10 - Joes Valley B. Channel Reach <u>Seely Creek Reach #1 and #2, Lowry Water Re</u> C. Description of hazard <u>Debris and sediment accumulations</u> homes and the Seely and Olsen Creek bridges during the next light	attached Yes ach #1. Reeder Canyon Reach #1 and #2 threaten to damage summer t flows.
	· · · · · · · · · · · · · · · · · · ·	-
4.	Scope of proposed work: <u>Remove debris and restore the channe</u>	l capability.
c		······································
5.	Proposed work will require:	11
	B. Fee simple title	No No
~		· · · · · · · · · · · · · · · · · · ·
р. 7	Preliminary Estimated cost of proposed work: \$11,60	
7. 8	Plane and energifications:	35,000
0.	A. Fristing	
	B. To be prepared by SCS	
	C. To be prepared by others	Service Yes
9.	Estimated date construction should start As soon as fun	ds are available.
10.	Estimate date construction should stop Summer 19	85
11.	Signatures:	
	A. Recommended by	Date:
	(SCS Field Representative)	
	B. Concurred by	Date:
	(Applicant Representative)	
12.	Approval of exigency request	
	Approved by	Date:
	(Assistant State Conservationist)	
	(usually approved Via telephone call)	
13.	Review & approval for nonexigencies and followup rev	iew for exgencies.
	A. Coordination: S.C.E.	_ S.R.C
	(date) S.A.D.	(date) ASTC
	B. Approved by:	Uate:
	SIC or his representative	
13.	ATTACAMENTS:	nject Docket
	Documentation Check List.	

|--|

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Job:	Joes_Valley	HSR#
District:	Manti-LaSal National Forest	Prepared by: G. Dennis Kelly

What was site condition before event?

Channels were clear, open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Landslides and flooding clogged the channels with debris.

What damage will occur if no action taken?

The next high flow will mobilize the debris and/or flood the nearby lands damaging two summer homes and the Seely Creek and Olsen Creek Bridges.

What alternatives for protection were considered?

No Action Riprapping Channelization of Lowry Water Removing Debris Jams and Scattered Debris Along the Channel

What alternative was selected and why?

Removing debris jams and scattered debris along 0.8 miles of channel to protect two bridges and two summer homes from flooding and debris damage.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove six debris jams in Reeder Canyon and clear 0.2 miles of channel along Lowry Water to protect two summer homes. Remove debris along 0.4 miles of channel to protect the Seely Creek bridge, and along 0.2 miles of channel to protect the Olsen Creek bridge.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant Mant	i-LaSal National Fores	L HSR No	
Channel Lowry W	ater, Reeder and Seely	Creeks Channel Reach	Lowry Water Reach #1
Scope of Work:	Remove Accumulated De	bris	Seely Creek Reach #1 & #2
· · · · · · · · · · · · · · · · · · ·			Reeder Creek Reach #1 & #2
Assessment Team	John Niebergall	Date 7/26/84	
	Steve Robison	G. Dennis Kelly	
	Jeff Lucero	Irene Savanyo-Lemley	
	A -	Holger Theobalt	

I. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	_	_		
Prime and Unique Farmland	0	0	0	<u> </u>
Change in Land Use	0	0	0	0
Erosion		-		
Sedimentation		_	1	· · · ·
Effect on Soil		-	+	•
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
Flood Plains	_	_	<u>المحمد المحمد المحم </u>	· ·
weitands	0	0	0	0
Stream Channel	- 1	_	+	+
Water Quality	-	-	+	I
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0	0	
Wildlife Habitat	0	0	0	0
Threatened/Rare or Endangered		T	1	
Plants or Animals	l o	0	0.	0
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	0	0	0	0
Other:		T		\ `
· · · · · · · · · · · · · · · · · · ·	<u> </u>	<u> </u>	1	1
		<u> </u>	<u> </u>	<u> </u>

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

	No action will allow a building up of water. Sudden failure of debris jams will cause surges of
_	water that will carry debris and sediment into houses and bridges downstream. Extensive erosion.
	sedimentation, and stream channel damage will occur. Action will prevent or reduce these damages.
	Debris clearing will limit or prevent pool development beneficial to fish habitat.

Affects on downstream water rights and water users: None

begree of Public Interest	LInterest_is_high
Potential Controversy:	Lack of understanding of the benefits of this work could cause
Setting, Urban or Rural:	Rural
Social Impacts: <u>Reduces</u>	the threats to houses and road systems.
Other:	
······································	

II. Rational of Economic Defensibility (Price Base 19 84)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Two Summer Homes	\$ 80,000	\$ 80,000	1.0	\$ 80,000
	\$	\$		s
	·	ç		š
	· · · · · · · · · · · · · · · · · · ·	ç		š
	•			· ·

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Seely Creek Bridge	\$ 50,000	\$ 50,000		\$ 25,000
Olsen Creek Bridge	\$ 30,000	\$ 30,000	1.0	\$ <u>30,000</u>
	\$	<u>s</u>		ş
	\$	÷		· · · · · · · · · · · · · · · · · · ·
	* <u> </u>	·		·

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
<u> </u>	ş	\$		\$
<u> </u>	s	s	<u></u>	\$
···-··	\$	\$		\$
	\$	\$		\$
TOTAL	\$	s		\$ <u>135,000</u>

79

Near Term

Near Term

III. Summary

IV.

Α.	Present value of near term damages to be sustained:	
	\$ 135,000	
Β.	Estimated cost of emergency work: \$	
с.	Conclusion of enviromnental assessment: <u>Action will re</u> houses and bridges.	duce damages to
D.	Proposed work qualifies EWP criteria (Yes or No)	5
Rec	commendation	
Α.	Emergency work is enconomical, environmentally, and adm justifiable and approval is recommened.	ninistratively
	A. Dannis glilly	7/26/84
	G. Dennis Kelly, Team Leader	Date
в.	Team Leader	Date
c.	Emergency is not justified with data available to team work has the following unevaluated benefits not include damage analysis.	. Emergency ed in the
	Beneficial Affects:	·
	Adverse Affects:	
	Based on unevaluated benefits, I recommend the project (approved/disapproved).	be
	Team Leader	Date



