Edited J.BrugginkJuly 25,2007
Interim 1 Additions – August 24 2007

Date of Report: July 18, 2007

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[**X**] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

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

[X] 2. **Interim Report # 1 .**
[**X**] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Neola North**

B. Fire Number: **UT-UOA-060**

C. State: **Utah**

D. County: **Duchesne and Uintah**

E. Region: **4**

F. Forest: **Ashley**

G. District: **Roosevelt and Vernal**

H. Fire Incident Job Code: **PADK9Z**

I. Date Fire Started: **June 29, 2007**

J. Date Fire Contained: **89% Contained**

K. Suppression Cost: **$8,000,000**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **2.5 miles of Catline on National Forest System Lands**
2. Fireline seeded (miles): **None to date**.
3. Other (identify): **None to date.**

M. Watershed Number: HUC 6 watersheds within the Burned area include 140600031103, 140600031104, 140600031204, 140600031401, 140600031402, and the ever so alluring, yet approachable 140600031403.

N. Total Acres Burned: 43,830
[20,377] NFS Acres **[22,377]** Other Federal **[0]** State **[1,267]** Private

O. Vegetation Types: Sagebrush, Pinon/Juniper, Aspen, Lodgepole Pine, Mixed Conifer

P. Dominant Soils: The dominant surface texture is an extremely stony sandy loam. Sandy-skeletal or loamy skeletal soils are also present, and are alluvial in origin.

Q. Geologic Types: Rock types inlcude sandstone, conglomerate, and quartzite of the Uinta Mountain Geologic Group. Landforms are glacially scoured, with outwash and till deposits.

R. Miles of Stream Channels by Order or Class: Stream Class I = 8.6 miles, Stream Class II = 52.5 miles, Unknown = 1.16 miles.

S. Transportation System Trails: **2.5 miles** Roads**: 23 miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **10,821** (low) **3,471** (moderate) **1653** (high)
NOTE: There were **4,431** acres classified unburned to very low.

B. Water-Repellent Soil (acres): **2,728** (60% of High + 50% of Moderate)

C. Soil Erosion Hazard Rating (acres): **6378** (low) **6378** (moderate) **3189** (high)

D. Erosion Potential: **6.3 – 9.0** (ERMiT) tons/acre

E. Sediment Potential: **2637 - 3767** cubic yards / square mile
Assumption: 60% of sediment displaced actually reaches channels.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): **3**

B. Design Chance of Success, (percent): **73**
NOTE: This is the probability that the 10 year storm will not occur in the next 3 years. There is a 27% chance that the 10 year storm will occur. The assumption is that treatments will be successful for storms less than the 10 year storm magnitude.

C. Equivalent Design Recurrence Interval, (years): **10**

D. Design Storm Duration, (hours): **0.5**
NOTE: The most damaging type of storms expected in this area are short duration, high intensity thunderstorms.

E. Design Storm Magnitude, (inches): **0.89**

F. Design Flow, (cubic feet / second/ square mile): **4.0**

G. Estimated Reduction in Infiltration, (percent): **17**

H. Adjusted Design Flow, (cfs per square mile): **10.0**

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Threats to Human Life, Property, and Safety – Values at risk related to human development inlcude residences, farmlands, irrigation systems, roads, trails, and cultural sites. The associated threats were evaluated in the following assessments, along with threats to natural resources. For more detailed information, see the Neola North Fire Burned Area Emergency Stabilization Plan, created by the National Interagency BAER Team.

Aug 24, 2007. A series of summer thundershowers have produced post-fire runoff across the burned area. In many cases, the resulting sedimentation has overwhelmed culverts and flows are beginning to erode the road surface. The route most at risk, is a major forest access route (forest road 117 – Pole Creek loop). This is an emergency situation created by post-fire runoff and according to our engineering staff, the road infrastructure could be completely lost in places if we don't properly upgrade culverts and restore proper drainage. A new treatment specification (#12 culvert replacement) has been developed to address this situation.

Watershed - The purpose of the watershed burned area assessment was to determine if the fire caused emergency watershed conditions and if there were values at risk from these conditions. The Interagency BAER Team hydrologists and soil scientists conducted aerial reconnaissance flights and field visits to review resource conditions after the fire. The main objectives of the field visits were to 1) evaluate soil burn severity and watershed response in order to identify potential flood and erosion source areas; 2) identify and inventory values at risk, 3) identify the physical and biological mechanisms that are creating risks; 4) review channel morphology and riparian conditions; 5) inspect hillslope conditions; and 6) determine needs for emergency stabilization.

The soil burn severity was primarily low or unburned (81%) with some areas of moderate (15%) and high (4%). While fire intensity varied throughout the burn area, the rapid rate of fire spread through herbaceous, shrub, and pinyon-juniper areas produced short fire residence times. Herbaceous, shrub, and pinyon-juniper plant material was for the most part consumed, but litter and duff were not completely consumed. Soil organic matter and fine plant roots were not consumed.

Values at risk included residential structures along Farm Creek, roads, irrigation ditches, culinary water systems, hydro-electric plant, youth camp, cemeteries, and the Pole Creek Sink. The watershed assessment determined that roads and irrigation ditches within and downstream of the burned area are at moderate risk from post-fire flows eroding roads and ditches or sediment, rock, and vegetative debris being deposited on the roadways and in ditches. There is a risk to public safety on roadways from flooding during storm events and rock fall. The residential structures along Farm Creek are at moderate risk of minor flooding during large storm events. It was determined that the culinary water systems, hydro-electric plant, youth camp, cemeteries, and Pole Creek Sink were not at risk from post-fire flooding, erosion, or sedimentation.

