

Orondo Mineral Material Competitive Sale Environmental Assessment

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BLM



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I. Introduction

A. Background

Mitchell Trucking & Paving (Mitchell) has been mining sand and gravel from private property (about 20 acres) since the mid-1990s (Mitchell, 2015). This private parcel is adjacent to a federal parcel managed by the Bureau of Land Management (BLM). On February 5, 2015, the BLM received a letter (dated January 30, 2015) from Mitchell requesting an agreement/lease of a 25-acre parcel of federal land managed by BLM adjacent (east) to their current mining operations. Only about 12 acres (1/2 of parcel size) would be mined. Mitchell is seeking authorization to continue mining to the east onto the BLM parcel as mineable reserves are depleted on their private lands. The company expressed interest in bidding for access to mineral materials on the adjacent BLM parcel. Since the inquiry involves purchase of mineral materials (sand and gravel) from a private party of more than 200,000 cubic yards of material, BLM must initiate and hold a competitive mineral material sale.

This environmental assessment (EA) describes the proposed action and no action alternatives. It analyzes environmental and social impacts of developing this property, evaluates any mitigating measures which might be necessary to lessen local impacts of the project, it describes the mining and reclamation proposals and examines the land use alternatives for this parcel upon mine closure and reclamation.

B. Type of Action

This action includes assessment, development, and reclamation of a mineral material (sand and gravel) deposit near Orondo, Washington.

C. Location of Proposed Action

This project is located about 1 mile east of Orondo, Washington (Douglas County), adjacent to a major transportation route (U.S. Hwy 2). The legal description of this tract is Township 25 North, Range 21 East, Section 28, S $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$, Willamette Meridian (see attachments 1 and 2). The project area is within the Wenatchee Field Office of the BLM Spokane District.

D. Purpose and Need for Action

The purpose of the action is to respond to a request from Mitchell for BLM to make minerals available on the subject parcel. The need for this action arises from BLM's requirement to comply with federal laws and regulations (as described below), and the Spokane District Resource Management Plan Record of Decision (RMP/ROD 1987). Personal communications with Jody Mitchell of Mitchell Trucking & Paving indicates that they are running low on mineral material resources on their private lands to the west of the BLM parcel and Mitchell needs to develop a new source of gravel.

E. Conformance Review and Applicable Laws, Regulations, and Policies

The action conforms to the Spokane Resource Management Plan Record of Decision (1987), and with federal law and regulations described below.

The Spokane RMP/ROD (1987) states that “salable minerals, including common varieties of sand, gravel, and stone will continue to be made available to local governments and the general public.” It also states that “new material sites may be developed as needed, when they are consistent with the protection of other resource values.”

Section 302 of the Federal Land Policy and Management Act of 1976 directs the Secretary of the interior to manage public lands under the principles of multiple uses. Minerals are specifically identified as one of these multiple uses in the Act.

The Act of July 31, 1947 as amended (Mineral Material Act) provides for the disposal of mineral materials (common varieties of sand, stone, gravel, pumice, pumicite, clay, and rock) from public lands managed by BLM. The Secretary of the Interior has discretion to permit the competitive sale of mineral materials to private companies.

The Code of Federal Regulations (43 CFR 3601.6) states that it is BLM’s policy “to make mineral material available unless it is detrimental to the public interest to do so;” and “to protect public land resources and the environment and minimize damage to public health and safety during the exploration for and the removal of such minerals.”

The BLM manages invasive species and noxious weeds under the following policies and regulations:

- Treatments of invasive species proposed in the action alternatives conform to all applicable guidance and standards set forth in the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS (USDI BLM 2007, Vegetation Treatments PEIS, hereafter), to which this EA is tiered;
- The Agricultural Risk Protection Act of 2000 (Public Law 106-224) authorizes the BLM to manage noxious weeds and to coordinate with other federal and state agencies in activities to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on federal lands;
- The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.C. 136r-1) directs agencies to follow an integrated pest management approach to managing invasive species; and
- The Federal Noxious Weed Act of 1974 directs federal agencies to control or contain undesirable plant species using methods including biological agents and the BLM Manual 9014 (Use of Biological Control Agents of Pests on Public Land) provides guidance for the use of biological control agents for integrated pest management (IPM) programs on BLM-administered lands. Release of biological control agents is regulated

by the Animal and Plant Health Inspection Service (APHIS) and requires a permit (APHIS 2014).

F. Scoping, Tribal Consultation, and Public Involvement

Public involvement for this proposed project was achieved in several ways which included:

- A formal request from and discussion with a local mining company for BLM to make this mineral material resource available for sand and gravel mining development.
- Release of this environmental assessment for public comment.

Consultation was conducted with the Department of Archaeology and Historic Preservation and Native American tribes:

- Consultation regarding the Area of Potential Effect (APE) was initiated on January 15, 2015, with the Department of Archaeology and Historic Preservation (DAHP), CCT, and Yakama Nation. The DAHP concurred with the Area of Potential Effect (APE). In the letter of February 6, 2015, the CCT requested a review for traditional cultural properties in the project area. No concerns were identified by the Yakama Nation.
- Consultation regarding effects to historic properties was initiated on October 16, 2015 with DAHP and the CCT. In consultation, the Confederated Tribes of the Colville Reservation (CCT) identified the area as part of a historically significant transportation corridor between the Waterville Plateau and the Columbia River, suggested sensitive sites occur in the area and, in addition to a Class III cultural resource inventory, recommended a limited Traditional Cultural Property (TCP) study be undertaken.
- TCP review conducted by the CCT indicated that TCPs were not located within the APE for the undertaking. The completed TCP report references an 1884 General Land Office cadastral survey map, which marks a trail in close proximity to the project area boundary. Culturally important areas were identified outside of the area of potential effect for the project. A small trash scatter was identified in the APE but the site was not eligible to the National Register of Historic Places. DAHP concurred with a determination of no effects to historic properties in the letter of October 26, 2015.
- A Class III cultural inventory was completed for this site and no cultural resources were found. The Washington State Historic Preservation Officer (SHPO) has given concurrence that no historic properties would be affected by project implementation.

