Cornet-Windy Ridge Fire – BAER – Interim Request # 2

Wallowa-Whitman NF, Whitman RD November 16, 2015

Mill Creek Watershed view, Oregon State Highway 245 in background

USDA-FOREST SERVICE

FS-2500-8 (6/06)

Date of Report: 11/16/15

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
[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: Cornet-Windy Ridge

B. Fire Number: OR-VAD-000163

C. State: OR

D. County: Baker

E. Region: R6

F. Forest: Wallowa-Whitman

G. District: Whitman

H. Fire Incident Job Code: P6J1BV16

I. Date Fire Started: 8/11/2015

J. Date Fire Contained: 85% (Aug. 28, 2015)J.

K. Fire Suppression Cost: $6MM (as of 8/28/2015)

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 176 waterbars over 2.5 miles
2. Fireline seeded (miles): _
3. Other (identify):

M. Watershed Number:
Independence Creek-Burnt River (170502020405)
Sutton Creek (170502030206)
Auburn Creek-Burnt River (170502020503)
Cave Creek-Burnt River (170502020602)
Beaver Creek (170502030203)
Mill Creek-Burnt River (170502020501)
Dark Canyon Creek-Burnt River 170502020601 ()
Lower Big Creek (170502020404)
Stices Gulch-Powder River (170502030202)
Ebell Creek (170502030205)

N. Total Acres Burned: 103,791
NFS Acres(**29,915**) Other Federal (26,885) State ( ) Private (46,991)

O. Vegetation Types: Timber, Brush, Grass

P. Dominant Soils: silt loam and loam with varying amounts of surface rock (gravel)

Q. Geologic Types: Mixed Geology (Rhyolite, Meta-sedimentary, Gneiss, Schist, Tuff, Basalt)

R. Miles of Stream Channels by Order or Class:
Class 1- 0 miles; Class 2- 55 miles; Class 3- 136 miles; Class 4- 53 miles; Class 5- 0.90 miles

S. Transportation System

Trails: ___ miles Roads: 293 miles (FS); 324.5 miles (includes I-84, State Hwys, BLM, Pvt and FS)

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

NFS	10,470	(low)	7,778	(moderate)	5,983	(high)
Total	44,124	(low)	21,693	(moderate)	8,059	(high)

B. Water-Repellent Soil (acres): Variable and not contiguous primarily found within High Severity burned areas. There may be a greater concerntration within Stices and Mill Creek subwatersheds, although some of this may be natural based on limited observations. Estimated acres is 6,746 (approx. half of total High Severity).

C. Soil Erosion Hazard Rating (acres):

Total	9,350	(low)	30,128	(moderate)	64,409	(high)
FS	299	(low)	6,581	(moderate)	23,035	(high)

D. Erosion Potential: 0.39 tons/acre ***Note**: this is a lower than expected number that is based on a weighted average calculation by burn severity and slope class run in Disturbed WEPP. Areas in Stices Gulch and Mill Creek showed notably higher erosion rates when run across a range of representative slopes in ERMiT (0.85 -5.58 t/a in Mill Creek and 2.29 – 4.71 t/a in Stices Gulch). The concern with any appreciable increase in erosion and sedimation in these two drainages is due to the location of the Stices subdivision egress via a NFS Road 1130 and additive impacts to roads above the the subdivision, as well as NFS Road 1125 above Oregon Highway 245.

E. Sediment Potential: 249.6 cubic yards / square mile ***Note**: this assumes 100% of surface eroded soils reaching streamcourses as sediment, based on the linear nature of slopes with few slope breaks or buffers.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5

B. Design Chance of Success, (percent): 80%

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.0

F. Design Flow, (cubic feet / second/ square mile): 23-43

G. Estimated Reduction in Infiltration, (percent): 9.4%
H. Adjusted Design Flow, (cfs per square mile): 27-132

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Human Life/Safety and Property