Vegetation -The purpose of the vegetation assessment was to determine if lands burned directly by the wildland fire are likely to recover naturally from severe fire damage or if emergency stabilization treatments are required to ensure that vegetation recovery will emulate historic or pre-fire ecosystem structure, function, diversity, and dynamics. This vegetation assessment includes the development of strategic treatments to deter the establishment and spread of noxious and invasive species within the burned area. The assessment will also

include management recommendations combined with treatments for the protection of recovering burned areas to benefit soil stabilization.

Vegetation mortality was determined to be 74% High, 11% moderate, 7% low and 11 % percent low to un-burned on Tribal lands. There were 7472 acres of Pinyon-Juniper on tribal lands that had high vegetation mortality. Vegetation mortality on USFS lands was 25 % high, 14% moderate, 15 % low and 46% low or un-burned. This is due to over 5000 acres of Aspen dominated communities that were fairly resistant to fire damage. There were over 26 Plant associations that were grouped into grassland, shrub, sagebrush, riparian, mountain shrub, and Forests including mixed-conifer, aspen, lodgepole pine, and spruce-fir .

No threatened and endangered plant species were impacted by the fire.

Noxious and invasive non-native plant species are known to occur within and adjoining the burned area and are expected to expand their distribution in the southern to middle portions of the fire primarily below 7200 feet in elevation.

The overall strategy of vegetation treatments is to prevent the establishment of cheatgrass, change the frequent fire regime dominated by these annual species, and ensure the recovery of native plant communities.

Aerial seeding of 1977 acres-USFS, 3366 acres-BIA is proposed with a common seed mix in Pinyon-Juniper communities that had high canopy cover and vegetation mortality. Aerial seeding of 1538 acres will also be seeded in the southwest portion of the fire near the origin after herbicide application to prevent cheatgrass germination. Non-Native weed control is also proposed on 292 acres of tribal land and 169 acres of USFS. Tree hazard mitigation will occur on 280 trees within the Ashley National Forest. To protect the seeding investment 22 miles of protective fence is to be constructed or repaired. Finally the monitoring of treatment effectiveness is proposed to determine success of treatments and recovery of native vegetation recovery on the treatments proposed.

Wildlife – The federally listed threatened species, Canada lynx (*Lynx canadensis*) has habitat that occurs within the fire area. The Ashley National Forest is currently considered "unoccupied" for Canada lynx. Potential, but marginal, habitat for one candidate species, the Yellow-billed Cuckoo (*Coccyzus americanus*), may also occur in the area. However, to date, there have been no documented sightings or other evidence that they occur within the fire perimeter or on the Forest. Populations of Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*) are endemic to the Colorado River Basin of southwestern United States and are federally listed as endangered. These fish species do not occur within the Ashley National Forest or on Bureau of Indian Affairs lands within the fire area. Water from the drainages in the fire area provides habitat for these fish in larger downstream rivers. Portions of the area serve as wintering habitat for the Bald Eagle (delisting to occur August 8, 2007; Federal Register / Vol. 72, No. 130 / Monday, July 9, 2007 / Rules and Regulations/ page 37346).

The Canada Lynx and Yellow-billed Cuckoo were not affected by the fire or suppression activities, or by proposed emergency stabilization practices. Approximately 5000 acres of lynx habitat was burned as was a portion of the potential cuckoo habitat and bald eagle wintering habitat along the riparian area of the Uinta River. Emergency stabilization practices will have no negative effect on these species.

Water used during fire suppression activities (approximately 3.8 acre-feet) came from tributaries to the Colorado River. This action may effect and is likely to adversely affect the endangered Colorado River fishes and their habitat. The fire itself and emergency stabilization practices have had, or will have, no effect on these species.

Other special emphasis species include Northern goshawk, elk, mule deer, moose, Rocky Mountain bighorn sheep and mountain goat. The following acreages of 'critical' habitat for the big game species, as designated by the Utah Division of Wildlife Resources, were burned: Elk - 12,471; Mule Deer - 25,773; Moose - 27,520; Bighorn Sheep - 2,135; Mountain Goat - 6,404. Short term loss of forage for these species will cause the animals to focus on unburned areas within the fire and to shift to areas outside the fire perimeter. Inter and intra-species competition for available habitat may increase until grasses, forbs and shrubs grow. The only active goshawk nest within the fire perimeter was not burned.

Cultural Resources – The Neola North Cultural Resources Assessment addresses damages to known cultural resources as the result of fire effects, potential risks from post fire effects such as flooding, erosion, and looting/vandalism, and risks posed by emergency stabilization treatments designed to protect other values at risk. A field reconnaissance of the fire in addition to results from record searches at the Ashley National Forest SO, the Ute Indian Tribe Cultural Rights and Protection Office, and the Utah SHPO revealed that known site density is relatively low within the fire boundary. However, it should be cautioned that much of the area has not been inventoried for cultural resources. Nevertheless, the Ute Indian Tribe identified large areas of high cultural sensitivity within the burn. It was observed that two cemeteries within the burn sustained light damage. High wind events were observed in areas that have been denuded. Cultural resources in such locations may be susceptible to both erosional and depositional processes.