G. Issues

- How would mining operations in the project area affect air quality?
- How would mining operations in the project area affect soils?
- How would mining operations in the project area affect shrub steppe vegetation?
- How would mining operations in the project area affect visual resources?

- How would authorizing mining operations in the project area affect transportation?
- How would authorizing mining in the project area affect the local economy?
- How would authorizing mining operations in the project affect noxious weeds and invasive species?

H. Resources Eliminated from Further Analysis

Potential impacts to several resources were considered during the preparation of this EA. Impacts to the resources listed in Table 1 below were not analyzed because the resource is not present in the project area or the resource would not be impacted by the proposed action or alternative.

Table 1. Resources Eliminated from Further Analysis

Resource	Potential Impact*	Rationale
Areas of Critical Environmental Concern (ACEC's)	NP	No ACECs are present in the project area.
Cultural	NI	Historic properties have been identified near the project area but none are located within the area of potential effect. Intensive BLM Class III cultural resources inventory and a traditional cultural property review did not identify historic properties in the area of potential effect. No historic properties are expected to be affected with implementation of project design features for inadvertent discovery of cultural remains, including a requirement to cease operations and contact BLM in the event that cultural resources are found.
Environmental Justice	NI	Alternatives would have no disproportionately high or adverse effects on low income or minority populations because the proposed action would result in maintenance of jobs in the local area. U.S. Census Bureau (2015) data indicates that Douglas County includes approximately 32% minority populations and 15% low income populations, compared to 30% and 13%, respectively, for the State of Washington.
Prime and Unique Farmlands	NP	No prime and unique farmlands are present in the project area.
Recreational Use	NI	Recreation on this site is currently limited due to access and close proximity to an existing active surface gravel operation (west), U.S. Highway 2 (south) and orchards (west/northwest) of the parcel. Because of the limited recreational use of the BLM parcel, no disruption to recreational activities is expected as a result of this project.
Threatened and Endangered Species	NP	Other than the gray wolf, which is a habitat generalist, the site lacks suitable habitat to support either the shrub-steppe obligate species (greater sage-grouse, pygmy rabbit, and Washington ground squirrel) or the marbled murrelet, which requires old-growth forests. Gray wolves are not documented on the site. Individuals could potentially move through the area, but no

Resource	Potential Impact*	Rationale
		<p>effects are expected due to the likelihood of wolves to either avoid this area due to existing activities, or pass through outside of operational hours. Therefore, this proposed project will have no effect on Threatened, Endangered, Proposed, or Candidate species or designated Critical Habitat for such.</p> <p>A 2011 BLM botanical site evaluation found no special status plant species or ecological communities of concern. There are no records of historic occurrences of rare plants in the project area.</p>
Water Quality	NI	<p>There should be no measurable effects on the Columbia River from this proposed operation due to its non-connectivity with the site. Surface water occurs to the east of the parcel during spring snowmelt and runoff. Surface water runoff infiltrates to the east of the site through coarse alluvium and was not present onsite during several inspections of the site in 2015. The majority of runoff water during rain events will either percolate into alluvium or flow towards the center of the pit. Overall, surface and groundwater quality at this site should not be affected with proper abatement controls (predominately maintenance of mining equipment) incorporated into the mining plan.</p>
Wetlands	NP	<p>There are currently no wetlands located on the BLM parcel. Proposed mining is not anticipated to intersect down to the local water table (groundwater).</p>
Wild and Scenic Rivers	NP	<p>No wild and scenic rivers are present in the project area.</p>
Wildlife	NI	<p>Based on the proposed action, the footprint of disturbance is expected to be 12 acres and that habitat would become unavailable to wildlife for the duration of operations. However, based on the extent and distribution of similar suitable habitat in the vicinity, this temporary loss would not result in a discernible difference to any particular species as measured by population dynamics and/or the overall availability of habitat. Temporary loss of wildlife habitat would be mitigated by rehabilitation of the pit area (12 acres). Native sagebrush-steppe plant species would be planted or seeded on the contoured slopes of the pit, therefore no net loss is expected to occur.</p>
Wilderness	NP	<p>No wilderness areas are present in the project area.</p>

NP = Not Present

NI = Not Impacted by the proposed action or alternative.

II. Proposed Action and Alternatives

Two alternatives are analyzed in this document. The Proposed Action would offer mineral materials from the BLM parcel for competitive bid sale. The No Action alternative would not offer mineral materials for competitive bid sale.

A. Proposed Action

BLM proposes to offer mineral materials for disposal through competitive sale on a 25-acre parcel located about 1 mile east of Orondo, Washington. The sale would allow for removal of up to 2,000,000 cubic yards (approximately 100,000 cy/year) of sand and gravel from the parcel over an estimated 20-year period. After awarding a contract to the successful bidder, the contracted party would be required to develop a detailed mining and reclamation plan for BLM approval prior to initiation of any mining operations. Prior to approval of the mining and reclamation plan, the BLM may require mitigation measures or stipulations as conditions of approval. For purposes of analysis, it is assumed that the following generalized scenarios would occur and the described actions would be part of the mining and reclamation plan.

A mineral material (sand and gravel) pit would be sequentially developed over about 12 acres of the 25-acre BLM parcel to be leased. Mining would be accomplished through a competitive sales contract issued to a private mining company. The company would subsequently mine the parcel at an estimated rate of about 100,000 cubic yards per year for approximately 20 years or until the resource is exhausted and the site is fully reclaimed. The ultimate pit bottom elevation is projected to be about 900 feet above mean sea level. The pit floor elevations may vary depending on gravel resource and if bedrock is encountered during mining.

The property would be developed using open pit mining methods with concurrent reclamation of mined out areas (pit side slopes). The location of the pit is isolated from populated areas by surrounding mining operations (west), orchards (west and northwest), vacant BLM lands (north and east), and U.S. Highway 2 (south). The southern edge of the reclaimed crest of the proposed pit on the BLM parcel averages about 200 feet north of U.S. Highway 2. Mining would be governed by a pre-development mining plan to ensure that BLM mining requirements are met. An adjacent gravel pit and processing facility has been developed by Mitchell up to the west boundary of the BLM parcel (see attachments 2 and 3-top photo).