ELIGIBILITY WORKSHEET

Emergency Wa	tershed Prot	ection Work (403) HSF	<#
Location Inc	ident #13: Twe	lve Mile Canyon		State_Utah
leam memoers	Ed Schoppe		G. Dennis Kelly	DY G. Dennis Ke
	Carl Anderson		Holger Theobalt	date July 25,
	Jeli Lucero		Noiger medalt	
1. Threat to L Threat to P	ife? Yes Res roperty? Yes.	idences, Highways Irrigation syst	e, roads, culinary	water supply.
2 11011 110 000			·	
by this dis	aster Add and	itional debris ha property during	is been added to th the next high flow	ne channel threatening liv V.
3. More than o beneficiary	Ne National For	est System Lands,	, Manti-LaSal Natio	onal Forest
4. Recommend t or measures costly for	reatment (least return to	E-1 Revegetat sedimentation E-2 Remove do	te riparian areas (ebris jams and sca	to reduce erosion and
pre disaste	r condition	E-3 Stabilizo E-4 Riprap to	e stream banks by protect remaining	reshaping and revegetation g roads.
5. Sponsor-cap for O&M la permits, et	ability ndrights, .c.	Forest Ser	vice	
6. Commitment funds - loc federal	of other al, state	Funds have been	requested, see pa	ge <u>2</u> .
/. Approx. cos	t of protect	cion \$ 206,100		
Approx. thr	eatened dama	age \$540,000		
8. Eligibility	Yes, project	meets eligibilit	y requirements.	
9. Remarks				
Other footnotes		·		<u></u>
Measures: E-1 Vegetativ E-2 Removing	e channel obsi	truction		
E-3 Streambar E-4 Bridge ar E-5 other (de	nk stabiliza nd road stab escribe)	tion ilization		

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)	
2.3.	Location Map: Location, identification and description of damage A. Channel Name <u>Twelve Mile Canyon</u> B. Channel Reach <u>Reaches 1 and 5</u> C. Description of hazard <u>Additional debris and sediment has r</u> <u>caused serious scouring of riparian areas and caused excessive erosic</u> conditions threaten lives, residences, culverts, bridges, and municip	attached YES reduced the channel capacity, on of streambanks. These bal and irrigation water supplies.
4.	Scope of proposed work: <u>Channel clearing, riprapping, streamb</u> stabilization.	pank reshaping and
5	Proposed work will require:	
5.	A. Construction easements B. Fee simple title	NO NO
6.	Preliminary Estimated cost of proposed work: \$206100	·
7.	Preliminary Estimated value of potential damage: \$540,7	500
8.	Plans and specifications:	
	 B. To be prepared by SCS C. To be prepared by others	YES NO YES
9.	Estimated date construction should start As soon as funds	are available
10.	Signatures:	
	A. Recommended by	Date:
	(SCS Field Representative)	
	8. Concurred by	Date:
12.	(Applicant Representative) Approval of exigency request	
	Annroved by	Date:
13.	(Assistant State Conservationist) (usually approved Via telephone call) Review & approval for nonexigencies and followup revi	ew for exgencies.
	A. Coordination: S.C.E(data)	S.R.L.
	S.A.O	ASTC
	B. Approved by:	Date:
	SIC or his representative	
13.	Actachments: A. Application Justification Documentation - See Pro Documentation Check List.	ject Docket

HSR#_____



Prepared by: <u>G. Dennis Kelly</u>

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

JOD: <u>Twelve Mile Canyon</u> HSR#

What was site condition before event?

District: Manti-LaSal National Forest

The channel was clear, open and able to handle normal highwater.

What occurred as a result of the storm?

Debris and sediment reduced the channel capacity and the capacity of road-stream crossings, caused severe meandering and scouring of stream banks and riparian areas.

What damage will occur if no action taken?

Continued excessive erosion and sedimentation will damage downstream irrigation and municipal water systems. Debris will be mobilized during the next high flow to damage bridges, culverts, irrigation diversions and the community of Mayfield. Debris will increase meandering and subsequently erosion, sedimentation and damage.

What alternatives for protection were considered?

No action, Bank stabilization, riprapping, riparian revegetation, removal of debris jams and scattered debris along the channel.

What alternative was selected and why?

Streambank reshaping along 800 feet to reduce erosion and sedimentation, riprapping along 600 feet to prevent damage to the remaining Forest Roads. Removal of debris jams and scattered debris along the channel to prevent mobilization of debris and damage to downstream structures. Revegetation of scoured riparian areas to reduce erosion and sediment yields that will damage downstream municipal and irrigation water systems.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Streambank reshaping along 800 feet of stream, riparian revegetation along 1.6 miles of stream, riprapping along 650 feet of the stream, removal of 51 debris jams and clearing scattered debris along 9.7 miles of the channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

 Applicant
 Manti-LaSal National Forest
 HSR No.

 Channel
 Twelve Mile Canyon
 Channel Reachs
 Land 5

 Scope of Work:
 Channel clearing, riprapping, streambank reshaping and stabilization.

Date July 25, 1984

Assessment Team <u>G. Dennis Kelly</u> Ed Schoppe Carl Anderson Jeff Lucero Irene Lemley

I. Environmental Assessment: Holger Theobalt

Environmental Factors	EFFECT with	out action	EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	-	-	+	+
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion		-	+	+
Sedimentation		-	+	l
Effect on Soil	_	_	+	+
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
r od Plains	-	-	+	+
i . ands	_	1 _	+	+
Stream Channel	-	-	+	+
Water Quality		_	+	+
Water Quantity	0	1 0	0	0
Watertable Alteration	0	0	0	
Fish Habitat	0	1 0		+
Wildlife Habitat	0	1 0	0	+
Threatened/Rare or Endangered		T		
Plants or Animals	0	0	0	0
Archaelogical or Historical Sites	0		0	0
Appearance of Landscape	0	1 0	T0	0
Other:	T	1	1	T
			1	
		1		

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make

concluding statement as to which action is most environmentally sound: <u>Without action the</u>

debris will be remobilized during the next high flow causing downstream damage to homes, bridges, culverts, and water systems. Action will reduce damage from remobilized debris and reduce damage from excessive erosion

and sedimentation. Action will reestablish the channel capacity to handle normal flows.

Affects on downstream water rights and water USERS: <u>Action will restore the capacity</u> of the channel to handle normal flows and alleviate damage to irrigation systems and municipal

Degree of Public Interest: <u>Interest is high.</u>

Potential Controversy: Lack of understanding of the benefits of treatment may cause comment.

Setting, Urban or Rural: Rural.

Social Impacts: <u>Protects the community of Mayfield and its water supply</u>. Provides employment in <u>an area of high unemployment</u>. Other:

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	_Damage
Mayfield Residential	\$ 210,000	\$ <u>210,000</u>	1.0	\$ 210,000
Irrigation System_	\$ 30,000	\$ 30,000	1.0	\$ 30,000
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Values \$	Damage \$	Factor*	Near Term Damage
\$ <u>100,000</u> \$	\$ <u>30,000</u> \$	1.0	\$ <u>30.000</u> \$
\$ 200,000	\$ 200,000	1.0	\$ 200,000
\$ <u>70,000</u> \$	\$ <u>70,000</u> \$	1.0	\$ <u>70,000</u> \$
	Values \$ \$ 100,000 \$ 200,000 \$ 70,000 \$ 70,000	Values \$ Damage \$ \$ 100,000 \$ 30,000 \$ 200,000 \$ 200,000 \$ 70,000 \$ 70,000	Values \$ Damage \$ Factor* \$ 100,000 \$ 30,000 1.0 \$ 200,000 \$ 200,000 1.0 \$ 70,000 \$ 70,000 1.0

C. Business Losses:

<u>Properties</u>	Values S	Damage \$	Factor*	Damage
<u> </u>	5	s		\$
	š	s		5
	·	<u> </u>	·	\$
	\$	\$	_,	\$
	•	·		
TOTAL	\$ 540,000	\$ 540,000		\$ 540,000

Near Term

Near Term

III. Summary

A. Present value of near term damages to be sustained:

\$ 540,000

B. Estimated cost of emergency work: \$ 206,100

C. Conclusion of environmental assessment: <u>Action will reduce near term</u> damages from debris and sediment loads.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommende.