Findings that led from these observations are: 1) Elkhorn Guard Station on the Forest sustained no fire damage, however, a historic bridge that has collapsed into Farm Creek may pose risks to other values and is recommended by the watershed specialists to be removed. 2) One additional treatment proposed to address vegetation concerns may have the potential to affect Historic Properties. 3) A historic canal and associated features was not affected by the fire and is not at risk from post-fire effects. However, the water diversion structure at the head of the canal has been vandalized by graffiti. 4) One prehistoric site has been burned over and is exposed. It may be subject to erosion or possible looting activities. 5) One of the two cemeteries was at risk from tree hazards. These hazard trees were removed by a fire crew during preparation of this plan and no additional risks remain. To address these findings, specifications were developed to: 1) Address cultural resources treatment clearance for compliance with Section 106, 2) Discourage looting and vandalism of cultural resources through Law enforcement-Surveillance, and 3) Engage the Ute Indian Tribe on cultural resource concerns through Tribal consultation.

B. Emergency Treatment Objectives:
The primary objectives of the Neola North Fire Burned Area Emergency Response Plan are:

Human Life, Property and Safety:

- To prescribe post-fire mitigation measures necessary to protect human life and property.
- To protect road and trail infrastructure from post fire flooding.

Soil/Water Stabilization

- To promptly stabilize and prevent further degradation to affected watersheds and soils.

Threatened & Endangered Species Habitat Stabilization
- To prevent permanent impairment of T& E species habitat.

Critical Heritage Resources
- To stabilize and prevent damage to known critical heritage resources

Invasive Plants
- To deter the establishment and spread of noxious and invasive species

Monitoring
- To monitor treatment effectiveness to determine if additional or amended treatments are required.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land **90%** Channel **90%** Roads/Trails **90%** Protection/Safety **90%**

D. Probability of Treatment Success

	Years after Treatment		
	1	**3**	**5**
Land (specs 3, 4)	80	85	90
Channel - Bridge Removal (specs 6, 7, 9)	80	85	90
Roads/Trails (specs 5,11)	90	90	90
Protection/Safety (spec 8, 10)	90	90	90

E. Cost of No-Action (Including Loss): $6,464,000 – see summary table for items E and F

F. Cost of Selected Alternative (Including Loss): $1,865,365 - see summary table for items E and F.

Summary Table For Items E and F. For more details, see attachment 1, cost-risk worksheets.

Cost of No Action	**Cost of Selected Alternative**

Land Treatments Specs 3, 4	$3,300,000	$1,407,871
Channel (Bridge Removal). Specs 6, 7, 9	$102,000	$45,577
Roads/Trails Specs 5,11	$60,000	$30,357
Protection/Safety Specs 8,10	$3,012,000	$381,560
TOTALS	$6,474,000	$1,865,365

G. Skills Represented on Burned-Area Survey Team:

[**X**] Hydrology	[**X**] Soils	[ ] Geology	[**X**] Range
[**X**] Forestry	[**X**] Wildlife	[ ] Fire Mgmt.	[**X**] Engineering
[ ] Contracting	[ ] Ecology	[ ] Botany	[**X**] Archaeology
[**X**] Fisheries	[ ] Research	[ ] Landscape Arch	[**X**] GIS

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H. Treatment Narrative:
The following treatments have been proposed the the National Interagency BAER Team. For more details, see the specification sheets in the Neola North Fire Burned Area Emergency Stabilization Plan. The specification numbering in the Emergency Stabilization Plan is used here to maintain consistency between reports. These treatments are only for National Forest System Lands on the Ashley National Forest.

ADD INFRASTRUCTURE

Land Treatments: Specifications 3 and 4.

#3). Pinyon-Juniper Aerial Seeding.

3A. General Description: The Neola North Fire burned with low, moderate to high severity throughout the treatment area. The BAER Team vegetation group, in consultation with the range, forestry and natural resource staff of the Uintah and Ouray Agency and Tribe, ecologists and hydrologists with US Forest Service, Ashley National Forest determined that the fire may have negatively impacted woodland plant communities and increased the potential for erosion, loss of ecological integrity through the invasion of non-native species, and the spread of known populations of noxious weeds. Ecological sites within this fire have been analyzed and prioritized for treatment to prevent site degradation, maintain ecological stability, and prevent the spread of non-native, invasive weeds on sites that cannot be seeded by ground seeding methods. The estimated 1977 acres of seeding will utilize species that are adapted to the sites. First year effectiveness includes stabilization of ash on site, reducing topsoil loss, improving soil infiltration of precipitation, providing competition for invasive non-native species and replacing any organic litter which was consumed by fire. First season vegetation establishment will be by

perennial native and non-native grasses, shrubs and forbs. This seeding will be accomplished by aerial application of seed by fixed or rotor wing aircraft ahead of or concurrent with fall or winter moisture. Literature, research, and personal knowledge of team members has shown success with this timing and application method. It is expected that vegetation establishment will be successful on all sites although the presence or absence of timely moisture could be a limiting factor. Two introduced species of grasses are recommended to be used with native grass species to limit the expansion of cheat grass into the burned area. The introduced species have been shown to have success at competing with cheat grass in similar ecological types. The species that are being used are compliant with forest plan direction for desired vegetative conditions. The forbs in the seed mix will be supplied by the UT Division of Wildlife Resources and/or other program funds. These species are to be used to meet non-BAER emergency objectives.