This previous development would allow mining through the west boundary of the BLM parcel. This would result in maximum resource recovery from this area of the BLM parcel. The north, east, and south sides of the BLM parcel pit would be developed leaving final pit highwall slopes (utilizing 2 horizontal to 1 vertical - 2:1) for safety and to enhance post mining revegetation.

During the mining life at the proposed gravel pit, there would be no water present in the pit, except during high runoff in the spring and flooding events (e.g. rain on snow event or thunderstorm). Mining on the adjacent private property (Mitchell) has not encountered groundwater, thus it is unlikely that groundwater would be encountered in the lower portions of the pit on the BLM parcel. The pit would be designed with a drainage layout where the majority

of the surface runoff water at the site flows towards the center of the pit for collection and infiltration. It is anticipated that complete mining of the parcel would not result in any standing water retained within the bottom of the pit.

Sand and gravel would be loosened from the pit using a bulldozer to push down the highwall slopes into the developing pit bottom where a large rubber tire loader would load gravel into dump trucks. No blasting would be required for mining of the loose (alluvium) gravel deposit. Loaded material would be transported to an offsite facility for additional processing (private property). Water sprays would be used during all phases of material handling to reduce fugitive dust.

Temporary haul road(s) may be constructed and removed within the pit as necessary to access the deposit as mining progresses eastward. Support equipment in the pit would consist of 4x4 pickup trucks and water truck for dust suppression. All mining, and high traffic areas associated with this operation (mine pit) would have water sprayed to reduce potential generation of fugitive dust. Operations would comply with Douglas County *Air Authority* requirements.

Water needed to support operations would be trucked in from offsite.

The general mining scenario presented above is included to provide the reader a concept of what the proposed sand and gravel mining project plan of operations would include. In addition, the following mitigation measures would be required of the successful bidding company through a formal competitive bid contract.

- Internal haul road(s) from the mine face (active excavation) to the existing processing plant (private lands) would be watered to minimize fugitive dust from leaving the site.
- Mining activity, including all operations (crushing, screening, etc.) would occur during the daytime hours. An earthen berm already exists along the southern edge (along U.S. Hwy 2-Truck run-away ramp) and would help to dampen mining related sounds. The existing mine pit to the west would also help reduce winds, and dampen mining related sounds.
- No water is anticipated to be encountered during mining operations. Concurrent reclamation would help stabilize local soils and reduce fugitive dust generation. Pit slopes would be reclaimed concurrent with mining, beginning at the crest of the pit and proceeding downward with mining. Stable, final reclamation slopes of about 2 horizontal to 1 vertical (2:1) would be planned and incorporated into the mining operation sequence to prevent over-steepened final pit walls during mining. Pit slopes would be contoured and re-vegetated with native plants, concurrent with mining.
- If an archaeological resource (historic or prehistoric site or object) is discovered on BLM lands by the operator or any person working on the operator's behalf the operator shall immediately stop all operations in the area, verbally notify the

Authorized Officer (AO) (Wenatchee Field Manager), and follow up such verbal notification with a written confirmation (certified mail recommended). In accordance with 43 CFR §10.4 (c)(d) and (g), if the discovery includes human remains, funerary items, sacred objects, or objects of cultural patrimony, operations shall remain suspended and the discovery protected for thirty (30) days or until a written notice to proceed is issued by the AO. An evaluation of the resource or remains will be made by the AO and appropriate mitigation actions will be identified in consultation with the State Historic Preservation Office (SHPO), consulting tribes, and holder. Holder shall be responsible for evaluation and mitigation costs. All archaeological materials shall remain the property of the United States.

- Control of noxious weeds and invasive plants using herbicide, manual, biological, and mechanical treatment: The BLM would authorize herbicide, biological control, and mechanical treatment (described below) as appropriate to actively minimize noxious weeds and invasive plants. The BLM would review and approve herbicides and adjuvants suitable for the site. Treatments would occur once or twice a year depending on the presence of noxious weeds and invasive plants.

Dalmatian toadflax and diffuse knapweed are both found in or adjacent to the project area. The key to effective control of Dalmatian toadflax is prevention and integrating as many management strategies as possible. Early detection and eradication can keep populations from exploding, making more management options available. Using many different approaches is important such as; chemical, mechanical, cultural and biological methods. The key to effective control of Diffuse knapweed is to prevent the plant from flowering and going to seed. An integrated weed management approach dealing with Diffuse knapweed is highly recommended. There are many options of mechanical, chemical, and biological controls available.

MECHANICAL

For small infestations, pulling toadflax by hand can be effective. Pull every year for 5 to 6 years to deplete the reserves of the root system. Monitor the site for 10 to 15 years to remove seedlings produced from dormant seeds. For diffuse knapweed any mechanical or physical method that severs the root below the soil surface will kill diffuse knapweed. Mowing or chopping is most effective when diffuse knapweed plants are at full-bloom. Be sure to properly dispose of the flowering cut plants, since seeds can mature and become viable after the plant has been cut down.

CULTURAL

It is imperative to seed managed areas with native grasses. The combination of herbicide spraying and seeding competitive grasses controls Dalmatian toadflax better than spraying alone. Establishment of selected grasses can be an effective cultural control of diffuse knapweed.

BIOLOGICAL

Calophasia lunula, a predatory noctuid moth, feeds on leaves and flowers of Dalmatian toadflax. *Eteobalea intermediella*, a root boring moth, and *Mecinus janthinus*, a stem boring weevil, are

also available. The seedhead weevil (*Larinus minutus*) and the root weevil fly (*Cyphocleonus achates*) provide fair to good control when used in combination with each other. Expect to wait at least 3 to 5 years for the insects to establish and achieve optimum results. This is an option for large infestations.