Threats to life, safety and property exist in valley bottom areas beneath some steep burned gulches and potentially downstream from the burned areas. Residents and road users will be exposed to increased risk of road failure and potential of debris flows. Houses and Forest Service infrastructure are at increased risk of flooding and debris flows. Within the NFS portion of this fire, 13,761 of 24,231 acres (57%) burned moderate and high severity. This severity combined with erosive soils, steep slopes and an extensive network of NFS roads is expected to contribute to increased storm runoff and likely failures of infrastructure associated with multiple life and safety related values at risk. These values include OR State Highway 245, a primary route between the towns of Baker City and Unity, reliable and safe access to two communication sites, as well as reliable and safe access to private inholdings with homes via NFS jurisdictional roads. Access along most of these values are also threatened by hazard trees.

Roads

There are several miles of Forest Service roads that are critical access to communication facilities operated by various agencies (FS, County and FAA). The access to these two communication (Beaver Mt & Bald Mt) sites is a critical need and should be maintained as open. This will require road work and some snagging for operational safety during implementation of BAER projects and potentially for the first year. Numerous road segments within the fire area are at risk of impounding water and may be at risk of failure under elevated winter flows.

Weeds

There are a few intact native plant ecosystems that are expected to be at increased risk of encroachment by invasive species as a result of the fire. These are long-term eco-plots with the potential to loose continuity of the data being collected on this FS investment of research. (see specialist report).

Cultural

There is a cultural resource sites that have been exposed by the fire and needs to be covered with mulch to avoid looting.

B. Emergency Treatment Objectives:

1. Prepare existing NFS roads for increased storm runoff to minimize cumulative or cascading effects to values at risk associated with safe ingress and egress to commuication sites, homes and OR State Hwy 245.
2. Remove hazard trees along FSR 1100 between OR State Hwy 245 and the communication towers on and near Beaver Mountain. Most of this work will be done for operational safety in BAER transportation work.
3. Protect native or intact plant communities from encroachment that is more likely to occur following the fire.
4. Cover cultural resources exposed by the fire with certified weed-free straw mulch.

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

Land **90** % Channel ___ % Roads/Trails **70** % Protection/Safety ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75%	95%	100%
Cultural	90%	100%	100%
Channel			
Roads/Trails	80%	80%	80%
Protection/ Safety			

E. Cost of No-Action (Including Loss):
$1,050,000 known costs plus increased risk to public and employee safety, impacts to State Hwy 245

F. Cost of Selected Alternative (Including Loss): $374,604 + $111,680 (Mulch Stabilization) + $96,000 (additional request)

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Jim Archuleta and Laura Navarrete (T)

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H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Roads Treatments:

In order to address life and safety values (emergency egress from private inholdings and reliable access to two communication sites) threatened by post fire impacts; it is proposed that road drainage improvements and snagging (operational safety of BAER treatments) along multiple Forest Road segments (see map). These are summarized below.

1) Stices Gulch - To account for expected increased post fire runoff, road treatments will focus on increasing or enhancing drainage. This would include replacing undersized culverts, refurbishing existing features (re-establishing relief ditches, cleaning out culverts), armoring existing drainage systems (rolling dips, waterbars, culvert outlets), replacing burned object markers (cattleguards only at High Severity sites), and repairing burned out fill slopes (i.e. root wads) to maintain road bed integrity.

2) Mill Creek/Cornet Creeks - To account for expected increased post fire runoff, road treatments will focus on preventing obstuctions to drainage that may increase expected flow and risk to infratsturcture. This risk includes flow to downstream resources such as State Highway 245. Within Mill Creek treatments will be to remove culverts and gate access to this watershed. Within Cornet Creek treatments will be to gate access. Given the limited communication and potential for forest visitors to be trapped during rain storms; this watershed is proposed to have both access points gated, signed and closed with CFR.

3) To account for the inevitability of trees falling across these same roads that access homes and communication sites, hazard tree removal is being proposed to ensure operational safety during BAER implementation minor felling will be done.