3B. Location/(Suitable) Sites: On selected polygons selected by BAER Team and USFS Ecologist of heavily burned Pinyon-Juniper Stands where pre-fire canopy closure was. These burned areas are susceptible to invasion by non-native invasive species. See the Vegetation Treatments Map, Appendix IV for exact locations of proposed aerial seeding. Site preparation will include:

a. Seed mixtures as identified for each treatment area
b. Seeding areas have been pre-identified for treatment
c. Appropriate clearances (NEPA and Archeological) are obtained
d. Equipment is calibrated to project specifications established and administered by USFS or Implementation leader.
e. Seed to be applied at specified rates using rotor or fixed wing aircraft
f. Monitoring will be conducted on seed application rates, treatment sites, and contact compliance during seeding operations

3C. Design/Construction Specifications:

1. Seed should be applied ahead of or concurrent with fall or winter moisture to assist in germination of the seed mixture.

2. The desired seed application rate for the species seed mix in the 1977 acres proposed for aerial seeding in the sagebrush or PJ dominated plant communities type is 12 bulk pounds per acre or 55 seeds/square foot. This is enough seed to insure the establishment of 2.5 perennial plants per square meter or 8 plants per square foot.

3. Seed mixture: All seed shall meet minimum Agency standards for purity, germination and inert material. Seed vendor must provide written certification that the seed quality has been tested within the past 120 days and contains no noxious weed or annual grass species. Seed samples should be sent to the State seed lab, Utah Department of Agriculture, www.ag.state.ut.us, or suggested vendor for testing. The following seed is specified for use on this project:

Seed Mix for Neola North Fire PJ Mix-USFS			
Common Name	Scientific Name	lbs/ac	Total Bulk LBS
Grasses			
Snake River wheatgrass	*Elymus waiwaiensis*	1.5	2966
Secar' Variety			
Bluebunch Wheatgrass	*Pseudoroegneria spicata*	1.5	2966
Anatone'			
Great Basin Wildrye	*Leymus cinereus*	1.5	2966
Trailhead'			

Crested Wheatgrass	*Agropyron crisatum*	3	5931
Douglas or Hycrest'			
Orchardgrass	*Dactylis glomerata*	0.5	989
Paiute'			
Sanberg Bluegrass	*Poa Secunda var.canbyi*	0.25	495
Candby'			
Forbs supplied by UT DWR or other program funds			
Blue Flax	*Linum lewisii*	0.5	989
Apar'			
Small Burnett	*Sanguisorba minor*	2	3954
Delar'			
Alfalfa-Ladak variety	*Medicago sativa*	1.5	2966
Total		12.25	24222

4. The application will be conducted by OAS-carded rotor aircraft or fixed-wing, under the terms of an "end service contract". The Contractor must be licensed and bonded, and the performance bond shall not be less than 20% of the contract price. The contractor is responsible for materials necessary to complete the project (other than seed), equipment, personnel, seed handling (loading/unloading) and transportation. If seed is stored prior to application, it must be protected from moisture, stored under dry conditions and be protected from rodents. If possible, and if seed treatment is required, it is recommended that seed be applied directly from the delivery trailer or truck and not stored. The flight paths will be recorded by GPS technology, and the contractor shall provide ARCVIEW GIS in NAD 83, Zone 12 with associated metadata shape file electronic data records of these application paths to the local agency for records archival and project compliance purposes. Calculations are based on aerial application on approximately 1,000 acres per day.

3D. Purpose of Treatment Specifications: Seeding to prevent establishment of invasive plants, and direct treatment of invasive plants. Immediate seeding action is required before fall/winter moisture following fire in order to prevent the establishment of invasive plants.

3E. Treatment Effectiveness Monitoring Proposed: A separate specification, Specification # 2 for re-vegetation monitoring effectiveness has been prepared. Establishment of both seeded and natural re-vegetation will be monitored according to the strategy outlined in the specification. Re-vegetation will be considered to be successful upon establishment of 2.5 plants per square meter on suitable sites identified in the monitoring specifications.

#4). Non-native Invasive weed control.

4A. General Description: Control known exotic noxious and invasive weed infestations within the Neola North Fire perimeter. Utilize integrated pest management techniques (herbicides, mechanical, biological) as appropriate to prevent the spread and establishment of weeds within the fire area.

4B. Location/(Suitable) Sites: Known exotic weed populations in the proximity of the fire area, occurring primarily along road systems and within previously disturbed areas. Refer to the Appendix IV, Treatments Map for invasive weed locations.

4C. Design/Construction Specifications: Treatments will be implemented in accordance with the following:

1. Locate known infestation areas on National Forest lands (for cost purposes each known location is estimated at 1 acre, actual sizes may vary considerably).

2. Immediately survey additional areas where weeds are likely to occur, primarily disturbed areas in the proximity of the fire area that are subject to vehicular traffic including roadsides, associated dozer line segments, safety zones, drop points and helispots (for cost purposes roadside treatments are estimated to extend 10 feet from the road edge, dozer lines extend ¼ mile from road intersections, and safety zones, drop points and helispots are estimated to average 1 acre in size).

