CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Northwest Management, Inc Diamond Ranch Alternative Practice
Proposed Implementation Date:	2015 – 2017
Proponent:	Northwest Management, Inc (Helena, MT Office)
Location:	Beaverhead Mnts/Big hole (S7,18 T6S-R15W)
County:	Beaverhead

I. TYPE AND PURPOSE OF ACTION

The DNRC Dillon Unit has received an Alternative Practice (AP) request from Northwest Management, Inc (NWM) of Helena, MT requesting the following: Rule 4:(36.11.304), *Equipment Operation in the SMZ, Rule 5: (36.11.305), Retention of Trees in the SMZ/Clearcutting*. Proponent proposes to remove all dead and dying lodgepole pine impacted by mountain pine beetle within the Streamside Management Zones that present a significant fire and hazard risk to private property and adjacent stands.

Planned treatments may exceed the merchantable timber harvest retention requirement within a short segment (150') of a Class 1 stream through the removal of dead lodgepole pine. Majority of the SMZ's delineated are class 3 streams (see map). The lands involved are located in Twn 6S, Rg 15W, Sections 7 & 18. The project could potentially impact approximately 6.6 acres of SMZ.

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 proposed would be limited to operation of a track mounted "mechanical feller-buncher" inside the 50 foot SMZ buffer, but no closer than 15 feet to the ordinary high water mark (OHWM). This treatment would be conducted on slopes less than 20% and would allow removal of dead lodgepole pine and diseased Douglas fir, Engelmann spruce and 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).

Under the Action Alternative: the operation of a track mounted feller/buncher would be allowed within the SMZ to harvest dead/dying/at-risk trees. Proponent will utilize dryer, stable ground for ingress and egress in and out of the SMZ corridor. Equipment would not be allowed to physically cross stream courses or track closer than 15 feet from the ordinary high water mark. Landing and tree processing areas/larger brush piles will be located outside the SMZ. Harvesting of dead/dying/at-risk trees below required minimum retention (SMZ law – for Class 1 streams) would be allowed. Mature Engelmann spruce, sub-merchantable understory conifers, and deciduous shrubs and trees that are present will be retained and protected during the harvest operation to retain shade and riparian habitat within the SMZ corridor.

The purpose of the action is to reduce the potential for wildfire, hazards to human health, and safety, and protection for residential structures on this private property through the removal and salvage of high-risk dead and dying trees.

Additional stipulations to be conducted under the Action Alternative:

- Operation of the Mechanical harvester feller/buncher inside the SMZ will approach the SMZ perpendicular to the banks in a straight-in and straight-out manner with the machine "packing trees" back out of the SMZ on its own track path to minimize soil disturbance. Operations within the SMZ would only occur during periods when soil disturbance can be minimized under frozen or dry ground conditions; frozen means frost to a depth of four inches minimum and snow to a depth of 12 inches, dry soil means soil moisture is 20% or less within the first 4 inches of soil depth.

- Mitigation measures would include no ground disturbance 0-15' from the OHWM of the stream, Minimal ground disturbance will occur within the SMZ. If excessive soil disturbance occurs within the SMZ, Proponent will apply grass seed and place fine slash and limbs over disturbed areas to mitigate soil loss.

- Larger trees (dead and live) growing or situated on the edge of the stream banks will be retained for bank stability, shade and LOD recruitment. Existing live aspen, cottonwood, and shrubs will be retained and protected to the greatest extent possible.

- Merchantable trees bunched for skidding will be placed outside the SMZ for yarding with wheel or tracked skidders.

- No new excavated roads, skid trails or landings will occur within the SMZ's.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:
Provide a brief chronology of the scoping and ongoing involvement for this project.
A field review was conducted on October 7, 2015 with Northwest Management foresters, the owners, and Mike Atwood, DNRC Dillon Unit Forester.

No public scoping was involved as this is a remote large ranch holding with no adverse impacts to adjacent ownerships or public lands.

Other contacts or research:

- Montana Natural Heritage Program/NRIS (Species of Concern and Wetlands mapping)
- Montana Fisheries Information System

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:
Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.

None

3. ALTERNATIVE DEVELOPMENT:
Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why.

No-Action Alternative: Not approve the Alternative Practice with this commercial operation governed by the law.