CHEMICAL

The BLM would authorize use of herbicides approved for use on public lands by the ROD for the 2007 Vegetation Treatments PEIS and any amendments to meet objectives for weed control in the project area. Herbicides would be used to control and eliminate areas of noxious weed and invasive plant spread and to contain existing infestations. The active ingredients in the herbicides proposed for use in the project area, and maximum application rates per acre are listed in Table 2.

Table 2. Herbicides considered for use in action alternatives.

Active Ingredient	Maximum Application Rate in action area (lbs/ac.)
2,4-D	1.9
Dicamba	2.0
Glyphosate	7.0
Imazapic	0.19
Picloram	1.0
Triclopyr	10.0
Imazapyr	1.5
Chlorsulfuron	0.141
Clopyralid	1.0

A list of these approved BLM herbicides, available formulations, registered trade names, and general effects can be found in the Appendix A. Additional information concerning the herbicides available for use under the proposed action is included in the Vegetation Treatments PEIS. Concentrations analyzed in this EA assume the maximum concentrations analyzed in the Vegetation Treatments PEIS; however, actual concentrations applied would often be lower.

Application methods for herbicides would likely include spraying from all-terrain vehicle (ATV), utility-terrain vehicle (UTV), truck, or backpack. All application rates, procedures, and restrictions would be within label specifications. The BLM would develop a pesticide use permit (PUP) prior to spraying which would detail Standard Operating Procedures to minimize herbicide effects on non-target species and eliminate impacts to riparian areas.

Herbicide applications would range in size from a single plant to the entire project area. Timing of weed control would be established based on plant phenology, funding, and resource priorities. Stipulations and herbicide design features are located in Appendix A. The purchaser would submit a weed management control plan and submit a PUP to the BLM prior to applying herbicides.

Weed treatment would occur along the access road and within the project area. Roadside treatments would occur within 50 feet of road centerlines for paved and unpaved surfaces. Within-unit treatments are estimated and represent maximum treatment sizes.

Table 3. Weed Treatments

Roadside treatment (mi.)	Within-unit treatment (ac.)	Notes
Less than ½ mi.		Treatments would occur along the access road primarily Diffuse knapweed and Dalmatian toadflax infestations.
	Up to 25 acres	Treatments would occur primarily along the perimeter of the disturbed area.

B. No Action Alternative

Under the no action alternative, the BLM would not offer a mineral material competitive sale on the subject parcel. No mineral materials would be removed from this parcel. Recent flooding (February and April, 2015) on the BLM parcel has caused excessive erosion and a large channel (20 - 30 feet deep) to be cut into the western portion (Attachment 4-bottom photo). Periodic flooding events would likely continue to erode alluvium in the existing dry drainage headward on the BLM parcel and transport the eroded material down gradient some of which would be deposited on the adjacent private property to the west (as it did in two storm event in early 2015).

III. Affected Environment

Surface material at the site is generally recent alluvium eroding from the Pine/Corbaley Canyon drainage to the east. These materials vary from fine grained silts to large boulders in size and rest upon older metamorphic and intrusive igneous bedrock (at depth). Additional sorted terrace gravel deposits occur to the north of the drainage from glacial outwash up the Columbia River valley. However, there are no current requests for mining the outwash gravels, only the alluvium material located in the dry drainage.

Improvements near the BLM parcel include Mitchell’s mining and asphalt plant operations (Attachment 2) directly adjacent and to the west and a cherry orchard to the northwest. U.S. Highway 2 parallels the southern boundary of Mitchell’s parcel (about 25 acres) but eventually cuts to the northeast across the BLM managed lands within the southeast corner of Section 28 (further to the east of the subject BLM parcel). A portion of the semi-truck runaway ramp occurs along U.S. Highway 2 and is adjacent to the BLM parcel near the southwest corner. A berm is located along the north side of the run-away truck ramp thus the southwest portion of the parcel is not readily visible from U.S. Highway 2. The drainage of Corbaley Canyon (dry) continues to the east. A terrace/outwash gravel deposit (not planned to be mined) occurs along the north side of the subject parcel with bedrock cliffs above. A house is located about one-half mile to the north (over a hill) from the northwest corner of the subject parcel.

The proposed action area is open space with no development. It lies in the middle of a floodplain (no surface water) at the western extent of Pine/Corbaley Canyon. The State of Washington-Department of Ecology has jurisdiction for activities within flood prone areas. Gilbert (2015) Floodplain Management Specialist-State of Washington Department of Ecology-Central Regions (Yakima, WA) was contacted and provided an email (dated 8-24-2015) about the Federal Emergency Management Agency (FEMA) floodplain jurisdiction. Gilbert (2015) provided FEMA (2002) CFR Title 44 regulations pertaining to development in a floodplain and the U.S. Department of Labor-Housing and Urban Development (HUD, 1978) maps illustrating flood zones for the project area. The information outlined in the FEMA (2002) and HUD (1978) regulations and maps does not prohibit sand and gravel mining within a floodplain, especially since there is no planned development/infrastructure that would be damaged if the area was flooded.

There is ample evidence of channelizing and diking for flood control and to keep periodic flood events from eroding into the north bank of U.S. Highway 2 on the BLM-administered parcel within the confines of the dry wash. Two large (10-foot diameter) gabions (wire structures filled with large cobbles) are anchored into the north embankment of the highway projecting to the northwest into the drainage to deflect flood waters away from the runaway semi-truck ramp. Much of the floodplain area has been disturbed. An old road cut traverses the gravel slope in a northwesterly direction, from the wash to the northwest corner of the proposed mining area.

The parcel has an arid climate, no native trees, and it is predominantly covered by low scattered sagebrush/bitterbrush and isolated grasses (see Attachment 3-bottom photo and Attachment 4-top photo). Noxious weeds infestations (predominately Dalmatian toadflax with some diffuse knapweed) are scattered across the parcel, predominately within the drainage.