S. Dennis Helly	July 25, 1984
G. Dennis Kelly, Team Leader	Date

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date



ELIGIBILITY WORKSHEET

	Location	Canyon		State Utah
	Team Members <u>Ec</u>	Schoppe	Jeff Lucero	DY G. Dennis Kell
	C	arl Anderson	Irene Savanyo-Lemley	0ate
	G	Dennis Kelly	Holger Theobalt	-
1.	Threat to Life?	Yes. Travelers on to of the highway fills	JS 89 are threatened by poss	sible sudden failur
	Threat to Propert	y? Yes. Irrigation sys	stem, Forest Road.	
2.	New Hazard create by this disaster	d New debris in the ch damage culvert and b	nannel when mobilized by the bridge crossings, and diver:	e next high flow wi sion structures.
3.	More than one beneficiary	National Forest Syst	tem Lands, Manti-LaSal Natio	onal Forest
4.	Recommend treatme or measures (leas costly for return pre disaster cond	nt t E-2 Remove debu to ition	ris jams and scattered debr	
5.	Sponsor-capabilit for O&M landrigh permits, etc.	y Its, Forest Serv:	ice	
6.	Commitment of oth funds - local, st federal	er ate Funds have been	requested, see page	•
7.	Approx. cost of p	protection \$6,500		
	Approx. threatene	ed damage \$160,000		
8.	Eligibility Yes, 1	the project meets the eli	igibility requirements.	
9.	Remarks	<u> </u>		
Oth	ner footnotes:			

- E-1 Vegetative
- E-2 Removing channel obstruction
- E-3 Streambank stabilization
- Bridge and road stabilization other (describe) E-4
- E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)	<u></u>
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Six Mile Canyon B. Channel Reach #1 C. Description of hazard Debris mobilized by the next high increased meandering with excessive sediment loads, and will dama crossings, and diversion structures.	water will cause ge roads, stream
4.	Scope of proposed work: <u>Removing debris jams and scattered d</u>	ebris from the channel.
5.	Proposed work will require: A. Construction easements B. Fee simple title	No
6. 7. 8.	Preliminary Estimated cost of proposed work: <u>\$6,5</u> Preliminary Estimated value of potential damage: <u>\$160</u> Plans and specifications: A. Existing B. To be prepared by SCS Forest Se	000 0,000
9. 10. 11.	Estimated date construction should start <u>As soon as func</u> Estimate date construction should stop <u>Summer 19</u> Signatures: A. Recommended by <u>(SCS Field Representative)</u>	Date:
12.	B. Concurred by(Applicant Representative) Approval of exigency request	Date:
	Approved by(Assistant State Conservationist) (usually approved Via telephone call)	Date:
13.	Review & approval for nonexigencies and followup revi A. Coordination: S.C.E.	ew for exgencies.
	(date)	ASTC
	B. Approved by:	Date:
13.	Attachments: A. Application Justification Documentation - See Pro Documentation Check List.	ject Docket

Dat	te:	7/25/84
		-

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

Jaha UCD4

District: <u>Manti-LaSal National Forest</u> Prepared by: <u>G. Dennis Kelly</u>

What was site condition before event?

The stream channel was open, clear, and capable of handling the normal runoff event.

What occurred as a result of the storm?

Landslides and flooding added large amounts of debris to the channel.

What damage will occur if no action taken?

Debris mobilized by the next high flow will cause increased meandering with excessive sediment loads, and will damage road-stream crossings, and diversion structures.

What alternatives for protection were considered? No Action Riprapping Revegetation Channel Modification Bank Stabilization Channel Clearing

What alternative was selected and why?

Removing debris jams and scattered debris along the channel to reduce or eliminate damage and erosion. Most cost effective.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished as a result of the 1983 event.

Description of work.

Remove two debris jams and scattered debris from 0.8 miles of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant	Manti-LaSal National Forest	HSR No
Channel	Six Mile Canyon	Channel Reach
Scope of h	Ork: <u>Remove Debris Jams and S</u>	Scattered Debris from the Channel

Assessment Team <u>G. Dennis Kelly</u> Date <u>7/25/84</u> Ed Schoppe Jeff Lucero Carl Anderson Irene Savanyo-Lemley Holger Theobalt

I. Environmental Assessment:

Environmental Factors	EFFECT without action		EFFECT with action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	-	_		 0
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion		T _	+	· ·
Sedimentation	-	-	+	+
Effect on Soil	0	0	0	0
Vegetative Alteration	6	0	0	0
Change in Air Quality	0	0	0	0
F nd Plains	-	-	↓	+
i .ands	0	0	0	0
Stream Channel	_	-	•	+
Water Quality	-	-	+	+
Water Quantity	1 0	0	0	0
Watertable Alteration	0	Γο	0	0
Fish Habitat	0	0	_	-
Wildlife Habitat	0	0	0	0
Threatened/Rare or Endangered		T		
Plants or Animals	0	0	l <u>o</u>	0
Archaelogical or Historical Sites	0	Το	0	0
Appearance of Landscape	0	Το	0	0
Other:		T	1	
		1		
		Τ	1	
		T	1	

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

Affects	on	downstream	water	rights	and	water	users:	Action will	reduce debri	5
damage	to	irrigation dive	ersion s	tructures	•					

Degree of Public Interest: Interest is high.

Potential Controversy: Lack of understanding of the benefits of the action may cause comments.

