Date of Report: 07/27/2020

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds

☐ 2. No Treatment Recommendation

B. Type of Action

☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

☐ 2. Interim Request #___

☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Turkey Farm Road

B. Fire Number: UT-SWS-000431

C. State: UT

D. County: Washington

E. Region: 04

F. Forest: 07

G. District: 01

H. Fire Incident Job Code: PNM9N7

I. Date Fire Started: 07/13/2020

J. Date Fire Contained: 07/20/2020

K. Suppression Cost:1.7

L. Fire Suppression Damages Repaired with Suppression Funds (estimates):

1. **Fireline repaired (miles):**
2. **Other (identify):**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
150100080806	Halfway Wash	13,073	1,927	15
150100080809	Cove Wash Santa Clara River	16,675	471	3
150100080808	Mill Creek	14,828	5,964	40
150100080910	Middleton Wash-Virgin River	31,787	3,633	11

N. Total Acres Burned:11,995

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1,916
OTHER FEDERAL (LIST AGENCY AND ACRES)	BLM Public Domain – 5,238 BLM Wilderness – 2,327
STATE	2,370
PRIVATE	144
TOTAL	11,995

O. Vegetation Types (on NFS lands):

Vegetation Type	Low	Moderate	Unburned
Annual Herbaceous	658		52
Desert Shrubland	24	9	19
Interior Chaparral	4	2	3
Pinyon-Juniper	737	82	385

P. Dominant Soils (on NFS lands:

SMU	Soil Name	Surface Texture	Ecological Site	Dominant Vegetation
57	Rock outcrop			
	Rizno	Loam	47XC326UT	Pinyon-Juniper
	Worf	gravelly Loam	47XB326UT	Pinyon-Juniper
VPD	Veyo	cobbly Sandy Loam	29XY220UT	Utah Juniper, Blackbrush
	Pastura	gravelly Loam	29XY220UT	Utah Juniper, Blackbrush

Q. **Geologic Types:** Soils were formed primarily in place from residual basalt which is still present in the form of rock outcrops. Some alluvial parent material from the Pine Valley Mountains is also influenced soil formation to some extent and includes sandstone, monzonite and other similar geological features.

R. Miles of Stream Channels by Order or Class (on NFS lands):

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERRENIAL	0
INTERMITTENT	0
EPHEMERAL	6
OTHER (DEFINE)	

S. **Transportation System (on NFS lands):**
Trails: *National Forest (miles):* 0
Roads: *National Forest (miles):* 8.6 (level 2 or Admin roads)

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned	425	751	161	40	1377	11
Low	1400	3683	1597	48	6728	56
Moderate	91	3132	612	55	3890	32
High	0	0	0	0	0	0
Total						

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating: N/A

D. Erosion Potential: N/A

E. Sediment Potential: N/A

F. Estimated Vegetative Recovery Period (years): 1

G. Estimated Hydrologic Response (brief description): Much of this fire on NFS lands burned over previous fire scars that were consequently vegetated with cheat grass at the time of this fire. Therefore, increased overland flow is unlikely to increase substantially for two reasons. 1 – Most of the moderate soil burn severity (according to the BARC data) was on the previous fire scars. Based on field sampling of soil burn severity in moderate burn locations (moderate according to the BARC data) in these previous fire scars on NFS lands the BARC map was overestimating moderate soil burn severity; samples showed that it was actually low. This is because the BARC data mapped all of the old fire scar areas that were full of cheat grass as moderate burn, but cheat grass burns really fast and short duration and consequently the top of the soils still had intact roots and unburned vegetative material (and sadly, unburned cheat grass seeds). The relatively few remaining moderate soil burn severity sites were in juniper and field samples did show them as moderate. The other juniper dominated sites that were mapped as low were field verified as being low soil burn severity. At over 90% of all the sites tested hydrophobicity was non-existent and the 1 site that had some (which was under where a juniper tree had burned) was very low (took ~ 8 seconds to infiltrate). 2- Most of the soils in the drainages are on gentle sloping hillslopes where more than half of the soil surface is covered in rock. With regards to runoff, this low burn severity landscape with a high portion of rock will act similar as before the fire, especially since there is still some intact roots and unburned organic material in the space between rock that can break up the flow and allow for infiltration in a similar matter as before the fire.