Slopes on the parcel are generally flat or gently graded to the west. Steep hills occur above the drainage to the north and south (south of U.S. Highway 2). Due to the rocky/gravelly nature and high porosity and permeability of the alluvium, no surface water is present on the BLM parcel.

Surrounding area land-use includes sand and gravel mining (Mitchell operations) to the west, orchards to the west and northwest, a residence about one-half mile to the north and open space to the east and south (beyond U.S. Highway 2) of the parcel. The highest monetary value for this property is mineral resource development. The adjacent Mitchell mine produces on average about 100,000 tons of sand, gravel, and crushed rock per year (Mitchell, 2015). On average the current Mitchell operations have an estimated 100 truck cycles per day over a 9-month period (typically March through November) but varies greatly by time of year and projects (Mitchell, 2015).

A. Air Quality

Air quality on the parcel is generally good due to open space, nearly continuous westerly winds dissipating local dust, an open rural setting, and lack of population concentrated around the site. Local sources of air contaminants are the adjacent sand and gravel mining operation (Mitchell) to the west, orchard spraying and burning to the west/northwest, traffic along U.S. Highway 2 to

the south, and residential wood stove heating to the west. Although there would be little fugitive dust issues from mining on the BLM parcel, it would be addressed in mine reclamation planning.

B. Soils

Soils on the parcel are poor to non-existent within the drainage due to past surface disturbance by bulldozing for flood control and frequent flooding across the parcel. Alluvium (mixture of large boulders, gravel and sand) outcrops at the surface. Within the confines of the drainage the ground surface is covered by gravel ranging in size from several inches to boulder size (3 feet diameter). No appreciable soil was observed within the dry drainage during a March 26, 2014 field visit. Periodic flooding down Corbaley Canyon has removed soils within the confines of the canyon.

According to Beielor (1991) in the Soil Survey of Douglas County, Washington, soils within the Corbaley Canyon drainage area are mapped as the Xerofluvents, nearly level (76) series which are formed on alluvial fans and flood plains.

A thin veneer of soil occurs on the side slope and top of the gravel deposit (outwash terrace) along the north side of the subject parcel, thus allowing for abundant bunch grass and forbs to grow. The Soil Survey of Douglas County, Washington (Beielor, 1991) mapped this soil type as Xerorthents, very steep (77) series which are very deep, somewhat excessively drained soils and are typically on terrace escarpments. They formed in glacial outwash mixed with loess (silt) in the upper part. This portion of the BLM parcel is not proposed to be mined or disturbed.

C. Vegetation

Vegetative species on the BLM parcel in the Pine/Corbaley Canyon is predominately bitterbrush with some scattered sagebrush and intermixed forbs. Relatively little bunch grass is present due to the lack of soil cover. A few noxious weeds are present on the BLM parcel. The upland area (not in mining proposal) on top of the outwash/terrace deposit is dominated by bunch grass and native buckwheat, especially on the eastern end of the gravel deposit. No native trees occur on the parcel. A 2011 BLM botanical site evaluation found no special status plant species or ecological communities of concern. There are no records of historic occurrences of rare plants. Invasive species include Dalmatian toadflax (*Linaria dalmatica*) with only a few individual plants present. Diffuse knapweed is present in the area adjacent to the proposed project area.

During the BLM inspection of the site on March 26, 2014, three Dalmatian toadflax plants were found in the creek bottom and diffuse knapweed was found along the US 2 highway right of way. Both plants are listed as class B noxious weeds by the Washington State Noxious Weed Board and the Douglas County Weed Board. Class B noxious weeds are nonnative species whose distribution is limited to portions of Washington State. Dalmatian toadflax is a non-native, perennial forb. Habitats for Dalmatian toadflax include disturbed open sites. Diffuse knapweed (*Centaurea diffusa*) is a non-native biennial forb that reproduces solely by seed. Diffuse knapweed tends to invade disturbed, overgrazed areas.

D. Visual Resources

Visual resource impacts at this site are limited. The area consists of a bluff to the north, U.S. Highway 2 to the south, an active surface mine (including processing facility, asphalt batch plant, shop and truck maintenance/parking area) to the west, orchards to the west and northwest, and one residence located about one-half mile north of the northwest corner of the BLM parcel. Also there was a previous mineral material site operated by Old Castle to the southwest (south of Mitchell) of the parcel (Attachment 2). The site is not visible from the town of Orondo, and only from along a section of U.S. Highway 2 for about 1 mile to the east where parts of the operation can be seen. U.S. Highway 97A, located on the west side of the Columbia River, may have minor distant views (1 mile) of the pit area. The BLM parcel is not visible from U.S. Highway 97 which runs north/south through Orondo.

E. Transportation

The active Mitchell operation, situated adjacent to and west of the proposed project, currently hauls crushed rock and asphalt to the local markets. The Mitchell operation is similar in size (averages 100,000 tons per year) to the proposed project (100,000 cubic yards) and dispatches an estimated 100 company trucks per day hauling from the site. These trucks access the site through a private paved road off U.S. Highway 2.

F. Socio-economic

The U.S. Census Bureau (2015) data shows Douglas County median household income for 2009-2013 to be \$51,908. The U.S. Bureau of Labor and Statistics (2015) shows Douglas County had an unemployment rate of 7.5% in 2014. The current Mitchell operation employs 25 people with four employees dedicated just to the mining operations (Mitchell, 2015).

IV. Environmental Consequences

A. Impacts from the Proposed Action

Air Quality

Direct impacts to local air quality as a result of this project would be short term in nature. Impacts would include on and off-site dust generation, batch plant gases, and motor vehicle emissions from on-site mining and offsite processing operations. These impacts would decrease throughout the mining process as the operation decreases its operational footprint size and operations are limited to within the pit. Partial reclamation during mining will also help to reduce migration of particulates. Air quality impacts should cease upon conclusion of mining and final reclamation.

Any fugitive dust issues will be addressed in the mining plan and controlled using a variety of processing water sprays, haul road watering and paved roads. The only dust issue on the BLM parcel would likely be related to haul trucks and processing operations within the pit area. Dust

emission from the new operation located on the BLM parcel would meet air quality standards as directed in the federally authorized and monitored mine plan of operations.

