

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Merkel Road Improvement
Proposed Implementation Date:	March-May 2018
Proponent:	Jason Merkel
Location:	Section 16 – T11N-R2W (Common Schools)
County:	Lewis & Clark

I. TYPE AND PURPOSE OF ACTION

The proponent has applied to the Department of Natural Resources and Conservation (DNRC) for a gravel permit in the section of State Trust Land noted in the title. The site is located next to an existing dirt road that is used for a driveway and is off Dana's Point Road. The applicant has legal access to this site. Dana's Point Road has an easement for public use. The applicant also an easement for the dirt road driveway which also allows him to improve the part of the driveway on state land. Please see attached map.

Jason Merkel would like to take and remove a small embankment of material that contains gravel to improve the dirt road driveway that begins on state land and continues to his private property. The existing dirt road was cut to a slope which creates the embankment. As the road progresses west over approximately 150 feet, the embankment tapers from ground level to approximately 10 feet above the road. The area to be removed is approximately 0.25 acre in size with approximately 2,000 cubic yards of material available. When the material is removed, the head cut from the road will no longer exist, the slope of the land would remain the same as before mining but at the same elevation as the existing road.

The site is in a location that is timbered and hilly, which makes it not visible from neighboring homes and not visible from Dana's Point Road. Mr. Merkel plans to bring in a loader and a screen for equipment to improve the road.

II. PROJECT DEVELOPMENT

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

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

State of Montana Department of Environmental Quality (DEQ): Notification of small quantity of gravel to be mined.

State of Montana Department of Natural Resources and Conservation (DNRC):
Surface and Mineral Owner. Minerals Management Bureau staff; Mineral Resource Specialist, Heidi Crum, and Petroleum Engineer, Trevor Taylor, along with Helena Unit Manager, Andy Burgoyne and applicant Jason Merkel met on site on January 25, 2018. Jack Rae holds the surface lease on this tract.

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

None.

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proposed gravel permit would not be granted. Current grazing, easements, and non-motorized recreational use would continue.

Action Alternative: The gravel permit would be granted to Jason Merkel to take and remove gravel from the new pit on state trust land.

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.

The location of the proposed new gravel source to be mined is located on parent material of Pediment gravel with windblown silt and sand with Crago Musselshell gravelly loam soils. According to the Natural Resources Conservation Service Web Soil Survey these soils have a severe erosion hazard potential, severe restoration potential, and fair traffic ability ratings. The entire area was mined historically with many tailings piles scattered throughout the hills.

The proponent would mine a small embankment, which currently has a head wall (due to the construction of the road) of approximately 10 feet at the highest on the west end and tapers to meet the surface on the east side. Upon reclamation Mr. Merkel would contour the site to match the surrounding landscape and reseed with a native seed mix approved by the DNRC Central Land Office. The slope would be approximately the same, but lowered.

With the potential for soil erosion, the proponent would plan to divert, intercept, convey, slow or retain runoff or sediment if needed during precipitation events. Best Management Practices (BMP's) the proponent would use includes ditches, berms, grading, in sloping, and applying more gravel to the pit floor to decrease the amount of excessive soil erosion.

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.

This gravel source site is located approximately 0.14 miles, and 80' higher in elevation from Hauser Reservoir. This is a very hilly area and the source site would be removing a small embankment of material. Many domestic, stockwater and irrigation wells are located in this area. The closest well is 0.14 miles away and 80' lower in elevation. The 0.25 acre that would be mined is the top of a small

embankment, which is the result of the construction of a road. This site is part of a drainage, however, the reclamation of this small site would simply be lowering the elevation and not significantly changing the slope. The drainage shouldn't be affected, but as stated in the above in the Geology section, BMP's would be installed to reduce potential erosion during precipitation events. The proposed project should not have significant impacts on surrounding ground and surface water quality and quantity.

No cement mixing or asphalt mixing is planned for this site. All fuel, oil and waste would be kept out of the mine area. Any spills would be excavated and removed immediately. Based on the project design and protection measures, it is unlikely there would be any measurable effects to surface or groundwater by the proposed project. There is low risk of direct, indirect or cumulative impacts.

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.

A temporary increase in airborne pollutants and particulates would occur from machinery during proposed mining and road improvement activities. The short term and the very small scale of this operation should minimize air quality impacts.

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.

The proposed gravel site is composed of Rocky Mountain lower montane, foothills and valley grassland along with Montane sagebrush steppe. Existing native species on the site include ponderosa pine, big sagebrush, bluebunch wheatgrass, green needlegrass, prairie junegrass, and blue grama.

