CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Evans - Rademacher Salvage2
Proposed Implementation Date:	Upon Approval
Proponent:	Jim Evans
Location:	SE1/4 S12 & 13 T5N R12W
County:	Deer Lodge

I. TYPE AND PURPOSE OF ACTION

The purpose of this Alternative Practice is to remove beetle killed or infested lodgepole pine inside the Streamside Management Zone on private property on Warm Springs Creek. According to MCA 77-5-301 through 307, DNRC is authorized to administer and enforce the provisions of the SMZ Law. This Law was developed to protect the public interest of water quality and quantity within forested areas; provide for standards, oversights and penalties to ensure forest practices conserve the integrity of SMZ's; provide guidelines for wildlife management within SMZ's; and allow operators necessary flexibility to use practices appropriate to site-specific conditions in the SMZ. ARM 36.11.301 through 313 further specify the design of SMZ boundaries, allowable activities and prohibitions within the SMZ, penalties and other related provisions. According to MCA 77-5-304 and ARM 36.11.310, DNRC may approve alternative practices that are different from practices required by the SMZ Law only if such practices would be otherwise lawful and continue to conserve or not significantly diminish the integrity and function of the SMZ. Treatment would be limited to operation of a feller-buncher inside the 50 foot SMZ, but no closer than 25 feet to the ordinary high water mark (OHWM) of Warm Springs Creek. This treatment would be conducted on slopes less than 15% and would allow removal of lodgepole pine to below minimum retention standards as identified under Rules 4 and 5 in the *Montana Guide to the Streamside Zone Law and Rules 2006* (ARM 36.11.310-313). Douglas-fir, quaking aspen and Engelmann spruce inside the SMZ would be retained. Additional stipulations of this request would include:
-Operation of the feller-buncher inside the SMZ would be in a straight-in and straight-out manner to minimize disturbance inside the 50 foot boundary.
-Operation would only occur during periods of frozen ground to a depth of four inches and snow to a depth of six inches, or periods when ground moisture is less than 20%.
-If operations take place during periods of dry ground conditions, mitigation measures would include grass seeding and slash filter windrows placed on disturbed areas to prevent run-off from reaching water.
-Felled trees would be placed outside of the 50 foot SMZ boundary for skidding.
- Small, un-infested lodgepole pine, in addition to other species of trees such as Douglas-fir, Engelmann spruce and quaking aspen, would be retained.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Jim Evans and the MT DNRC.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

N/A

3. ALTERNATIVES CONSIDERED:

Alternative A –No Action. This alternative would not operate machinery inside the fifty foot buffer. Beetle-killed trees would be hand-felled to minimum retention standards, left standing or removed in a non-commercial manner, such as by an arborist. In instances when the trees are removed non-commercially, the DNRC has no jurisdiction over operations.

Alternative B – Action. Please see *Type and Purpose of Action* for a full description of this alternative.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Alternative A - No Action
No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized. This would mean leaving a representative stand that includes dead lodgepole pine. Trees would be hand-felled and skidded by cable through the SMZ. Cable skidding each tree out of the SMZ has the potential to create more soil disturbance than a feller-buncher carrying trees out of the SMZ for skidding.

Alternative B – Action
A query of the Web Soil Survey lists soils in the AP area as "well suited" on the north half and "poorly suited" on the south half for harvest operations. Due to the suitability of the soils to harvest operations, operating restrictions will be implemented. Equipment operation would be limited to areas where slope is less than 15%. Mitigation measures would include operating season restrictions that require frozen ground to a depth of four inches, snow depth of six inches or ground moisture of 20% or less; and operation of the feller-buncher in a "straight in and straight out manner". Severed trees will be placed outside of the 50 SMZ buffer for skidding. In addition, grass-seeding and installation of a slash-filter windrow on any disturbed area upon completion of activity would be required. Minimal impacts to soil stability and compaction are anticipated due to the operating restrictions and mitigation measures.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Alternative A - No Action
No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized. Trees would be hand-felled and skidded by cable through the SMZ or left standing.