3. Treat weeds using various equipment (including backpack sprayers and truck, tractor, or ATV-mounted sprayers) depending on accessibility and vehicle restrictions. All chemical storage, transportation, application and disposal will be conducted in strict accordance with manufacturer's label directions, federal regulations, and NEPA compliance documents.

4. Areas located at springs and along perennial streams where chemicals cannot be applied will be treated by hand grubbing.

5. If possible apply control treatments prior to seed-set. Any mature seed heads should be collected and bagged for disposal.

6. Record treated areas by GPS. Maintain location, species, extent of infestation, treatment method (including chemical used), and detection and treatment dates in a GIS.

7. Periodically resurvey identified sites and apply needed treatments during the spring and summer of FY 2008.

4D. Purpose of Treatment Specifications: Control of invasive/noxious weeds to minimize spread into non-infested areas of the burn. Noxious weeds cause plant community destabilization, unnatural increased fire cycles, reduction in species diversity, and overall watershed degradation.

4E. Treatment Consistent with Agency Land Management Plan: Environmental Assessment for Noxious Weed Management, Ashley National Forest, 1994. Ashley National Forest Land and Resource Management Plan, 1986, and associated Environmental Impact Statement. Ashley National Forest Fire Management Plan, 2006.

4F. Treatment Effectiveness Monitoring Proposed: Additional surveillance will be conducted for 1 year following treatment to determine treatment effectiveness and continued weed occurrence. Records will be maintained as stipulated in C6 above. Control treatments will be considered to be successful upon determination that noxious weeds have been eliminated or populations reduced substantially.

Channel Treatments: Specifications 9, 6 and 7

#9). Farm Creek Bridge Removal.

9A. General Description: The Farm Creek Bridge is a historical box culvert built in the 1950s. Immediately upstream of this box culvert is the original bridge structure across Farm Creek, which is backing up sediment and debris. During post fire flood events, the original bridge could be dislodged and plug the inlet to the box culvert. A blockage at the inlet could cause flows to erode or damage the box culvert. Damage to the box culvert could restrict or prevent access

along the road resulting in a public safety issue. When the old bridge structure is removed, the sediment plug needs to be stabilized with a line of large rocks, in place of the old structure. These rocks are intended to stabilize the sediment plug, which would prevent sediment and debris from washing into the culvert. In addition, armoring the site with large rocks should prevent a headcut from migrating upstream.

9B. Location/(Suitable) Sites: Farm Creek Bridge at the Forest Boundary.

9C. Design/Construction Specifications:

1. Obtain cultural clearance from the State and Historic Preservation Office (SHPO). Document and photograph bridge before removal.
2. Obtain a 404 Stream Alteration permit from U.S. Army Corps of Engineers. Nationwide permits 22 or 37.
3. Use heavy equipment to remove the original bridge structure and place large angular rocks to armor and stabilize the upstream sediment plug.
3. Haul material from the old bridge and the associated debris off site.

9D. Purpose of Treatment Specifications: To protect public safety and the existing historical bridge on Farm Creek from clogging and potential damage during post-fire runoff.

9E. Treatment Effectiveness Monitoring Proposed: Inspect the bridge and upstream rock placements after runoff events to determine if further treatments are needed.

#6). Native American Consultation – Farm Creek Bridge removal.

6A. General Description: Pursuant to Federal cultural resource laws, Federal Undertakings, including Emergency Stabilization that may affect significant heritage resources of religious significance or traditional cultural importance require the lead Federal agency to consult with affected tribes as equal partners. Therefore, local tribes must be consulted concerning any stabilization that may occur at, on, or near historic properties of Native American origin that are located in areas subject to emergency stabilization efforts. The Ute Indian Tribe has been identified as the most appropriate consultation party. This specification applies to the removal of the old, collapsed Farm Creek bridge.

6B. Location/(Suitable) Sites: Root, berry, and other procurement areas, traditional cultural properties and religious/sacred sites that may have been subject to fire effects and may have treatments proposed at, on, or near them. Such locations are exempt from public disclosure under the Archaeological Resources Protection Act and the National Historic Preservation Act

6C. Design/Construction Specifications:

1. Field consultation with the Director of Cultural Rights and Protection for the Ute Indian Tribe that will include a trip to areas of Tribal concern within that portion of the Neola North Fire that occurred on Ashley National Forest Lands.
2. Document results of the field consultation as part of the official record for the ES plan implementation.

6D. Purpose of Treatment Specifications (relate to damage/change caused by fire): To meet consultation requirements of Federal legislation.

6E. Treatment Effectiveness Monitoring Proposed: Field consultation will determine whether the Ute Indian Tribe has concerns about treatment locations.

#7). Cultural Resources Treatment Clearance – Farm Creek Bridge removal.

7A. General Description: Evaluate and document collapsed bridge located north of Farm Creek crossing at Elkhorn Guard Station (42UN1422) to determine if it is or is not a contributing feature to the site's National Register of Historic Places (NRHP) eligibility.