Land Treatments:
Wood mulch buffer strips are being proposed to increase the success of previously approved road treatments associated with Forest Road 1125 and 1130 (and extensions) in the head of Mill Creek/Stices Gulch (see attached map). These treatments are intended to capture low intensity and short duration precipitation events that could contribute to the failure of prescribed road treatments. Costs are based on one estimate in Idaho (conversation with a contractor,recommended by FS/Fed Hwy Liaison).

This Interim Request # 2 is needed to account for higher than anticipated costs to apply mulch. While doing market research during the BAER assessment process we understood from one contractor that they could apply the mulch via hose lay and forced air (blown application). However, we only received one bid from a contractor on the R6 IDIQ and they bid it for aerial application at a rate about twice what we had planned for and requested. They said they could not achieve 60+ percent cover by ground application due to the steepness of slopes to be treated, as well as the interference of standing trees.

In order to get mulch applied expeditiously and with the end result needed to protect soils and reduce erosion, we believe the need/request for additional dollars is warranted and are requesting an additional $96,000. This amount should allow for an end-results contract with aerial application, as well as the production and handling of source material.

Cultural
Implementation measures for site protection could include mulching, and road closures. It is recommended that forest road 1100-090 (Mill Creek) be closed. It is also recommended that Forest Road 1100-050 (Cornet Creek) also be closed. Forest road 1100, which will remain open, will receive mulching (approximately 18 acres) to obsure cultural resources within line of sight from open Forest Service Road.

Weeds
Based on an assesment of risk of noxious weed invasion on native plant communities, Early Detection Rapid Response measures are being proposed. While these proposals are for near known locations of noxious weeds, the proposal will be to protect nearby Eco-plots which have ben monitored since the 1980s. These eco-plots are considered relatively pristine native plant communities and protection of these site is important to maintain the integrity these monitoring sites. These Eco-plots are also considered a significant invenstment in time and research to many government agencies, universities and researchers.

Channel Treatments:
None

Protection/Safety Treatments:
This assesment was done in tandem with a BLM effort. It was the combined findings of both teams that there is an expectation of elevated flow from the burn effects which may elevate risk to life and property. However due to the proximity to burned slopes some of these risk have no effective treatment other than evacuation. For this reason it is suggested that an Early Wanring System (EWS) be engaged. This assesment contact both the Baker County EMS (Emergancy Management System) & NOAA (Boise).

These agencies are working to establish an EWS for the burned area. It is expected to cover Stices Gulch, Mill Creek, Sutton Creek, Deere Creek Hooker Creek and parts of the Burnt River.

I. **Monitoring Narrative:**

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands				Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land Treatments										
Wood Mulch (Cultural)	(18 ac)	180	24	$4,320						$4,320
Wood Mulch (soil stab	96 ac	1080	96	$103,680	$0		$0		$0	$103,680
FS Felling Crew Days	Days	2000	4	$8,000						$8,000
Add'l Mulch Request	Acres	1,000	96	$96,000						$96,000
Invasives	Acres	1397	24	$33,528	$0		$0		$0	$33,528
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$241,208	$0		$0		$0	$245,528
B. Channel Treatments										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Stabilization of Very High Risk Roads	mi	5993	31.2	$186,982	$0		$0		$0	$186,982
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$186,982	$0		$0		$0	$186,982
D. Protection/Safety										
Early Warning System	each	2000	1	$2,000	$0		$0		$0	$2,000
Closure Signs	each	160	25	$4,000	$0		$0		$0	$4,000
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$6,000	$0		$0		$0	$6,000
E. BAER Evaluation				$59,494						
					$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
				$2,000	$0		$0		$0	$2,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$2,000	$0		$0		$0	$2,000
G. Totals				$436,190	$0		$0		$0	$440,510
Previously Awarded				344,510 (232,830 ori		-111,680)				
Total this Request				$96,000						