Action Alternative: Implementation of the Alternative Practice as proposed with additional mitigation measures to protect resources while meeting the objective of the project.

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 effects to soils.

The soils within these lush meadow areas are generally poorly drained gravely, sandy loams under heavy organic loams (Elve-Gambler-Sebud and Philipsburg-Redchief-Sebud families) . Mitigation to possible soil impacts: Equipment operations within the SMZ will be limited to

periods when soils are dry (less than 20% soil moisture), frozen or snow covered (12 inches packed or 18 inches non-packed over minimum 4 inches frost depth). No new road construction within the SMZ will occur. Placement of fine slash over disturbed soils, and grass seed disturbed soils with appropriate grass seed mix.

If recommended mitigation measures listed above are effectively implemented, a low risk of low level direct and indirect effects to soil resources is expected and long-term soil productivity will be maintained. No cumulative effects to soil resources are expected. Operating topographical slopes within the SMZ's are very favorable running 0-<10%.

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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 direct, indirect, and cumulative effects to water resources.

This Alternative Practice covers several Class 3 stream segments and ditches that deliver to OWB within the same area and a short segment (~150') of a Class 1 stream. 5,650 lineal feet of Class 3 and 150 lineal feet of Class 1. Floodplain stability is not expected to change as a result of the proposed treatment within the SMZ.

Potential Environmental Effects

No Action Alternative: The SMZ law would be followed during commercial activities therefore it is unlikely there would be impacts to water quality, quantity, distribution or to the functionality of the SMZ during commercial activities. Pro-active fuels reduction harvest practices would not occur within the SMZ's that currently contain significant mortality of overstory trees. Noncommercial removal of dead trees is possible after commercial activities are completed. Equipment operation within the SMZ's could take place without mitigation measures and oversight.

Action Alternative: The ability of the SMZ to act as an effective sediment filter would be maintained as no additional ground disturbance would be expected beyond the no-action alternative. Bank stabilization trees will be retained. Larger healthy trees will be retained for shade and wildlife cover. Shrubs and submerchantable trees that provide shade, filtering and cover would also be protected during harvest to the greatest extent possible. The potential future recruitment of large woody debris would be maintained through retention of live larger trees and down trees crossing the streams within the SMZ. Adverse impacts to the stream banks or channel are not expected to occur as a result of this operation. No cumulative adverse effects to water quality or quantity are anticipated from the proposed action.

6. AIR QUALITY:

What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.

A Hazard Reduction Agreement has been issued for this project through the DNRC. No machine piling of slash or broadcast burning will be allowed within the SMZ's. All burning of piles associated with this project will be performed during the late fall and winter months in accordance with rules set by the Montana/Idaho Airshed Group 2006. The project area is located within Montana Airshed 7 which encompasses portions of Beaverhead and Madison Counties. Currently this Airshed does not contain any impact zones.

No long-term adverse impacts to air quality are anticipated with this project.

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 direct, indirect, and cumulative effects to vegetation.

Lodgepole pine is the dominant seral species with Subalpine fir/Grouse Whortleberry (Abla/Vasc) as the dominant habitat type. The area lies along the drought limitations of the habitat type and consequently subalpine fir is sparsely represented. Douglas-fir is indicated as a climax species on the drier slopes with Douglas-fir/Pine Grass (Psme/Caru) as the habitat type. The irregular topography and hummocky features in the area are conducive for forming frost pockets that favor lodgepole pine as the seral species. Douglas-fir is quite often poorly formed and stunted in these areas but does grow well on the upland slopes and sites indicating Douglas-fir climax. Regeneration is minimal and understory vegetation is moderate with moderate coarse woody debris.

The proposed harvest area is composed predominately of lodgepole pine. Mature lodgepole pine stands identified for treatment exhibit poor to moderate growth due to age, overstocking, and advanced infestation of mountain pine beetle and dwarf mistletoe.

A plant species of concern, Lemhi Beardtongue, has been observed approximately one mile south of the proposed project area in open sage-grassland terrain. No other sensitive species/species of special concern have been documented or observed within the proposed project area.