Soils

Over the 20-year mining operations, soils would be disturbed on an estimated 12 acres. Relatively little to no soil is present within the drainage and the amount of soil that would be disturbed is small. Any soil encountered during mining or possible fines left over from mineral processing could be used as a soil substitute. Any appreciable amounts of soil available at the site will be removed and stockpiled during development and mining. Stockpiled soils would be redistributed during sequential reclamation of the pit walls and access roads. Soil supplements are not planned on being added on the pit highwall areas to promote revegetation.

Vegetation

Mining would most likely be conducted in incremental strips of about 100 feet wide (east-west) and average 200 feet (north-south) averaging 0.5-acre increments. As the mine develops, concurrent reclamation of the pit high walls would sequentially re-establish more vegetation than was originally present due to the increased surface area associated with the slopes. Reintroduction of vegetation would be engineered to provide native species preference, suitable slope control, and enhance wildlife habitat. Over the 20-year life of the mining operation, vegetation would be removed and subsequently re-established on an estimated 12 acres. However, because reclamation actions would occur concurrent with mining operations, the amount of area disturbed at any given time would be less than 12 acres. Disturbed ground does provide opportunity for invasive weeds to propagate. However, an enforced Weed Management and Control Plan during the life of the pit operation and for a designated 2 year minimum after active operations cease, would negate the spread or encroachment of noxious or invasive plant species on the BLM parcel.

Visual Resources

The overall visual character of the project area would not change greatly from the current views due to the existence of Mitchell's operating sand and gravel pit to the west of the parcel. The operation would create an open pit to the east of Orondo, Washington that is adjacent to the existing Mitchell operation. Long-term visual impacts, when the pit is established to below current topographic surface elevations, will be improved from the initial stages of the project. As quickly as possible, the mining operation will be contained within the pit proper and out-of-site of the general view scape, except for a short portion, approximately 0.5-mile along U.S. Highway 2. Concurrent reclamation of the upper portion of the pit walls will enhance views from the surrounding properties. While travelers on U.S. Highway 2 will see the high wall a short distance (about 200 feet) from the south, the pit should not be visible from Orondo, Washington.

Most of the mining operation will occur within the pit and out-of-site of the general view scape. While travelers on U.S. Highway 2 will be able to detect the pit highwall at distance, the pit should not be visible from the U.S. Highway 2 and U.S. Highway 97 interchange or from the town of Orondo.

Transportation

The proposed mining operations are not expected to alter existing transportation in and around the subject parcel. Mining related traffic occurs now as a result of the mining on the Mitchell parcel; the mineable reserves on the Mitchell parcel are likely to be depleted in the near future (estimated to be about 5 years). New mining operations on the BLM parcel would likely replace traffic from the adjoining mining operations. Therefore, traffic in and around the pit area will not differ from the current level as the proposed mine pit develops. The estimated level of production from the BLM parcel is similar to the current Mitchell operation.

Socio-economic

This project would create or maintain a number of high wage employment opportunities (average 25 employees) at the mine, batch plant, and trucking facility (Mitchell, 2015). The jobs would be available to local residents of Douglas and Chelan Counties and the surrounding area. In addition, economic ripple effects, some estimates of five to six support jobs to service the mine jobs (restaurants, stores, schools, etc.) would continue to be spread out into the community increasing the number of local job opportunities. This proposed mine would also ensure a stable supply of reasonably priced mineral materials to support future community development.

Municipal tax base would be enhanced through project development and sales, to help support the local community infrastructure. Mine production would also generate about \$100,000 dollars per year in royalties to the federal treasury; this amount would vary year-to-year depending on production and royalty rate(s).

B. Impacts from No Action

If no action is taken on this proposal, conditions on the BLM parcel will remain relatively the same as they are now. The area would remain undeveloped. Noxious weeds and invasive plant species could migrate and spread on to the property unabated as the area is not typically monitored for weed management in contrast to a developed gravel pit with an enforced weed management control plan. Orchards would continue to dominate the landscape to the west and northwest. Mining at the adjacent Mitchell property to the west would continue up to the boundaries of this Federal parcel or until all available resources at that site are utilized. High paying mine related jobs in the Orondo/East Wenatchee/Wenatchee area would then be eliminated and the economic ripple effect benefits to the local community through support services for mining would be reduced.

C. Cumulative Impacts

Cumulative short-term impacts related to this project will be a loss of 12 acres of shrub-steppe wildlife habitat. Reclamation of the site will re-establish a 12-acre area of shrub-steppe habitat, resulting in no net loss of habitat over time.

Fugitive dust and vehicular emissions would continue to occur, to some degree, at this site. Other current local air contaminant sources include orchard clearing, burning and chemical herbicide spraying, fugitive dust and vehicle emissions from the adjacent Mitchell crushing

operations and associated asphalt batch plant, dirt roads, residential wood stove particulates, and adjacent highway traffic (U.S. Hwy 2 and U.S. Hwy 97). Due to relatively consistent winds and dispersion; it is anticipated that these impacts should be minimal at the parcel, and insignificant beyond 0.5-mile downwind from the project area. With dust abatement procedures designed into the mine plan and the concurrent phased reclamation, emissions from the proposed mining operations should not significantly affect short-term cumulative air quality in the local or regional area. Long-term air quality will be minimally or not impacted after reclamation is complete.

V. Consultation and Coordination

A. Individuals and Organizations Consulted

On January 15, 2015, notification letters concerning the proposed commercial sale of mineral materials (i.e. sand and gravel) were sent to the Washington Department of Archaeology and Historic Preservation (DAHP), and the Confederated Tribes of the Colville Reservation.

The TCP review conducted by the Confederated Tribes of the Colville Reservation dated August 10, 2015, found that no TCPs were identified within the proposed project boundaries and that no known TCPs would be affected.

In a letter dated October 26, 2015, the DAHP concurred with the findings of the cultural resource inventory report and TCP review, that “No Historic Properties are Effected” for the proposed Mitchell gravel pit expansion.