Setting, Urban or Rural: Rural

Social Impacts: <u>Protects a major transportation route. Provides employment in an area</u> of high unemployment. Other:

- II. Rational of Economic Defensibility (Price Base 19 83)
 - A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Damage
Irrigation System	\$	\$_30,000	0.8	\$ 24,000
	*	*		°
•	ę	·		·
	\$	s		\$
	▼	T		·

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
US Highway 89	\$ 70,000	\$ 70,000		\$_ <u>56.000</u>
Forest Road	\$ 186,000	\$ 100,000	0.8	\$_80,000
	\$	5		\$
·	\$	2		°
	•	٠ <u></u>		·

C. Business Losses:

0. 003111033	203323.			Near Term
<u>Properties</u>	Values \$	Damage \$	Factor*	Damage
	\$	è		°
	·	;		\$
	s	s		\$
	\$	\$		\$
				•
TOTAL	\$ 286,000	\$_200,000		\$ <u>160,000</u>

Near Term

Near Term

III. Summary

	Α.	Present value of near term damages to be sustained:	
		\$ 6,500	
	B.	Estimated cost of emergency work: \$ 160,000	,
	с.	Conclusion of environmental assessment: <u>Action will reduce</u> damages from debris and sediment.	near term
	D.	Proposed work qualifies EWP criteria (Yes or No)	
IV.	Rec	commendation	
	Α.	Emergency work is enconomical, environmentally, and admi justifiable and approval is recommened.	nistratively
		A. Dennis Helly	/25/84
		G. Dennis Kelly, Team Leader	Date
	Β.	Emergency work is not justified and is disapproved.	
		Team Leader	Date
	c.	Emergency is not justified with data available to team. work has the following unevaluated benefits not included damage analysis.	Emergency I in the
		Beneficial Affects:	
		Adverse Affects:	
		Based on unevaluated benefits, I recommend the project b (approved/disapproved).	De
		Team Leader	Date



ELIGIBILITY WORKSHEET

<u>Carl And</u> <u>Jeff Lud</u> To Life? To Property? Td created disaster n one ary d treatment res (least or return to ster condity landrights etc. nt of other local, state	e Funds have bee	Irene Lemley Holger Theobalt the community of Manti a ply. Streets of Manti. tem, business, Highway U illed the channel with d verts and flooded proper r damage. nal Forest jams and scattered debr	by G. Dennis Kei date <u>7/25/84</u> re on the floodplain. S-89. ebris and sediment ty. The next event is along the channel
Carl And Jeff Luc To Life? To Property? Td created disaster n one ary d treatment res (least or return to ster condit Capability landrights etc. nt of other local, state	derson cero Yes, Residences of Municipal water sup Yes, Irrigation Sys Yes, This event f which blocked cul will cause furthe Manti-LaSal Natio E-2 Remove debris O ion Forest Service Punds have bee	Irene Lemley Holger Theobalt the community of Manti a ply. Streets of Manti. tem, business, Highway U illed the channel with d verts and flooded proper r damage. nal Forest jams and scattered debr	re on the floodplain. S-89. ebris and sediment ty. The next event
n one ary d treatment or return to ster condit: Capability landrights etc. nt of other local, state	Yes, Residences of Municipal water sup Yes, Irrigation Sys Yes, This event f which blocked cul will cause furthe Manti-LaSal Natio E-2 Remove debris O ion Forest Service Punds have bee	the community of Manti a ply. Streets of Manti. tem, business, Highway U illed the channel with d verts and flooded proper r damage. nal Forest jams and scattered debr	re on the floodplain. S-89. ebris and sediment ty. The next event is along the channel
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o Property? rd created disaster n one ary d treatment res (least or return to ster condit capability landrights etc. nt of other local, state	Yes, Irrigation Sys Yes, This event f which blocked cul will cause furthe Manti-LaSal Natio E-2 Remove debris O ion Forest Service Punds have bee	jams and scattered debr	S-89. ebris and sediment ty. The next event is along the channel
rd created disaster n one ary d treatment res (least or return to ster condit capability landrights etc. nt of other local, state	Yes, This event f which blocked cul will cause furthe Manti-LaSal Natio E-2 Remove debris O ion Forest Service Punds have bee	illed the channel with d verts and flooded proper r damage. nal Forest jams and scattered debr	ebris and sediment ty. The next event is along the channel
n one ary d treatment res (least or return to ster condit capability landrights etc. nt of other local, state	Manti-LaSal Natio E-2 Remove debris O ion Forest Service Punds have bee	nal Forest jams and scattered debr	is along the channel
d treatment res (least or return to ster condit capability landrights etc. nt of other local, state	E-2 Remove debris O ion Forest Service Punds have bee	jams and scattered debr	is along the channel
capability landrights etc. nt of other local, state	Forest Service , C Funds have bee		
nt of other local, state	e Funds have bee		
		n requested, see page	2.
cost of pro	tection \$5,350		
threatened	damage \$1,132,	500	
ity Yes,	This project meets	all eligibility requirem	ents.
	<u></u>	<u> </u>	<u></u>
ites:	<u> </u>		
	otes:	ty Yes, This project meets	ity Yes, This project meets all eligibility requirem

- E-2 Removing channel obstruction
 E-3 Streambank stabilization
 E-4 Bridge and road stabilization
 E-5 other (describe)

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

Н	SR#

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSa</u> (County, C	National Forest		
2. 3.	Location Map: Location, identificat A. Channel Name B. Channel Reach Rea C. Description of ha will mobilize debris causing ing property. See attached	ion and descriptio incident #15 - Manti Car aches 1 and 2 Zard The past ev. damage to Manti communi flood report.	n of damage won ent reduced channel hity plugging road-	capacity. The next event stream crossings and flood-
4.	Scope of proposed wor	(: <u>Remove debris jams</u>	and scattered debr	is along the channel.
5.	Proposed work will re A. Construction ease B. Fee simple title.	quire: nents		
6. 7. 8.	C. Preliminary Estimated Preliminary Estimated Plans and specificati A. Existing B. To be prepared by	cost of proposed value of potentia ons: SCS	work: <u>\$5,350</u> 1 damage: <u>\$1,1</u> Forest Service	32,500
9.	Estimated date constr	uction should star	t As soon as fun	ds are available
11.	Signatures:		Summer 1985	
	A. Recommended by	(SCS Field Repr	esentative)	Date:
	B. Concurred by			Date:
12.	Approval of exigency	request	esentative;	
	Approved by(Assi	stant State Conser	vationist)	Date:
13.	Review & approval for	nonexigencies and	I followup revi	ew for exgencies.
	A. Coordination: S.	C.E.		S.R.C.
	s.	A.O	(date)	_ ASTC
	B. Approved by:			_ Date:
12		SIC or his repres	sentative	
12.	Actacoments: A. Application Justi	fication Document	ation - See Pro	oject Docket

Documentation Check List.

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

JOD: Incident #15 ~ Manti Canyon HSR#

District: Manti-LaSal National Forest Prepared by: G. Dennis Kelly

What was site condition before event? Channel was clear, open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Lands slides and flooding created debris jams and scattered excessive volumes of debris along the channel.

What damage will occur if no action taken?

The next high flows will remobilize the debris which will block and/or damage bridges, culverts, and diversion works. The meandering channel will damage homes, businesses, and streets at Manti community.

What alternatives for protection were considered?

No Action Removal of debris jams and scattered debris Rip-rapping Stream bank reshaping and revegetating Riparian revegetation of scoured areas.

What alternative was selected and why?