Example of low soil burn severity site that was moderate according to the BARC data.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Turkey Farm Road Fire was human caused and was discovered on July 13, 2020. The fire burned most of its acres within the first few days and by July 20, 2020 was considered fully contained. Much of the fuel that carried this fire was cheat grass in previous fire scars and consequntly the rapid burn led to most of the fire scar being low soil burn severity. Original BARC data suggested that 24% of the fire scar on NFS lands was moderate soil burn severity but field sampling showed that the BARC data overestimated soil burn severity in most of the moderate locations (see hyrologic response section above) and that only 5% of the fire scar on NFS lands was moderate soil burn severity.

A. Describe Critical Values/Resources and Threats (narrative):

Table 5: Critical Value Matrix

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**
Likely	**Very High**	**High**	**Low**
Possible	**High**	**Intermediate**	**Low**
Unlikely	**Intermediate**	**Low**	**Very Low**

1. **Human Life and Safety (HLS):** Low
2. **Property (P):**Roads – Low: Gentle sloping landscape with low soil burn severity is leading to an unlikely probability of damage or loss with moderate consequences.
3. **Natural Resources (NR):**Water and Soil Productivity – Low :see estimated hydrologic response section above.
4. **Cultural and Heritage Resources:**Prehistoric Site (Virgin Anasazi habitation and rock art site 42WS1245) – Very High: 18 previously identified archaeological sites are found within the fire perimeter. Loss of vegetation has exposed the site/artifacts and there is the potential for

looting/vandalism through illegal collection and disturbance. The site is currently eligible for the National Register of Historic Places and impacts from looting could impact the integrity of the site and compromise the characteristics that make the site eligible. A now exposed, flat area adjacent to the Turkey Farm Road makes it likely vehicles will pull off-road and park or camp, leading to direct impacts from vehicles and increased pedestrian traffic across the site.

B. Emergency Treatment Objectives: To protect and preserve significant archaeological sites found within the Turkey Farm Road Fire burn scar.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land:
Channel:
Roads/Trails:
Protection/Safety(for Cultural Resources): 90%

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land			
Channel			
Roads/Trails			
Protection/Safety (for Cultural Resources)	80		

E. Cost of No-Action (Including Loss): NA

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☒ Engineering ☒ GIS ☒ Archaeology
☐ Weeds ☐ Recreation ☐ Fisheries ☐ Wildlife
☐ Other:

Team Leader: Brooke Shakespeare
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Forest BAER Coordinator: Brooke Shakespeare
Email: brooke.shakespeare@usda.gov **Phone(s):** 435-690-9277

Team Members: *Table 7: BAER Team Members by Skill*

Skill	**Team Member Name**
Team Lead(s)	Brooke Shakespeare
Soils	Vaughn Thacker
Hydrology	Brooke Shakespeare
Engineering	Adam Howes
GIS	Laurie Parry
Archaeology	Laurel Glidden
Weeds	
Recreation	
Other	

H. Treatment Narrative:

Land Treatments:

Channel Treatments:

Roads and Trail Treatments:

Protection/Safety Treatments (for Cultural Resources): Recommended mitigation for risk includes installing barriers (boulders) along the Turkey Farm Road along a roughly 250’ long corridor where vehicles are likely to pull off-road and either park or camp.

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

			NFS Lands			Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Cultural Resources Protecti	Site Prote	12,535	1	$12,535	$0		$0		$0	$12,535
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$12,535	$0		$0		$0	$12,535
E. BAER Evaluation										
Initial Assessment	Report	$3,974	1	$3,974	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				—	$0		$0		$0	$0
Subtotal Evaluation				$3,974	$0		$0		$0	$0
F. Monitoring										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$16,509	$0		**$0**		**$0**	**$12,535**
Previously approved										
Total for this request				**$16,509**						

PART VII - APPROVALS

1. _____ 7/27/20
Forest Supervisor Date