7B. Location/(Suitable) Sites: Elkhorn Guard Station (42UN1422), Ashley National Forest

7C. Design/Construction Specifications:

1. Update site form for 42UN1422 to reflect addition of this feature to site constituents.
2. Initiate consultation with the Utah State Historic Preservation Officer (SHPO) in compliance with 36CFR800 (Section 106).

a). If it is determined that the collapsed bridge does not contribute to the NRHP eligibility of site 42UN1422, and if the Utah SHPO concurs with this determination, then agency compliance with Section 106 has been met. The agency will then advise the BAER implementation leader that the Section 106 consultation process has concluded and that implementation of Specification (9), Bridge Removal, may now proceed. OR

b). If it is determined that the collapsed bridge does contribute to the NRHP eligibility of site 42UN1422, and if the Utah SHPO concurs with this determination, then develop and implement a mitigation strategy in consultation with the SHPO that will address the potential for an adverse effect to this resource and demonstrate agency compliance with Section 106. Upon successful conclusion of mitigation, and with concurrence of the Utah SHPO, advise the BAER implementation leader that the agency has fully complied with Section 106 and that implementation of Specification ( ), Bridge Removal, may now proceed.

7D. Purpose of Treatment Specifications (relate to damage/change caused by fire): To meet requirements of compliance with the National Historic Preservation Act of 1966, as amended and its implementing regulations as provided under 36 CFR Part 800.

7E. Treatment Effectiveness Monitoring Proposed: BAER Implementation leader will monitor the Section 106 consultation process and follow any terms or conditions imposed by the Utah SHPO to ensure compliance. Additionally, the BAER implementation leader will fully document all steps of the Section 106 consultation process for the official record.

Roads and Trail Treatments: Specifications 5 and 11.

#5). Post Flood road Clean up

5A. General Description: During major storm events, low-water crossings, culverts, and other sections of roadways can be expected to flood. Flood events may erode road crossings or deposit sediment and debris on the roadway, making the road impassible and unsafe for vehicle travel. This specification provides for the cleaning of sediment and debris from Forest Service roadways following major runoff events.

5B. Location/(Suitable) Sites: Low water fords, culverts, and roadways on Forest Service land, particularly Roads 289, 370, 400, 117, and Farm Creek Bridge.

5C. Design/Construction Specifications:

1. Monitor roads after major runoff events to determine if sediment and debris removal is needed.
2. Use heavy equipment to clear debris and sediment from roadways after major runoff events.
3. Deposit any removed sediment and debris out of the floodplain on high ground to prevent its transport back into channels and onto the roadway.

5D. Purpose of Treatment Specifications: Provide for safe public and administrative access on roadways following major runoff events.

5E. Treatment Effectiveness Monitoring Proposed: Inspect roadways after runoff events to determine if further treatment is needed. If road clean up is undertaken, inspect road crossings to ensure complete removal of sediment or debris from roadway and placement of debris material outside of flow path.

#11). Armored Rolling Dip

11A. General Description: The majority of the Big Bend Hollow drainage burned during the Neola North fire, with a high percentage of moderate soil burn severity on steep slopes. There is a risk of post fire flooding in this drainage, particularly at the base of the drainage where Forest Road 370 crosses the channel. An existing drainage problem exists at this site, which will be exacerbated by large post fire flood events. During spring runoff and rain events, water has been diverted down the roadway, eroding the road surface and creating a large ditch approximately 3 feet deep. In the event of a post fire flood, the flow would be diverted down the road and could completely erode or damage the road prism. An armored rolling dip is prescribed to maintain flow across the road crossing and down the channel. In addition, the road drainage should be repaired below this site, where a ditch approximately 3 ft deep has developed.

11B. Location/(Suitable) Sites: Road-stream crossing at the base of Big Bend Draw, Forest Road 370 (Pole Creek Sinks Road). See Treatment Map, Appendix IV.

11C. Design/Construction Specifications:

1. Haul 6” minus material to the site for the armored dip.
2. Use heavy equipment to create the rolling dip structure, which would be 50 feet long (25 ft. each side of the apex). The apex of the structure should be approximately 4 ft. higher than the lowest portion of the dip. The depth of 6” minus material should be 12 inches in the center, tapering off towards the ends.
3. Repair the damaged road surface and the eroded ditch below the rolling dip. This includes pulling road material into the ditch, re-blading the road surface, and cleaning out a downstream waterbar.

11D. Purpose of Treatment Specifications: Protect the road surface from being eroded during storm events. Restore natural drainage to the channel.

11E. Treatment Effectiveness Monitoring Proposed: Inspect the rolling dip after runoff events to determine if further treatments are needed.

Protection/Safety Treatments: Specifications 8 and 10. :

#8). Safety Signs

8A. General Description: Five informational public safety signs were damaged as a result of the Neola North Fire and need to be replaced. These signs contained safety directions for the public in remote areas. Also, there will be five Hazard Warning signs developed for immediate installation on roads entering the burned area for the protection of life and property. These signs are necessary to inform the public of immediate danger posed by flash floods, falling rocks, and falling trees.

8B. Location/(Suitable) Sites: Various locations throughout the fire area to protect and inform the public. The Hazard warning signs will be installed at five strategic locations on main roads where they enter the fire area.

8C. Design/Construction Specifications:

1. Design and size will meet current USFS sign shop specifications and will be patterned after the originals.
2. Depending on sign type, these signs will be fastened to metal or wood posts and buried at least 3 feet in the ground.
3. The following will be used for the Hazard Warning signs.
4. BIA will identify specific locations for each sign based on local knowledge and assessed needs.

Warning
Entering Burned Area.
Watch for Falling Trees,
Rocks, and Flash Floods.

8D. Purpose of Treatment Specifications: To provide for public health and safety by providing safety directions as well as possible hazards found within the burned area.