Removal of debris jams and scattered debris to prevent mobilization of debris and consequent damage to downstream facilities.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove 2 debris jams and clear scattered debris along 1.4 miles of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant _	Manti-LaSal National Forest	HSR No.	
Channel	Incident #15 - Manti Canyon	Channel	Reach Reaches 1 and 2
Scope of Wo	ork: Remove debris jams and scattere	d debris	

Assessment Team	G. Dennis Kelly	Date	July 26, 1984	
_	Ed Schoppe Carl Anderson	Irene Lemley Holger Theobalt		
		Jeff Lucero		

I. Environmental Assessment:

Environmental Factors	EFFECT without action EFFECT with		th action	
	Short Term	Long Term	Short Term	Long Term
Economic Impact	_	- \	1 +	۱ ۱ +
Prime and Unique Farmland	0	0	0	0
Change in Land Use	0	0	0	0
Erosion	-	-	+	+
Sedimentation		-	+	+
Effect on Soil	-	-	+	+
Vegetative Alteration	0	0	0	1 0
Change in Air Quality	0	0	0	0
r d Plains	-	-	+	+
ands	0	0	0	0
Stream Channel	-	_	+	F+
Water Quality	-	-	+	+
Water Quantity -	0	Q	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0	-	-
Wildlife Habitat	0	1 0	1 0	0
Threatened/Rare or Endangered			1	1
Plants or Animals	0	0	0	lo
Archaelogical or Historical Sites	0	0	0	0
Appearance of Landscape	0	0	0	0
Other:				1
			1	1
		<u> </u>	<u> </u>	l
	1	ł	1	

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: <u>No Action allows</u>

debris to damage the community. Stream bank erosion and sedimentation will be severe adding sediment to the irrigation and industrial water supplies. Action will reduce damages from debris and reduce erosion and sedimentation. Fisheries would recover more rapidly without action.

Affects on downstream water rights and water users: <u>Action will reduce sediment</u> loads in industrial and irrigation water supplies.

Degree of Public Interest: Interest is high

Potential Controversy: Lack of understanding of the benefits may cause comment.

Setting, Urban or Rural: Rural

Social Impacts: Action will reduce the threat to life and property and will provide employment in an area of high unemployment. Other:

II. Rational of Economic Defensibility (Price Base 19 83)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	_Damage
Residential	\$ 1,400,000	\$ <u>1,400,000</u>	0,5	\$ 700,000
	\$	\$		\$
	\$	\$	<u> </u>	\$
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Damage
Culinary Watersyste	\$ 500,000	\$ 50,000	1.0	\$50,000
Hydro Power Plant	\$ 250,000	\$25,000	1.0	\$25,000
Streets	\$ 375,000	\$37,500	1.0	\$ <u>37,500</u>
Highway US 89	\$ 70,000	\$70,000	_1.0	\$ <u>70,000</u>
	\$	s		۶

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
Business Buildings	\$500,000	\$500,000	0.5	\$_250.000
	è	<u>,</u>		<u>,</u>
	·	·		s
	·	·	_	s
·	•			·
TOTAL	\$ 3,095	\$ 2,082,500		\$ 1,132,500

Near Term

Near Term

Near Term

III. Summary

A. Present value of near term damages to be sustained:

\$ 5,350

B. Estimated cost of emergency work: \$ 1,132,500

C. Conclusion of environmental assessment: <u>Action will reduce near term damages</u> from debris and sediment.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.

G. Cenno 9Kelly	July 26, 1984
G. Dennis Kelly - Team Leader	Date

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects: _____

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date


ELIGIBILITY WORKSHEET

Emergency Watershed Protection Wor	ኊ (403) HSR#	
Location Incident #17: Knob Mountain		State Utah
Team Members Ed Schoppe	G. Dennis Kelly	by G. Dennis Kelly
Carl Anderson	Irene Lemley	date <u>July 16, 198</u>
Jeff Lucero	Holger Theobalt	
1. Threat to Life? Yes. Threat to community.	nity water supply, homes an	d streets of the
Inreat to Properly? Yes. Threat to	irrigation system, Forest	Roads.
2. New Hazard created by this disaster Yes. Debris alon highwater	ng the channel will be mobi and damage to downstream pr	lized during the next operty.
3. More than one beneficiary National Forest System	m Land, Manti-LaSal Nationa	l Forest
4. Recommend treatment or measures (least $E-2$ Remove d costly for return to pre disaster condition	ebris from the creek.	
5. Sponsor-capability for O&M landrights, permits, etc. Forest Serv	ice. Manti-LaSal National	Forest.
6. Commitment of other funds - local, state federal Funds have b	een requested, see page	<u>2</u> .
7. Approx. cost of protection \$9,350	· · · · · · · · · · · · · · · · · · ·	
Approx. threatened damage \$60,0	00	
8. Eligibility Yes, project meets	eligibility requirements,	
9. Remarks		
Other footnotes:		
Measures: E-1 Vegetative E-2 Removing channel obstruction		

- Removing channel obstruction Streambank stabilization E-2 E-3
- Bridge and road stabilization other (describe) E-4
- E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: Manti-LaSal National Forest (County, City, etc.)	
2. 3.	Location Map: Location, identification and description of damage A. Channel Name Oak Creek B. Channel Reach Reaches 1 and 2. C. Description of hazard Debris along the stream will be mon high water to damage downstream property and increase stream meanderin	bilized during the next g which will also damage
	streamside property.	
4.	Scope of proposed work: <u>Remove debris from along 3.5 miles</u>	of channel.
c		
5.	A. Construction easements B. Fee simple title	NO
6.	Preliminary Estimated cost of proposed work: so a	\$0
7.	Preliminary Estimated value of potential damage:	\$60,000
8.	Plans and specifications: A. Existing B. To be prepared by SCS C. To be prepared by others FOREST SERVICE	YES
9.	Estimated date construction should start As soon as fund	e are susilable
10.	Estimate date construction should stop Summer 1985	
11.	Signatures:	<u> </u>
	A. Recommended by	_ Date:
	(SCS Field Representative)	
	B. Concurred by	Date:
	(Applicant Representative)	
12.	Approval of exigency request	
		_
	Approved by	_ Date:
	(Assistant State Conservationist)	
12	(usually approved via telephone call)	ow for expension
15.	Review & approval for nonexigencies and followup revi	ew for exgeneres.
	A. Coordination: S.C.E.	S.R.C.
	(date)	(date)
	S.A.O	ASTC
	D Ampuousd bus	Data
	D. Approved by:	Date.
13.	Attachments:	
	A. Application Justification Documentation - See Pro Documentation Check List.	oject Docket

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

JOD: Incid	dent #17: Knob Mountain	HSR#
District.	Manti-LaSal National Forest	Prenared by G. Dennis Kelly

What was site condition before event?

Channel was clear, open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Excessive debris has accumulated along the stream reducing the channel capacity.