The proposed activity would remove the native plant communities at the site of the gravel source. The proponent would be required by the DNRC issued permit to reclaim annually so there is no bare ground and decrease the invasive species. The proponent would be responsible for monitoring and controlling weed populations during the life of the DNRC issued gravel permit and for a period of 3 years after the permit expires.

The site would be finally reclaimed when the road improvement project is complete. The site would be returned to a natural contour, at no steeper than 2:1 slope, which is the approximate existing slope. All topsoil overlying the gravel to be used on the road would be stockpiled to be used for reclamation of the disturbed area once the gravel has been removed. Soil would be appropriately prepped for seed bed and the proponent would reseed the area to the seed mix in the DNRC gravel permit.

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.

A variety of big game, small mammals, reptiles, raptors, upland game birds and songbirds use this area and activities from the proposed project could temporarily disrupt wildlife movement and patterns. However, proposed activities are close to existing, open roads, and as such the area likely doesn't receive extensive use by many of the wildlife species more sensitive to human disturbance. A minor amount of grassland habitat would be removed with the proposed activities, but considerable amounts

of these habitats would persist on the DNRC-managed parcel into the future. Big game winter range attributes would not be appreciably altered; no changes in thermal cover and minor changes in available forage for wintering big game would be anticipated.

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.

A search was conducted using the Montana Natural Heritage Program database to identify point observations of species of concern in the section of the proposed activity.

This site is located approximately 1.0 miles from a documented observation of Clark's Nutcracker (*Nucifraga Columbiana*) in Section 10. The site is approximately 0.14 mile from Hauser Reservoir where Westlope Cutthroat Trout (*Oncorhynchus clarkia lewisi*) have been documented. The site is approximately 0.6 miles from a documented observation of Pinyon Jay (*Humnorhinus cyanocephalus*) in section 17.

The proposed project site is not located within the Greater Sage-Grouse general or core habitat area boundaries defined by the Executive Order (EO) for the Implementation of the Montana Sage Grouse Conservation Strategy.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

DNRC Archaeologist, Patrick Rennie was consulted regarding the nature of the proposed action and the potential to impact historical and archaeological resources; there are no other cultural resource concerns with the proposed project.

A field evaluation was also completed by DNRC Mineral Resource Specialist Heidi Crum, Petroleum Engineer Trevor Taylor, and Helena Unit Manager Andy Burgoyne January 25, 2018. No identifiable historical or archaeological items were found to be at the location of the proposed gravel pit.

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.

This gravel site is located on a dirt road driveway approximately 0.3 miles west of Dana's Point Road, which is a public access road in this state section. However, the public is not allowed on the driveway and would have little visibility of the gravel site. The site is located within rolling hills and is not visible from surrounding homes. The two families who have easements to use this dirt road driveway are the only people who would see the site.

Gravel excavation would be short term, occur intermittently and some noise is expected during the operation.

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.

The proposed project would have an impact on the land (approximately 0.25 acre), would use an insignificant amount of water for gravel excavation as there would be no dewatering on-site, and would temporarily affect the air quality due to airborne dust particles resulting from vehicles traveling to and from the gravel pit. No cumulative effects to environmental resources have been identified as a result of mining for gravel.

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.

No other environmental documents were found that pertain to Section 16 in T11N-R2W.

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.

No human and health safety risks were identified as a result of the proposed project other than the typical occupational hazards that coincide with mining operations.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

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

The proposed project is not expected to alter current or future industrial, commercial, and agricultural activities and production.

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.

The proposed project would not create, move, or eliminate jobs.

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.

None.

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.

None.

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.

No known zoning or management plans exist for this area.

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.

None.

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.

None.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

None.

23. CULTURAL UNIQUENESS AND DIVERSITY:

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

None.

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.

The proponent has provided \$25 for a gravel permit and would pay \$1.50 per cubic yard in royalties.

The existing agriculture lease on the State Section listed above provides approximately \$849 in annual revenue from Section 16 that goes to Common Schools.

**EA Checklist
Prepared By:**

Name: Heidi Crum
Title: Mineral Resource Specialist

Date: 2/2/18

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, I have selected the Action Alternative, to issue an Aggregate and Rock Mining Permit to mine for sand and gravel resources. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and generate revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude all identified potential impacts would be mitigated by utilizing the stipulations listed below and no significant impacts would occur as a result of implementing the selected alternative.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

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EIS

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More Detailed EA

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No Further Analysis

EA Checklist Approved By:	Name:	Trevor Taylor
	Title:	Petroleum Engineer
Signature: <i>Trevor Taylor</i>		Date: 2/2/18



08

09

Gravel Source Location

Dana's Point Road

Road Improvement
Project Location

T11NR2W

17

16

Dirt Road Driveway