Alternative B – Action
The harvest of trees within the first 25 feet of the SMZ may introduce low levels of sediment delivery to adjacent waterbodies. Increases in sedimentation would be expected to be minimal and temporary due to operations only occurring on slopes less than 15% and application of mitigation measures. In areas of pure lodgepole pine stands, stream shading would be reduced and peak seasonal stream temperatures may see an increase in July and August. All other species of trees and brush would be retained and protected to the greatest extent possible and would continue to provide shading and recruitable large woody debris. Other species present include Douglas-fir, quaking aspen and Engelmann spruce. Mitigation measures include imposing seasonal operating restrictions that require frozen ground to a depth of four inches, snow depth of six inches or ground moisture of 20% or less; and requiring grass seeding and installation of a slash-filter windrow on any disturbed area upon completion of operations.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

N/A

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Alternative A - No Action

If no action is taken the dead trees will fall over, potentially causing damage to improvements and people. Trees may be hand-felled to minimum retention standards, but it would be expected that as retention trees fell the landowner would remove them anyway. Hand-felling and skidding hand-felled trees have the potential to be more damaging to the residual stand than the directional felling of a feller buncher. This is due to trees being pulled through the residual stand with less maneuverability, potentially removing bark and pulling over the residual stand.

Alternative B – Action

Vegetative communities would be affected to the extent that lodgepole pine would be reduced to below minimum retention standards as outlined in Rule 5 of the *Montana Guide to the Streamside Management Zone Law and Rules* handbook. Other species of trees such as Douglas-fir, Engelmann spruce and quaking aspen would be retained where present and understory vegetation would be protected to the greatest extent possible. Removal of the dead trees would expedite natural regeneration and cumulative effects to vegetative communities would decrease as trees regenerate and replace those that are harvested.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Alternative A – No Action

Minimum retention standards would be adhered to as well as equipment restrictions. Due to the areas being heavily used for recreation and their proximity to roads and cabins, the suitability of the proposed sites would continue to be marginal at best for terrestrial and avian habitat. Dead lodgepole pine would eventually fall over and/or be removed in a non-commercial manner.

Alternative B – Action

Due to the areas being heavily used for recreation and their proximity to roads, a USFS campground, a hiking trail and cabins, the suitability of the proposed site would continue to be marginal at best for terrestrial and avian habitat. Operating restrictions and mitigation measures would minimize sedimentation impacts to fish habitat where present. The AP would reduce recruitable woody debris in this bull trout and westslope cutthroat trout stream. In areas of pure lodgepole pine stands, stream shading would be reduced and peak seasonal stream temperatures may see an increase in July and August. All other species of trees and brush would be retained and protected to the greatest extent possible. Cumulative impacts would be expected to be short term and isolated to areas within a tree length of improvements.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Alternative A – No Action

A query of the Montana Natural Heritage Program identifies the area as being possible habitat for gray wolf, Canada lynx, wolverine and fisher. Due to the proximity of heavy recreational activities and access to cabin sites, this area is not ideal habitat for grey wolf, Canada lynx, wolverine or fisher. Minimum retention standards would be adhered to as well as equipment restrictions. Dead lodgepole pine would eventually fall over and/or be removed in a non-commercial manner.

Alternative B - Action
Due to the proximity of heavy recreational activities and access to cabin sites, this area would continue to not be ideal habitat for gray wolf, Canada lynx, wolverine or fisher. If a sighting of any of the listed species of concern (or evidence such as nests, dens etc…) occurs, operations would be halted, or not allowed, until further assessment can take place.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

Although no cultural or paleontologic resources are known to exist in the project APE, a systematic inventory of such resources has not occurred. Because none of the projects are located on state land, the DNRC has no jurisdiction to require private landholders to conduct professional level inventories to identify, or develop treatment plans for, privately owned National Register eligible properties.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Alternative A – No Action
Minimum retention standards would be adhered to as well as equipment restrictions. Dead lodgepole pine would eventually fall over and/or be removed in a non-commercial manner. Aesthetics would be degraded as green trees transitioned to red and eventually fell over.

Alternative B - Action
Potential impacts may be perceived as adverse by recreationists, landowners and travelers. The removal of beetle killed lodgepole pine would look unsightly in the short term, but would encourage regeneration. This regeneration would eventually soften and replace aesthetic quality damaged by mountain pine beetle infestation.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

N/A

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

There have been multiple SMZ AP's issued in the last two years in this area. All of them have required similar operating restrictions and mitigation measures and have proved beneficial with minimal impacts.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Alternative A – No Action
Cabins and recreational sites would become unsafe as beetle killed trees begin to fall over and improvements such as culverts and bridges would be put in jeopardy as falling trees impede water movement.