What damage will occur if no action taken?

Debris will be mobilized during the next high water causing damage to the community of Spring City and nearby water and transportation systems.

What alternatives for protection were considered?

No action, riprapping, revegetation of scoured riparian areas, stream channel modification, removal of debris that is reducing channel capacity.

What alternative was selected and why?

Removal of debris to restore channel capacity and reduce the threat to downstream property.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove debris from 3.5 miles of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant <u>Manti-LaSal National Forest</u> Channel <u>Incident #17 Knob Mountain: Oak Creek</u> Scope of Work: <u>Remove debris from Oak Creek</u>	HSR No. Channel Reaches 1 and 2
Assessment leam G. Dennis Kelly, Ed Schoppe,	Date July 26, 1984

Assessment leam <u>G. Dennis Kelly, Ed Schoppe</u>, Carl Anderson, Jeff Lucero, Irene Lemley, Holger Theobalt

I. Environmental Assessment:

Environmental Factors	I EFFECT with	out action	EFFECT with	th action
	Short Term	Long Term	Short Term	Long Term
Economic Impact	i –	1 -	1 +	1 _ +
Prime and Unique Farmland	1 0	0	0	0
Change in Land Use	0	0	0	l o
Erosian	-	-	+	+
Sedimentation	- 1	-	+	+
Effect on Soil		-	+	l +
Vegetative Alteration	0	0	0	0
Change in Air Quality	0	0	0	0
F nd Plains	2	د	+	+
ands	G	0	0	0
Stream Channel		_	+	+
Water Quality	-	-	+	+
Water Quantity	0	0	0	0
Watertable Alteration	0	0	0	0
Fish Habitat	0	0		
Wildlife Habitat	0	0	0	0
Threatened/Rare or Endangered	0	0	0	0
Archaelogical or Historical Sites		0	0	1 0
Appearance of Landscape	0	0	0	0
Other:		1		1
		1	<u> </u>	<u>\</u>
			l	

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound:

concluding statement as to which action is most environmentally sound: <u>No action will allow</u> debris to damage communities and water systems. Debris will increase channel and bank erosion and sediment impacts

_	to water systems.	Fish habitats would	improve more	rapidly without	action.	Action will reduce	damage and	
_	erosion. Action w	ill delay the natural	creation of	pools.				

Affects on downstream water rights and water USERS: Action will reduce erosion and sediment impacts to water systems.

Degree of Public Interest: Interest is high.

Potential Controversy: Lack of understanding of the benefits may cause comment.

Setting, Urban or Rural: Rural

Social Impacts: <u>Action reduces threat to life and property and provides employment in an</u> area of high unemployment. Other:

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Irrigation System	\$ 30,000	\$ 30,000	0.5	\$ 15,000
	\$	\$		\$
	<u>s</u>	s		\$
	\$	\$		\$

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties, Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Culinary Water System	\$ <u>10,000</u> \$ <u>40,000</u>	\$ <u>10,000</u> \$ 40,000	0.5	\$ 5,000 \$ 20,000
Spring City Streets	\$ 30,000	\$ 30,000	0.5	\$ 15,000
Highway US 89	\$ 10,000	\$ 10,000	0.5	\$ 5,000 \$
	·	J		·

C. Business Losses:

Properties	Values \$	Damage \$	Factor*	Damage
	<u>}</u>	;		\$
—	·	\$		s
	\$	\$		\$
<u> </u>	\$	\$		\$
TOTAL	\$ 120,000	\$ 120,000		\$ 60,000

Near Term

III. <u>Summary</u>	1
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IV.

Summ	ary
Α.	Present value of near term damages to be sustained:
	\$
Β.	Estimated cost of emergency work: \$9,350
C	Conclusion of environmental assessment: <u>Action will reduce the near term</u> apacts from debris and sediment loads. Benefits outweigh the impacts to an already
de	estroyed fisheries.
D. P	roposed work qualifies EWP criteria (Yes or No) Yes
Reco	mmendation
Α.	Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommened.
	M A an in Glutha Inter 26 1984
:	G. Dennis Kelly, Team Leader Date
Β.	Emergency work is not justified and is disapproved.
	Team Leader Date Date
c.	Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.
	Beneficial Affects:
	Adverse Affects:
	Based on unevaluated benefits, I recommend the project be (approved/disapproved).
	Team Leader Date



ELIGIBILITY WORKSHEET

Locat Team I Team I I. Three Three 2. New I by th 3. More bene 3. More bene 4. Recon or ma cost pre o 5. Spon for (perm 5. Comma fund fede 7. Appro	Incident #21 Canal Canyon Members Ed Schoppe Carl Andersen	G. Dennis Kelly Holger Theobalt Irene Lemley , county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat:	State Utah by <u>G. Dennis Kelly</u> date July 26, 1984 system. red debris threaten
Team I Team I Threa	Members Ed Schoppe Carl Andersen Jeff Lucero Jeff Lucero Jeff Lucero At to Life? NO At to Property? Yes, Forest road Hazard created Yes. New debris Is disaster irrigation system than one National Forest System	G. Dennis Kelly Holger Theobalt Irene Lemley , county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat:	by <u>G. Dennis Kelly</u> date <u>July 26, 1984</u> system. red debris threaten
 Threa Threa Threa Threa New H by th More By th More By th More Spon Approx 	Carl Andersen Jeff Lucero At to Life? NO At to Property? Yes, Forest road Hazard created Yes. New debris Dis disaster irrigation system than one ficiary National Forest System	Holger Theobalt Irene Lemley , county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat:	date July 26, 1984
 Threa Threa Threa Threa New H by th More bene More bene More bene Recom or me cost pre Spon Spon Spon for (perm Comma fund fede Appre 	Jeff Lucero At to Life? NO At to Property? Yes, Forest road Hazard created Yes. New debris his disaster irrigation system than one ficiary National Forest System	Irene Lemley , county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat	system. red debris threaten
 Three Three New I by the by the sene More bene More bene Appresent 	at to Life? NO at to Property? Yes, Forest road lazard created Yes. New debris his disaster irrigation system than one ficiary National Forest System	, county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat:	system. red debris threaten
Three 2. New I by th 3. More bene 4. Recon or me cost pre of 5. Spon for (perm 6. Comma fund fede 7. Appro	at to Property? Yes, Forest road lazard created Yes. New debris his disaster irrigation system than one ficiary National Forest System	, county road, irrigation jams and excessive scatter s and road crossings. em Lands, Manti-LaSal Nat	system. red debris threaten ional Forest
 New I by the by the sene More bene Recome or me cost pre Spont for (perm Comme fund fede Appre 	dazard created Yes. New debris nis disaster irrigation system than one ficiary National Forest System	jams and excessive scatters s and road crossings. em Lands, Manti-LaSal Nat	red debris threaten
 More bene bene bene bene bene bene bene be	than One ficiary National Forest Syst	em Lands, Manti-LaSal Nat	ional Forest
 4. Recolor or macost press 5. Spontfor (permission) 6. Comma fundtfede 7. Appress 			······································
5. Spon for (perm 6. Comm fund fede 7. Appr	nmend treatment easures (least ly for return to ^{E-2 Remo} disaster condition	ve debris jams and scatte	red debris along the chan
6. Comm fund fede 7. Appr Appr	sor-capability D&M landrights, its, etc. Forest Servic	e, Manti-LaSal National F	Drest
7. Appro	itment of other s - local, state Funds h ral	ave been requested, see p	age <u>2</u> .
Appr	ox. cost of protection \$6,4	50	
		000	
B. Elig	ox. threatened damage \$90,		
5	ox. threatened damage _{\$90,}	<u></u>	
9. Rema	ox. threatened damage \$90, ibility Yes, project meets e	ligibility requirements.	