PART VII - APPROVALS

1. _____ 11/20/15
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date

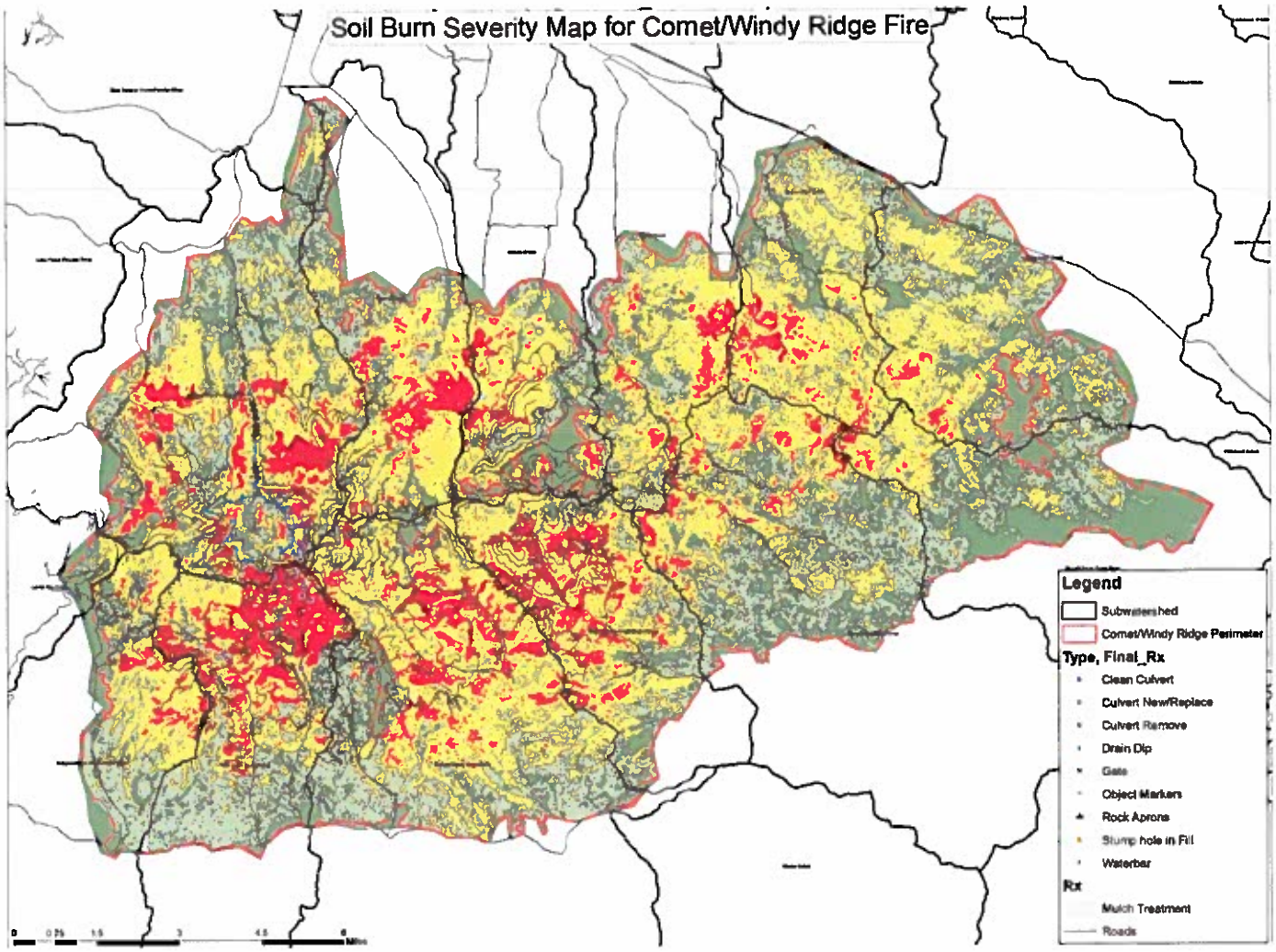

Figure 1 Entire Fire area

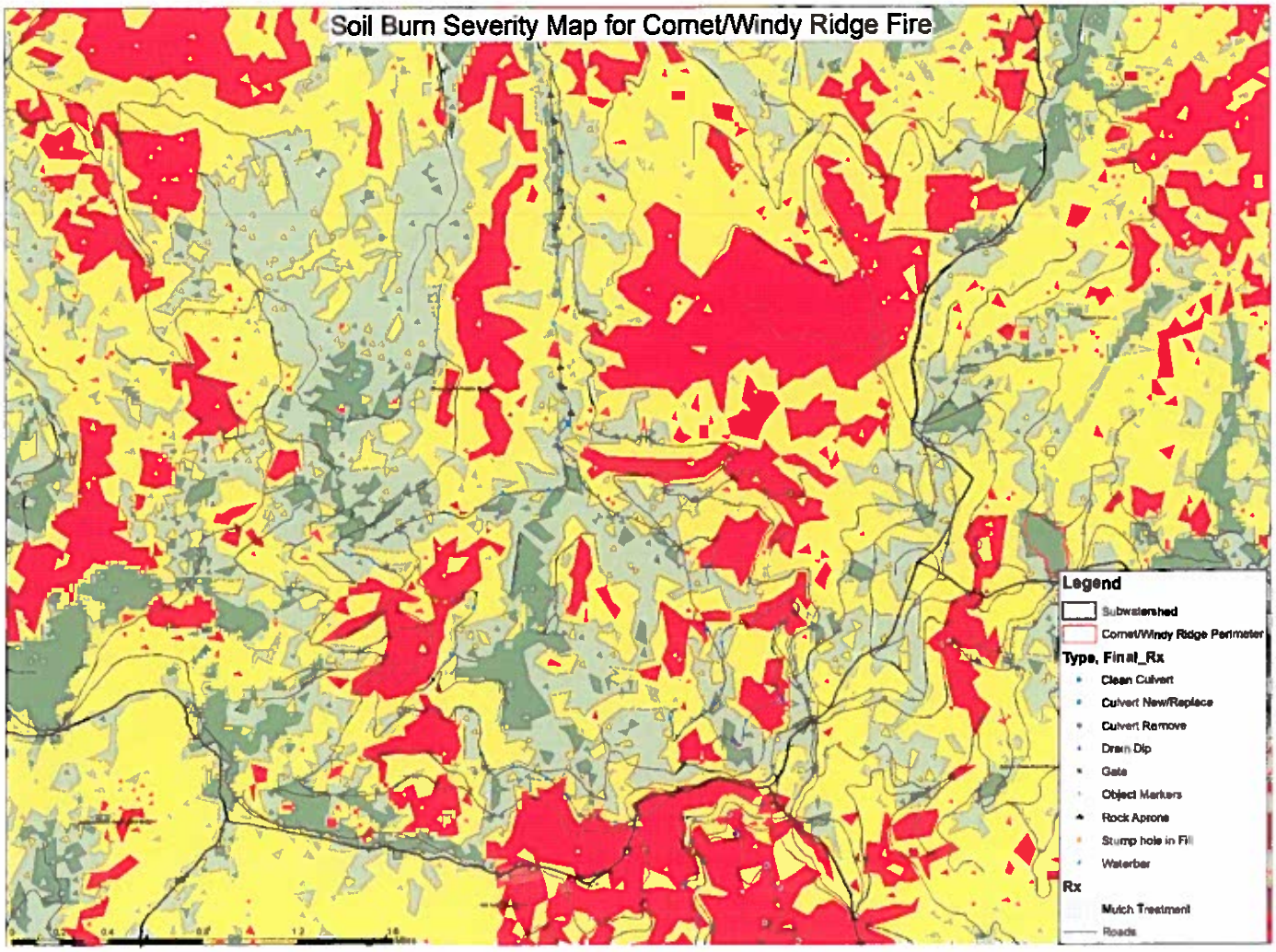