The vegetative cover type within these riparian zones is "Broadleaf and Conifer Riparian" These are riparian areas containing mixed broadleaf (cottonwood/aspen/alder) and conifer forest, with total tree cover from 20 to 100 percent. Associated plant community would include: Aspen, Birch, Black Cottonwood, Douglas-fir, Engelmann Spruce, lodgepole pine and Subalpine Fir. Shrub species would include alder, snowberry, thimbleberry, serviceberry, willow, Kinnikinnick, grasses and forbs. This system is maintained by stand–replacing disturbances, crown fire, insect outbreak, disease, and windthrow within the matrix of conifer forests. The proposed treatment would essentially accomplish the same effect through strategic mechanical harvest and create diversity in age class.

The proposed treatment would encourage vegetative diversity in species and age class. Wildlife will benefit from the proposed treatment with enhanced food sources and cover over time. Adjacent mature and overstocked conifer stands will provide temporary cover loss associated with this treatment.

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8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.

A variety of big game, small mammals, raptors and songbirds use this area. The treatment planned will likely enhance vegetative cover and diversity over time by restoring these riparian corridors to a vegetative condition that would have been present historically prior to fire suppression. Short-term impacts and disturbance is considered to be minimal. Engleyard Creek supports fish and may support populations of arctic grayling (both resident and fluvial/adfluvial). Arctic Grayling are currently a candidate species for listing under the Federal Endangered Species Act (ESA).

No adverse impacts are anticipated to the stream channel, water quality, or aquatic habitat as a result of the planned treatment to remove majority of the mature encroaching conifers.

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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 direct, indirect, and cumulative effects to these species and their habitat.

Due to the size, season, duration and harvest method of the proposed project, direct, indirect or cumulative effects to endangered and sensitive species are expected to be negligible.

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10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.

No archaeological investigative work was conducted in response to this proposed development on private lands.

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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 direct, indirect, and cumulative effects to aesthetics.

No adverse impacts to the viewshed is expected from the proposed harvest within the SMZ's. Noise levels from equipment operation are temporary and minimal in this rural ranch landscape.

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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 direct, indirect, and cumulative effects to environmental resources.

None anticipated.

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.

- Recent timber harvest projects have occurred on State and BLM lands within 2 miles of the project site. Numerous environmental documents and assessments with public scoping were completed for all these projects with action alternatives employed.
- Montana Natural Heritage Program (DNRC Querry – lists and maps for Species of Concern) 2015.

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.

Health and safety risks to humans and recreational structures (homes, outbuildings, and utilities) will be reduced as a result of the planned treatment to reduce forest fuels and tree stocking in mature and overstocked forest stands. Adverse risks posed by this project are expected to be minimal. Log truck traffic is not considered to be an issue on county roads accessing this parcel. Safety signage will be posted to warn the public of timber harvest operations and log trucks on the public right-of-way.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Timber harvest will be conducted by a professional forest industry contractor providing employment and commerce. Trees will be utilized for commercial sawlogs, an agricultural

commodity used extensively in this region by the public as a renewable resource. The proposed project would contribute to industrial production in the region.

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

This project will have minimal impacts to quantity and distribution of employment. While this project is a relatively small timber harvest operations, it will help to maintain the current employment in the industry with much needed raw material supply from this project to the value-added processing plants.

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

Negligible amounts.

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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 direct, indirect, and cumulative effects of this and other projects on government services

N/A.

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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.

N/A

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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 direct, indirect, and cumulative effects to recreational and wilderness activities.

N/A

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

N/A.

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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 direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.

N/A.

EA Checklist Prepared By:	**Name:**	Mike Atwood	**Date:**	11/ 17/ 2015
	Title:	Dillon Unit Forester		

V. FINDING

25. ALTERNATIVE SELECTED:

Action Alternative: Implementation of Alternative Practice as proposed with additional mitigation measures.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Significant impacts to the primary functions of the SMZ are not anticipated under the Action Alternative with the implementation of operating restrictions and mitigation measures outlined in this Alternative Practice.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Checklist Approved By:	**Name:**	Timothy Egan		
	Title:	Dillon Unit Manager		
Signature:	/S/Timothy Egan		**Date**:	11/18//2015