Other footnotes:

Measures:

E-1 Vegetative

Removing channel obstruction E-2

E-3 Streambank stabilization

Bridge and road stabilization other (describe) E-4

E-5

*Include recommended alternatives, notes on principal features, location, etc. Use back for more space.

HSR#_____

USDA-SCS EMERGENCY WATERSHED PROTECTION HAZARD SURVEY REPORT

1.	Applicant: <u>Manti-LaSal National Forest</u> (County, City, etc.)	<u> </u>
2. 3.	Location Map: Location, identification and description of damage A. Channel Name <u>Canal Canyon</u> B. Channel Reaches 1, 2, and 3 C. Description of hazard <u>New debris jams and excessive sca</u> systems and road crossings.	attached [<u>YES</u>]
4.	Scope of proposed work: <u>Remove debris jams and scattered de</u>	bris.
5.	Proposed work will require: A. Construction easements B. Fee simple title C.	
6. 7. 8.	Preliminary Estimated cost of proposed work: \$ 6,450 Preliminary Estimated value of potential damage: \$90, Plans and specifications: A. Existing B. To be prepared by SCS C. To be prepared by others	000 <u>YES</u> NO YES
9. 10. 11.	Estimated date construction should start <u>As soon as func</u> Estimate date construction should stop <u>summer 1985</u> Signatures: A. Recommended by(SCS Field Representative)	ds are available, Date:
10	B. Concurred by(Applicant Representative)	_ Date:
12.	Approval of exigency request Approved by	_ Date:
13.	Review & approval for nonexigencies and followup rev	iew for exgencies.
	A. Coordination: S.C.E(date) S.A.O	_ S.R.C(date) _ ASTC
	B. Approved by:	_ Date:
13.	Attachments: A. Application Justification Documentation - See Pr Documentation Check List.	oject Docket

Date: _______ 26, 1984

EMERGENCY WATERSHED PROGRAM (EWP) DESIGN REPORT

J	ob:	Incident #21:	Canal	Canyon	HSR#	

District: Manti-LaSal National Forest Prepared by: G. Dennis Kelly

What was site condition before event?

Channel was clear, open and capable of handling normal spring runoff.

What occurred as a result of the storm?

Channel has been blocked by debris jams and clogged with scattered debris.

What damage will occur if no action taken?

Debris jams will fail. The resulting surges of water and debris mobilized by the high flows will damage downstream irrigation systems and road crossings.

What alternatives for protection were considered?

No action, streambank stabilization, revegetation, bridge and road stabilization, debris removal.

What alternative was selected and why?

Removal of debris jams and excessive scattered debris.

What conservation practice standard was used to establish design criteria?

Practices and costs are based on the types of work approved and accomplished in 1983.

Description of work.

Remove 2 debris jams and scattered debris along 1.8 miles of channel.

EMERGENCY WATERSHED PROTECTION ENVIRONMENTAL ASSESSEMENT AND RATIONALE OF ECONOMIC DEFENSIBILITY WORKSHEET

Applicant Manti-LaSal National Forest

HSR No. Channel Reach Es 1, 2, and 3

Channel Canal Canyon Scope of Work: Remove debris from the channel

Date July 26, 1984

Assessment Team Ed Schoppe, Carl Anderson, Jeff Lucero, Holger Theobalt, G. Dennis Kelly, Irene Lemley

Ι. Environmental Assessment:

Environmental Factors	EFFECT with	out action	EFFECT with action		
	Short Term	Long Term	Short Term	Long Term	
Economic Impact		[{	l 1 .		
Prime and Unique Familand		<u>-</u>	· · · ·	<u>+</u>	
Change in Land Has		0	0	0	
Change in Land Use		0	0	0	
Erosion		-	\ + }	↓ +	
Sedimentation	-	<u> </u>	<u> +</u>	<u> +</u>	
Effect on Soil			<u> +</u>	!t	
Vegetative Alteration	0	0	0	0	
Change in Air Quality	0	0	1 0	0	
rd Plains	-	-	+	+	
ands	0	0	0	1 0	
Stream Channel	-	- 1	+	+	
Water Quality	-	-	+	+	
Water Quantity	0	0	0	0	
Watertable Alteration	0	0	0	0	
Fish Habitat	0	0	0	1 0	
Wildlife Habitat	0	0	0	1 0	
Threatened/Rare or Endangered			1	T	
Plants or Animals	i o	0	0	0	
Archaelogical or Historical Sites	0	0	0	1 0	
Appearance of Landscape	0	0	0	0	
Other:		1	T	T	
	1	1	1	1	

1/ Code Items: + Beneficial Effect, 0 no Effect, - Adverse Effect, N/A not Applicable

Short Term - Consider this to be this year. Long Term - Consider this to be future years.

Address all negative effects for both with and without action and make concluding statement as to which action is most environmentally sound: No action will allow

debris to damage bridges and irrigation systems. Debris will cause excessive erosion of stream channel and banks increasing the sediment load to water users. Action will reduce damages from debris and sediment loads

Action will delay pool formation necessary for fish habitats.

Affects on downstream water rights and water users: Action will reduce channel and bank erosion and resulting sediment impacts to irrigation systems.