Figure 2 Project within Stices Gulch

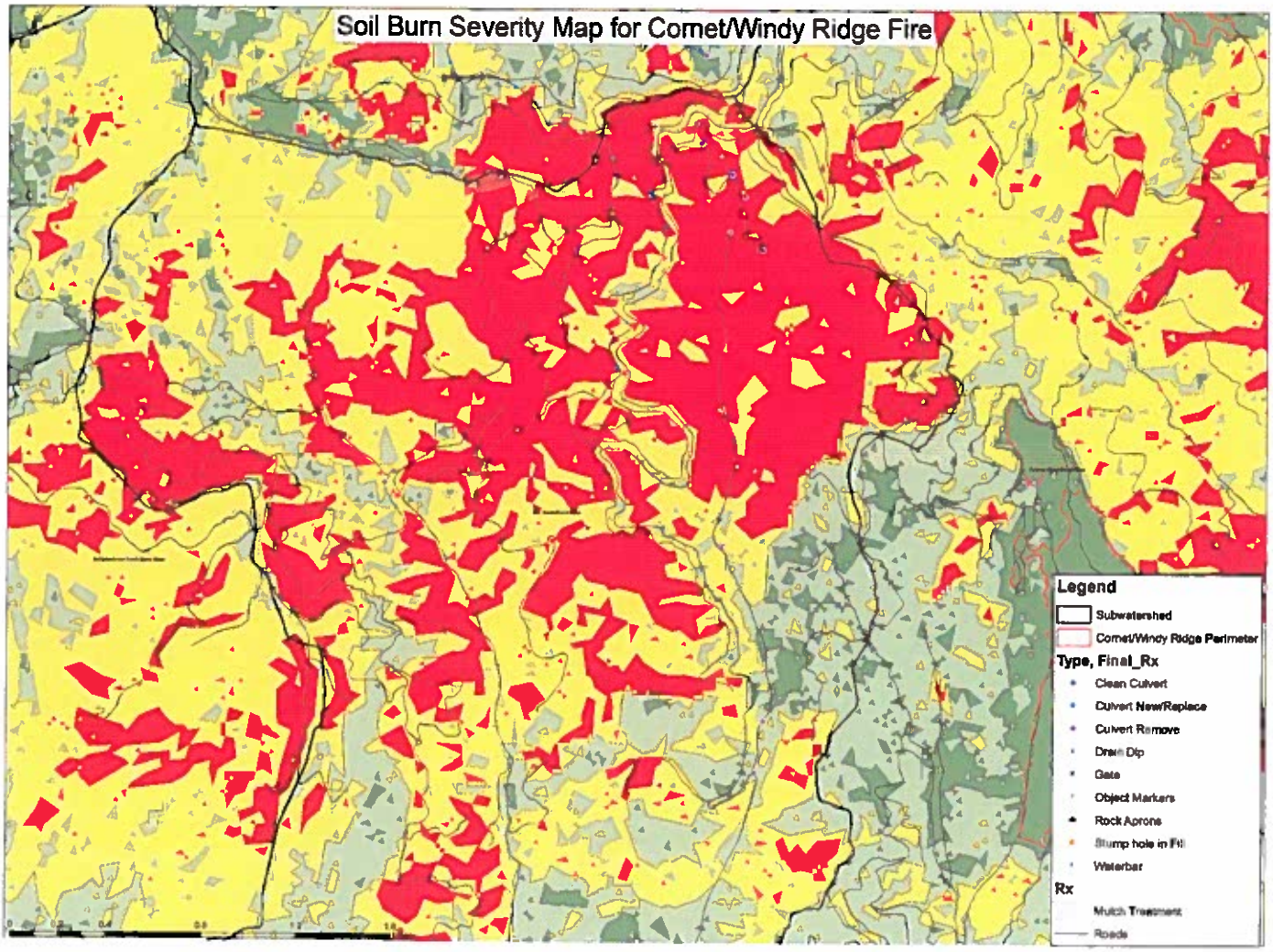

Figure 3 Projects within Mill Creek