The BLM consulted with the State of Washington, Department of Ecology related to floodplains.

The BLM consulted with Mitchell Trucking and Paving to better understand their operations.

B. Databases Consulted

The following databases were used to review the subject parcel for known cultural resources and threatened and endangered (T&E) plant and animal species at or near the project area.

- State of Washington-Department of Fish and Wildlife Priority Habitat and Species Database.
- State of Washington-Department of Natural Resources-Washington Natural Heritage Plant Database.
- State of Washington-Department of Archaeology and Historic Preservation Site Database.
- Bureau of Land Management Resources Inventory Database and other records.

VI. List of Preparers

The following personnel were involved in the field evaluation of this parcel and/or in the writing of the document:

Rich Bailey	- Spokane District - Archaeologist
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J.A. Vacca	- Wenatchee Field Office - Wildlife Biologist
Mark Williams	- Wenatchee Field Office - Noxious Weed Coordinator

VII. References

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Mitchell, J., 2015, Personnel communication about Mitchell Trucking & Paving operations, email dated 10-30-2015.

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U.S. Department of Housing and Urban Development (HUD). 1978. National Flood Insurance Program- Flood Insurance Rate Map-Douglas County, Washington (unincorporated areas), Community-Panel Number 530036 0315 A, Page 315 of 650, 1 p.

U.S. Federal Emergency Management Agency (FEMA). 2002. 44 Code of Federal Regulations (CFR) section 60.3 Flood plain management criteria for flood-prone areas, 6 p.

VIII. Attachments

Attachment 1: General Location Map showing BLM parcel.

Attachment 2: Map showing BLM parcel in relationship to existing Mitchell operations and closed Old Castle mineral material site (SW of BLM parcel).

Attachment 3: Photos – Existing Mitchell operations in pit west of BLM (top), Existing site conditions on west end of BLM parcel (bottom).

Attachment 4: Photos – Existing site conditions on east end of BLM parcel (top). Large incised flood channel cut into gravel deposit on western end of BLM parcel during February 2015 flooding event (bottom).

Appendix A

Table A-1. Herbicides Approved for Use on BLM-administered lands.

Active Ingredient	Registered Trade Names	General Effects to Vegetation
Picloram	Triumph K; Triumph 22K; Picloram K; Picloram 22K; Grazon PC; OutPost 22K; Tordon K; Tordon 22K; Trooper 22K	Picloram is more toxic to broadleaf and woody plants than grains or grasses.
Chlorsulfuron	Alligare Chlorsulfuron Chlorsulfuron 75 Chlorsulfuron E-Pro 75 WDG Nufarm Chlorsulf SPC 75 WDG Herbicide Telar DF Telar XP	Chlorsulfuron is for the control of many invasive and noxious broadleaf weeds in pasture and Range.
2,4-D	Agrisolution 2,4-D LV6; Agrisolution 2,4-D Amine 4; Agrisolution 2,4-D LV4; 2,4-D Amine 4; 2,4-D LV 4; Solve 2,4-D; 2,4-D LV 6; Five Star; D-638; Alliage 2,4-D Amine; 2,4-D LV6; 2,4-D Amine; 2,4-D Amine 4; Opti-Amine; Barrage HF; HardBall; Unison; Clean Amine; Low Vol 4 Ester Weed Killer; Low Vol 6 Ester Weed Killer; Saber; Salvo; Savage DS; Aqua-Kleen; Esteron 99C; Weedar 64; Weedone LV-4; Weedone LV-4 Solventless; Weedone LV-6; Formula 40; 2,4-D LV 6 Ester; Platoon; WEEDstroy; AM-40; Hi-Dep; 2,4-D Amine; Barrage; LV Ester; 2,4-D LV4; 2,4-D LV6; Clean Crop Amine 4; Clean Crop Low Vol 6 Ester; Salvo LV Ester; 2,4-D 4# Amine Weed Killer; Clean Crop LV-4 ES; Savage DS; Cornbelt 4 lb. Amine; Cornbelt 4#; LoVol Ester; Cornbelt 6# LoVol Ester; Amine 4; Base Camp Amine 4; Broadrange 55; Lo Vol-4; Lo Vol-6 Ester; Agrisolution 2,4-D LV6; Agrisolution 2,4-D Amine 4; Agrisolution 2,4-D LV4	2,4-D is a plant growth regulator and acts as a synthetic auxin hormone. Broad-leaved plants are more susceptible than narrow-leaved plants like grasses.
Dicamba	Dicamba DMA; Vision; Cruise Control; Banvel; Clarity; Vision; Rifle; Diablo; ; Vanquish Herbicide; Vanquish; Sterling Blue	A growth-regulating herbicide readily absorbed and translocated from either roots or foliage. This herbicide produces effects similar to those found with 2,4-D.

Active Ingredient	Registered Trade Names	General Effects to Vegetation
Glyphosate	Aqua Star; Forest Star; GlyStar Gold; Gly Star; Original; Gly Star Plus; Gly Star Pro; Glyphosate 4 PLUS; Glyphosate 5.4; Glyfos Glyfos PRO; Glyfos Aquatic; ClearOut 41 Plus; Accord Concentrate; Accord SP; Accord XRT Accord XRT II; Glypro; Glypro Plus; Rodeo Showdown; Mirage; Mirage Plus; Aquamaster Roundup Original; Roundup Original II; Roundup Original II CA; Honcho; Honcho Plus; Roundup PRO; Roundup PRO Concentrate; Roundup PRO Dry; Roundup PROMAX; Aqua; Neat ; Credit Xtreme; Foresters; Razor; Razor Pro; GlyphoMate 41; AquaPro Aquatic Herbicide; Rattler; Buccaneer; Buccaneer Plus Mirage Herbicide; Mirage Plus Herbicide; Gly-4 Plus; Gly4; Glyphosate 4; Agrisolutions Cornerstone; Agrisolutions Cornerstone Plus; Agrisolutions Rascal; Agrisolutions Rascal Plus	A nonselective systemic herbicide that can damage all groups or families of non-target plants to varying degrees.
Imazapic	Plateau; Panoramic 2SL	This is a selective, systemic herbicide that can be applied both pre-emergence and post-emergence for the management of selective broadleaf and grassy plant species. Its mode of action is associated with the synthesis of branch-chained amino acids
Triclopyr	Triclopyr 4EC; Triclopyr 3; Triclopyr 4; Element 3A; Element 4; Forestry Garlon XRT; Garlon 3A; Garlon 4; Garlon 4 Ultra; Remedy; Remedy Ultra; Pathfinder II; Trycera; Relegate; Relegate RTU; Tahoe 3A; Tahoe 4E; Tahoe 4E Herbicide; Renovate 3; Renovate OTF; Ecotriclopyr 3 SL; Triclopyr 3 SL	A growth-regulating herbicide for control of woody and broadleaf perennial weeds in non-cropland, forest lands, and lawns.