Degree of Public Interest: <u>Interest is high.</u>
Potential Controversy: <u>Lack of understanding of the benefits of this project may cause comment.</u>
Setting, Urban or Rural: <u>Rural</u>
Social Impacts: <u>Reduces the threat of damage to facilities, provides employment in an area</u>
of high unemployment.
Other:

II. Rational of Economic Defensibility (Price Base 1983)

A. Property Protected (Private):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
Irrigation System	\$ 50,000	\$ 50,000	1.0	\$ 50,000
	\$	\$		\$ \$
	č	ç		·
	ç	ç		· · · · · · · · · · · · · · · · · · ·
	•	4		•

*Probibility of accurance to cause damage value shown Annual event causes damage = 1.0 Two year event causes damage = 0.5 Three year event causes damage = .33 Four year event causes damage = .25 Five year event cuases damage = .20

B. Properties Protected (Public):

Properties	Values \$	Damage \$	Factor*	Near Term Damage
3 Forest Road Crossings	\$ 90,000	\$ 90,000	1.0	\$ 90,000
	\$	\$		\$
	·	s		\$
	·	·		š
	J	*		

C. Business Losses:

Properties	Values \$	Damage S	<u>Factor*</u>	Damage
	\$	S		\$
	;	·		<u>s</u>
	·	ç		s
	·	·		\$
	•	*		
TOTAL	\$ 140,000	\$ 140,000		\$ <u>140,000</u>

Near Term

III. Summary

A. Present value of near term damages to be sustained:

\$ 140,000

B. Estimated cost of emergency work: \$ 6,450

C. Conclusion of environmental assessment: Action will reduce the near term impacts from debris and sediment loads. Benefits outweigh the impacts to an already destroyed fishery.

D. Proposed work qualifies EWP criteria (Yes or No) Yes

IV. Recommendation

A. Emergency work is enconomical, environmentally, and administratively justifiable and approval is recommende.

I. Dennis Helly	July 26, 1984
G. Dennis Kelly, Team Leader	Date

B. Emergency work is not justified and is disapproved.

Team Leader

Date

C. Emergency is not justified with data available to team. Emergency work has the following unevaluated benefits not included in the damage analysis.

Beneficial Affects:

Adverse Affects:

Based on unevaluated benefits, I recommend the project be (approved/disapproved).

Team Leader

Date

			Remove From 1	Obstructi The Stream	on	Vege	tation	Stre Stabi	ambank lization	Road an Stabil	nd Bridge Lization	
	Incident	De	bris Jams	Channel	Clearing	Revego Riparia	etation an Areas	Bank R and Rev	eshaping egetation	Ripra	apping	
No.	Name	#	Cost	Miles	Cost	Hiles	Cost	Feet	Cost	Feet	Cost	Total Cost
1	West San Pitch b^{-1}	6	\$ 21,500	6.4	\$ 16,800	4.2	\$12,600	4,850	\$16,912	700	\$ 42,000	\$109,812
3	Lake Fork 9 3	9	 \$ 41,750	3.6	\$ 7,700	11.6	 \$35,400					\$ 84,850
4	Thistle Creek D.1	19	\$ 90,200	10.9	\$ 35,500	3.7	\$ 4,700	500	\$ 2,000	125	\$ 7,500	\$139,900
6	Fairview Canyon 0 ⁻¹ Price River 0 ⁻³	6	\$ 11,000	0.4	\$ 13,950	1.7	\$ 5,100			150	\$ 9,000	\$ 24,950 \$ 16,100
7	Monument Peak 0 3	6	\$ 12,750	0.9	\$ 2,075	0.5	\$ 1,500					\$ 16,325
8	Huntington Creek	7	\$ 17,000	0.7	\$ 1,350	0.8	\$ 2,400				30,30	\$ 57,050
9	Scad Valley D. L											
10	Joes Valley D^{-2}	6	\$ 8,000	0.8	\$ 3,600							\$ 11,600
11	Ferron Canyon \hat{p}	3	\$ 7,500	2.0	\$ 5,000					300	\$ 18,000	\$ 30,500
12	Muddy Creek p^{-2}											
13	Twelve Mile Creek	51	\$125,500	9.7	\$ 34,600	1.6	\$ 5,000	800	\$ 2,000	650	\$ 39,000	\$206,100
14	Six Mile Creek 0-1	2	\$ 1,500	1.8	\$ 5,000							
15	Manti Canyon 🖉 🤺	2	\$ 3,250	1.4	\$ 2,100							\$ 5,350
16	Ephraim Canyon j											
17	Knob Mountain			3.5	\$ 9,350							\$ 9,350
18	Hoab 0-4											
19	Pleasant Greek JJ											
20	San Pitch Canyon)											
21	Canal Canyon β^{-1}	2	\$ 3,250	1.8	\$ 3,200							\$ 6,450
	TOTALS	119	\$343,200	50.7	\$142,225	24.1	\$66,700	6,150	\$20,912	1,925	\$151,800	\$724,837

TABLE 7 - Planned Distribution of 403 Funds by Incident and Work Type

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TABLE 8 - Priorities for Funding

			Incident	
<u>Priority</u>	Treatment	<u>No.</u>	Name	403 Funds
1	Riprapping and channel modification to protect	1	West San Pitch	\$ 42,000
	the Chicken Creek Camp-			
	ground.			
2	Debris Clearing	1	West San Pitch	\$ 38,300
3	Debris Clearing	13	Twelve Mile Cyn.	\$160,100
4	Debris Clearing	5	Fairview Canyon	\$ 24,950
5	Debris Clearing	15	Manti Canyon	\$ 5,350
6	Debris Clearing	17	Knob Mountain	\$ 9,350
7	Debris Clearing	8	Huntington Cyn.	\$ 18,350
		7	Monument Peak	\$ 14,825
8	Debris Clearing and	11	Ferron Canyon	\$ 30,500
	Riprapping			
9	Channel Clearing	10	Joes Valley	\$ 11,600
10	Streambank Stabilization	1	West San Pitch	\$ 29,512
	and Riparian Vegetation			
11	Channel Clearing	4	Thistle Creek	\$125,700
12	Other Riprapping	4	Thistle Creek	\$7,500
		6	Price River	\$ 9,000
		8	Huntington Cyn.	\$ 36,300
13	Streambank Reshaping and Revegetation	4	Thistle Creek	\$ 2,000
14	Revegetation of Re-	3	Lake Fork	\$ 35,400
	maining Riparian Areas	4	Thistle Creek	\$ 4,700
		6	Price River	\$ 5,100
		7	Monument Peak	\$ 1,500
		8	Huntington Creek	\$ 2,400
		13	Twelve Mile Cyn.	\$ 5,000
15	Remaining Debris	3	Lake Fork	\$ 49,450
	Clearing	21	Canal Canyon	\$ 6,450
		14	Six Mile Canyon	\$ 6,500
		6	Price River	\$ 2,000
16	Riprapping	13	Twelve Mile Cyn.	\$ 39,000
17	Bank Reshaping	13	Twelve Mile Cyn.	\$ 2,000
	and Revegetation			
	TOTAL			\$724,837

\$724,837

VIII. CONCLUSION

Major areas on the Manti-LaSal National Forest have received severe damage from landslides, mudflows, and abnormally high flood waters during the spring and summer of 1984. The impaired watershed should be repaired or ameliorated immediately before thunderstorms and spring snowmelt can mobilize a destructive flood force on the impaired watershed. To assist in relieving this eminent hazard, \$724,837 is requested for the Manti-LaSal National Forest under Section 403 for Emergency Watershed Protection.