8E. Treatment Effectiveness Monitoring Proposed: Implementation Leader to verify installation and location.

#10). Hazard Tree Mitigation

10A. General Description: Mitigate tree hazards in high public use areas.

10B. Location/(Suitable) Sites: Sections of the Elk Horn Trail (#134) and Post Creek Sink Road (#370) within the fire perimeter (see Treatments Map, Appendix IV).

10C. Design/Construction Specifications:

1. Trees to be treated are designated with yellow paint at breast height facing the road or trail (a total of 259 standing trees have been designated on the Post Creek Sink Road and 21 trees on the Elk Horn Trail).
2. Fall designated tree hazards.
3. Cut stumps to maximum of 12 inches above ground on the uphill side.

4. Treat other unmarked down-fall trees and limbs on or adjacent to the road or trail that may impede travel.
5. Along roads buck stems and branches larger than 4 inches in diameter into maximum 20 inch lengths and stack just off the road edge for personal firewood collection. Hand pile all smaller limbs for burning (piles should be no larger than 6 feet wide by 4 feet tall and located in openings at least 8 feet from any standing trees). Alternately, slash may be treated by chipping.
6. Along trails buck stems into manageable lengths, drag all stems and limbs a minimum of 50 feet from the trail, lop and scatter slash to a height not to exceed 18 inches above ground..

10D. Purpose of Treatment Specifications: Mitigate potential threats affecting use of public roads and trails.

10E. Treatment Consistent with Agency Land Management Plan: Ashley National Forest Land and Resource Management Plan, 1986, and associated Environmental Impact Statement. Ashley National Forest Fire Management Plan, 2006.

10F. Treatment Effectiveness Monitoring Proposed: Project Manager oversight will ensure treatments are carried out in accordance with design criteria.

 # 12) Culvert Replacement inserted August 24, 2007

12A. General Description: Valton Mortenson, civil engineer on the Ashley N.F., surveyed the road system in the burned area and discovered several drainage problems caused by post fire runoff. In order to protect and maintain these roads, particularly forest road 117 – Pole Creek loop, several culverts need to be replaced and some new culverts need to be installed. The post-flood road clean up specification (#5) covered flood patrol and culvert cleaning, but did not address culvert replacement. This new specification includes the replacement of culverts that are now undersized, or the installation of new culverts, where new drainage problems have developed. Valton Mortenson prepared a cost estimate that includes the personnel and equipment required to complete this work ($45,913) – see table in Part VI. A total of 49 culverts need to be replaced or installed, with an estimate of $937 per culvert.

12B. Location/(Suitable) Sites: Forest Service roads 289, 370, 400, and 117.

12C. Design/Construction Specifications:

1. Replace undersized or damaged culverts. A total of 9 18 inch culverts were damaged and need to be replaced. A total of 32 15 inch culverts are now undersized and should be replaced with 18 inch pipes.
2. Install new culverts where new drainage problems have developed. This includes 2 24 inch culverts and 6 18 inch culverts.

12D. Purpose of Treatment Specifications: Provide for safe public and administrative access on forest roads, and prevent further damage to the road system from increased post fire runoff.

12E. Treatment Effectiveness Monitoring Proposed: Inspect roadways after runoff events to determine if further treatment is needed.

I. Monitoring Narrative: Treatment effectiveness monitoring was described for each treatment in the previous section. In addition, a separate monitoring specification for seeding effectiveness and re-vegetation was prepared (#2)

#2) Monitoring Seeding Effectiveness: .

A. General Description: This specification proposes vegetation monitoring following seeding to ascertain success of re-vegetation efforts, pertaining to Spec#s 3,4,9,10. Utilize NRCS, USFS, DOI or BIA approved or similar methods established for seeded areas.

B. Location/(Suitable) Sites: Establish monitoring transects within all seeded areas. Final site selections to be made by a USFS resource specialist. Site selection includes stratification of areas based on range sites, slope, soils, aspect, treatments (including seeding methods, seed mixes, natural release), allotments, etc.

C. Design/Construction Specifications: Monitoring transects shall be established and methodologies designed to determine:

1. A minimum seedling establishment of 2-3 plants per square meter and/or a minimum of 8 to 10 native, perennial herbaceous plants per square foot.
2. Sampling should determine species composition and density.
3. Count seedlings per square meter – Seeded species/Native species/Total # and compare to seeding rate per square meter for treatment success.
4. Monitor cover of vegetation, litter, rock, bare ground and cryptogamic crusts.
5. Sampling methodologies shall represent dominant plant community type, aspect, and slope variations within the seed areas. Photos shall accompany data records as supporting documentation of findings.
6. Observations should be documented both in written and photographic documents to record other factors such as herbivory, surface erosion, etc.
7. Determine the quantity and distribution of noxious weed species in burned area in order to adequately conduct treatment .
8. Continuous surveys in years 2 and 3 will also aid in further detection and minimize spread.
9. A final report shall be published that documents sampling methodologies, techniques, areas sampled, and summary of findings.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire): Monitoring is required on all Emergency Stabilization plans. The level of monitoring required will be commensurate with the complexity of the project, level of concern, and the objectives of the plan. Monitoring and evaluation to determine the effectiveness of stabilization treatments is funded for up to three years following containment of a wildfire.