Alternative B - Action
The removal of beetle killed trees under this AP would improve safety to homeowners and those that use the area for recreation.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

N/A

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Two people will be employed during the harvest.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Negligible tax revenue.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

N/A

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

This Alternative Practice would allow timber salvage in areas considered at high risk for wildfire under the Deer Lodge County Community Wildfire Protection Plan.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

While there is no wilderness near the proposed AP, there is a hiking trail from the USFS Warm Springs Campground that travels through the property. Dead trees pose a risk to hikers on this trail.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

N/A

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

N/A

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

N/A

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

N/A

EA Checklist Prepared By:	**Name:**	Sean Steinebach	**Date:**	2/3/11
	Title:	Service Forester		

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative B – Action Alternative

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

No unacceptable impacts are anticipated

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

	EIS		More Detailed EA	**X**	No Further Analysis

EA Checklist Approved By:	**Name: Fred Staedler**	
	Title: Anaconda Unit Manager	
Signature: /S/ Fred Staedler		**Date**:2/8/11

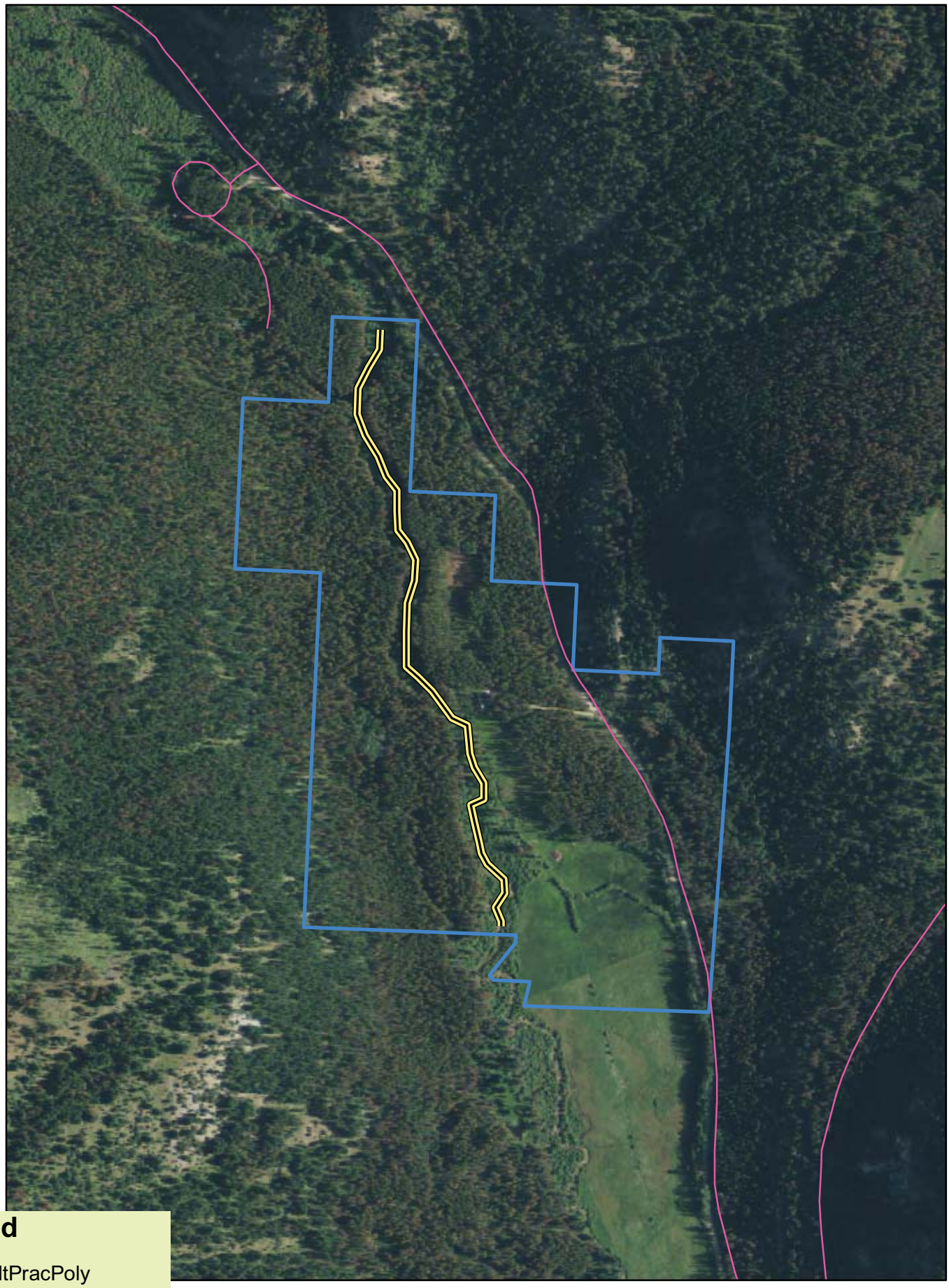
February 10, 2011

ALTERNATIVE PRACTICE RESPONSIBILTY AFFIDAVIT

In consideration of DNRC's approval of the alternative practice(s) in Sections 12 & 13, T5N, R13W, I hereby certify that I, or by written contract the legal entity I represent, am responsible for the compliance with the Montana Streamside Management Zone Law. I understand that failure to implement any of the mitigation measures required by the DNRC will be considered a violation of the SMZ Law (77-5-301 et. Seq.), and may result in penalties assessed against me or the legal entity I represent.

Signature of Responsible Party **Date**

Evans - Rademacher AP



Legend

- AltPracPoly
- AnaRoads20061102
- rademacher

0 175 350 700 1,050 1,400 Feet

February 10, 2011

Ref: Evans/Rademacher Timber Salvage SMZ AP

Dear Mr. Evans

This letter is in reference to a request made by Jim Evans of Hardly Able Logging to the Department of Natural Resource and Conservation for an Alternative Practice. This AP is located in Sections 12 & 13, T5N, R12W (see attached map). After review of the Checklist Environmental Assessment prepared for this request, the Alternative Practice to allow salvage of beetle-killed or infested lodgepole pine to below minimum retention standards as defined in the *Montana Guide To The Streamside Management Zone Law and Rules* is approved. Approval is subject to the following conditions:

1) Only a feller-buncher may enter the 50 foot buffer and will be done in a straight-in and straight-out manner.
2) Feller-buncher will operate no closer than 25 feet to the ordinary high water mark and only on slopes less than 15%.
3) Trees will be placed outside of 50 foot buffer for skidding.
4) All trees other than lodgepole pine will be retained inside the Streamside Management Zone.
5) Operations only occur when ground is frozen to four inches or snow covered to eight inches.
6) Disturbed areas inside the SMZ will be grass seeded, water barred or slash-filter windrowed as needed.
7) All SMZ's will be marked prior to harvest.

Approved Alternative Practices, including any additional conditions required by DNRC, shall have the same force and authority as the standards contained in77-5-303, MCA, and shall be enforceable by DNRC under 77-5-305, MCA, to the same extent as such standards.

It is your responsibility to ensure that your operators understand that an Alternative Practice has been issued for their operations in this area, and that these conditions must be fully met to achieve compliance with the SMZ Law.

This approval is contingent upon your execution and return of the attached statement to the DNRC Anaconda Unit Office.