E. Treatment Effectiveness Monitoring Proposed: Monitoring is required to ascertain re-seeding or native release success and effectiveness of all proposed vegetation related treatments to meet the objectives that the BAER Team identified and mitigate the identified emergency to the degree anticipated. Ensure establishment or re-seeded species or species managed for natural release for soil stabilization, non-native annual species control, wildlife impacts and watershed protection.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim #**

A. Land Treatments										
#3) PJ Aerial Seeding	acres	67	1977	$119,296	$13,000		$0		$0	$132,296
#4) Non-native Invasives	acres	168	169	$28,468	$0		$0		$0	$28,468
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$147,764	$13,000		$0		$0	$160,764
B. Channel Treatments										
#9) Bridge Removal	site	4749	1	$4,749	$0		$0		$0	$4,749
#6) Native Am. Consultation	site	1693	1	$1,693	$0		$0		$0	$1,693
#7) Cultural Clearance	site	2415	1	$2,415	$0		$0		$0	$2,415
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$8,857	$0		$0		$0	$8,857
C. Roads and Trails										
#5) Post Flood Clean Up	miles	713	23	$16,390	$0		$0		$0	$16,390
#11) Armored Rolling Dip	site	6983	1	$6,983	$0		$0		$0	$6,983
#12) Culvert Replacement	**site**	**937**	**49**	**$45,913**	$0		$0		$0	$45,913
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$69,286	$0		$0		$0	$69,286
D. Protection/Safety										
#8) Safety Signs	sign	719	10	$7,188	$0		$0		$0	$7,188
#10)Tree Hazard Mitigation	trees	85	280	$0	$23,775		$0		$0	$23,775
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$7,188	$23,775		$0		$0	$30,963
E. BAER Evaluation										
#1) Plan Preparation	1		1	---	$111,636		$0		$0	$111,636
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$111,636		$0		$0	$111,636
F. Monitoring										
#2) Treatment Monitoring	acres	18	1977	$35,346	$0		$0		$0	$35,346
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$35,346	$0		$0		$0	$35,346
G. Totals				$268,441	$148,411		**$0**		**$0**	**$416,852**
Previously approved				$222,528						
Total for this request				**$45,913**						

PART VII - APPROVALS

1. /s/KEVIN B. ELLIOTT — Aug 24,2007
   Forest Supervisor (signature) — Date

2. /s/ Cathy Beaty for — 8/31/07
   Regional Forester (signature) — Date

Neola North Fire 2500-8 – Interim Request #1, August 24, 2007

Attachment 1. Cost-Risk worksheets for Part V, sections E and F.

Cost / Risk Worksheet

Fire Name: Neola North
Analysis Date: 19-Jul-07
Alternative: **Land Treatments: Specs 3 and 4**

TREATMENT		PRIMARY Number of Units	PRIMARY Unit Cost	PRIMARY Amount
3) PJ aerial seeding	ac	1,977	$67	$132,296
4) Non native weed control	ac	169	$208	$35,105
		Total---------->		$167,401

Probability of Success	0.79

Resource Value Loss	PRIMARY Success	PRIMARY Failure
Ecosystem Integrity	$63,000	$300,000
Future Fire Suppression Costs	$630,000	$3,000,000
Total ---->	$693,000	$3,300,000

Alternative Cost	$1,407,871

Cost / Risk Worksheet

Fire Name: Neola North

Analysis Date: 19-Jul-07

Alternative: **Channel Treatment - Bridge Removal: Specs 6, 7 and 9**

TREATMENT		PRIMARY Number of Units	PRIMARY Unit Cost	PRIMARY Amount
9) Bridge removal	ea	1	$4,749	$4,749
6) Native Am. Consultation	ea	1	$1,693	$1,693
7) Cultural Clearance	ea	1	$2,415	$2,415
		Total---------->		$8,857

Probability of Success 0.80

Resource Value Loss	PRIMARY Success	PRIMARY Failure
Road and Bridge Damage	$10,000	$50,000
Historical Box Culvert	$10,000	$50,000
Damage Assessment	$400	$2,000
Total ---->	$20,400	$102,000

Alternative Cost $45,577

Cost / Risk Worksheet

Fire Name: Neola North

Analysis Date: 19-Jul-07

Alternative: Road and Trail Treatments

TREATMENT		PRIMARY Number of Units	PRIMARY Unit Cost	PRIMARY Amount
5) Post flood road clean up	mi	23	$713	$16,390
11) Armored Rolling Dip	ea	1	$6,983	$6,983
				0
		Total---------->		$23,373

Probability of Success 0.94

Resource Value Loss	PRIMARY Success	PRIMARY Failure
Road damage	$3,600	$60,000
Total ---->	$3,600	$60,000

Alternative Cost $30,357

Cost / Risk Worksheet

Fire Name: Neola North

Analysis Date: 19-Jul-07

Alternative: Protection and Safety Treatments (Specs 8 and 10)

TREATMENT		PRIMARY Number of Units	PRIMARY Unit Cost	PRIMARY Amount
8) Install Safety Signs	ea	10	$719	$7,188
10) Hazard Tree Mitigation	ea	280	$85	$23,775
		Total---------->		$30,963

Probability of Success 0.94

Resource Value Loss	PRIMARY Success	PRIMARY Failure
Potential Injuries or fatalities	$180,000	$3,000,000
Tree Clearing	$720	$12,000
Total ---->	$180,720	$3,012,000

Alternative Cost $381,560