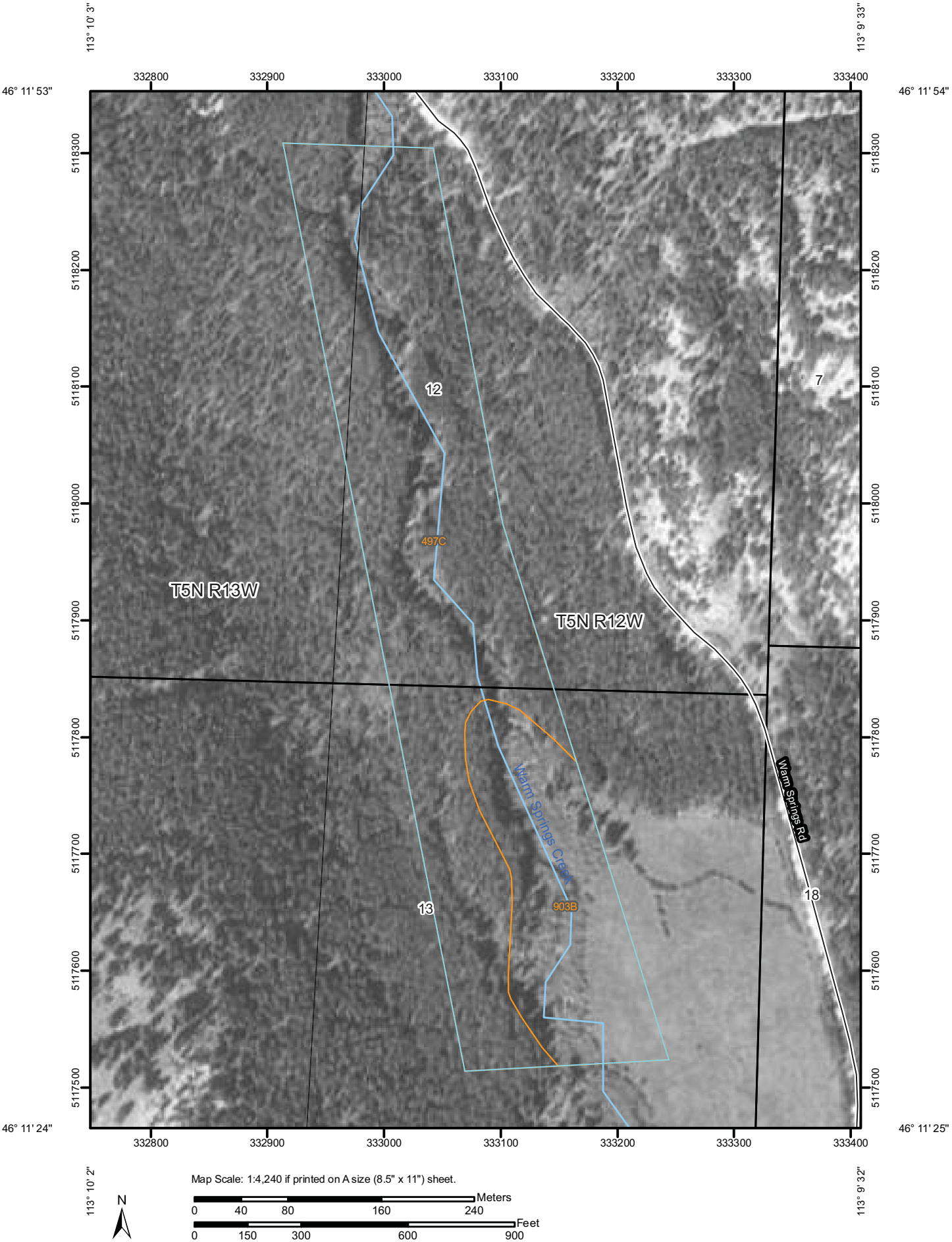
Thank you for your cooperation in this matter. Please call me if you have any questions.

Sincerely,

Sean Steinebach
Service Forester

cc: HRA file, Landowner, Applicant,
Unit Office, Land Office,
Service Forestry Bureau

Soil Map—Deer Lodge County Area, Montana
(Evans_Rademacher AP)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities
- PLSS Township and Range
- PLSS Section

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMA

Map Scale: 1:4,240 if printed on A size

The soil surveys that comprise your AO

Please rely on the bar scale on each ma measurements.

Source of Map: Natural Resources C
Web Soil Survey URL: http://websoils
Coordinate System: UTM Zone 12N

This product is generated from the USD the version date(s) listed below.

Soil Survey Area: Deer Lodge County
Survey Area Data: Version 10, Feb 1

Date(s) aerial images were photograph

The orthophoto or other base map on w compiled and digitized probably differs imagery displayed on these maps. As a of map unit boundaries may be evident.

Map Unit Legend

Deer Lodge County Area, Montana (MT616)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
497C	Waldbillig gravelly ashy loam, 2 to 8 percent slopes	20.1	73.5%
903B	Foolhen loam, 0 to 4 percent slopes, rarely flooded	7.3	26.5%
Totals for Area of Interest		**27.3**	**100.0%**

Forestland Planting and Harvesting

This table can help forestland owners or managers plan the use of soils for wood crops. Interpretive ratings are given for the soils according to the limitations that affect planting and harvesting on forestland. The ratings are both verbal and numerical.

Rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National forestry manual.

Report—Forestland Planting and Harvesting

[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Forestland Planting and Harvesting– Deer Lodge County Area, Montana							
Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
497C—Waldbillig gravelly ashy loam, 2 to 8 percent slopes							
Waldbillig	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
903B—Foolhen loam, 0 to 4 percent slopes, rarely flooded							
Foolhen	85	Well suited		Well suited		Poorly suited	
						Low strength	1.00

Data Source Information

Soil Survey Area: Deer Lodge County Area, Montana
Survey Area Data: Version 10, Feb 1, 2010