Active Ingredient	Registered Trade Names	General Effects to Vegetation
Imazapyr	Imazapyr 2SL; Imazapyr 4SL; Ecomazapyr 2SL; Arsenal Railroad Herbicide; Chopper; Arsenal Applicators Conc.; Arsenal; Arsenal PowerLine; Stalker; Habitat; Polaris; Polaris AC; Polaris AC; Polaris AQ; Polaris RR; Polaris SP; Polaris SP; Polaris Herbicide; Habitat Herbicide; SSI Maxim; Arsenal 0.5G; Ecomazapyr 2 SL; Imazapyr 2 SL; Imazapyr 4 SL	This broad-spectrum herbicide can be applied pre or postemergence to weeds. Stable for at least 18 months. Kills plants within two to four weeks with residual activity. It is currently registered for use in non-crop areas such as industrial sites and rights-of-ways.
Clopyralid	Reclaim; Stinger; Transline ; Spur; Pyramid R&P; Clopyralid 3; Cody Herbicide; CleanSlate	A selective post-emergence herbicide used to control broadleaf weeds.

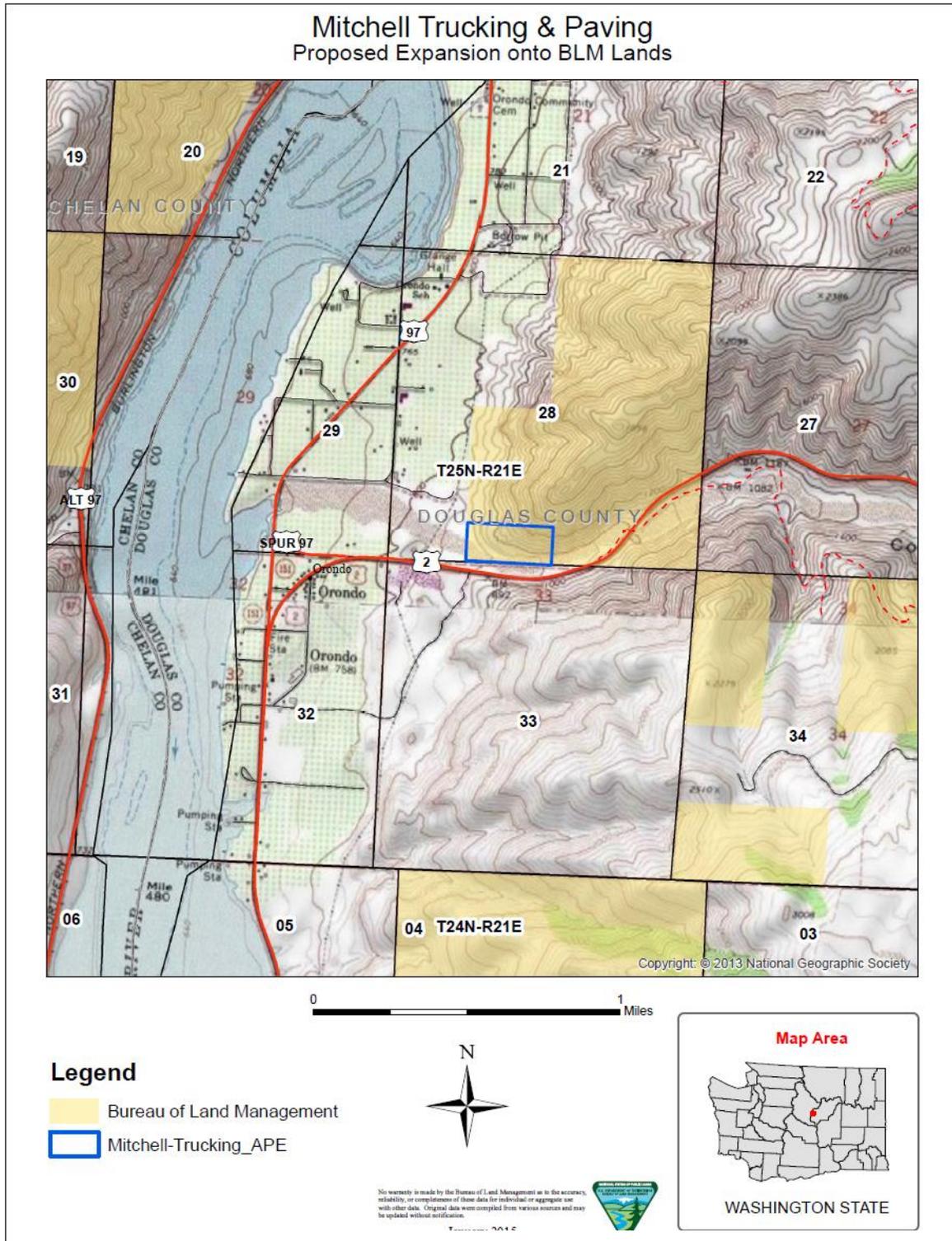
Table A-2. Standard Operating Procedures for Applying Herbicides

Resource Element	Standard Operating Procedure
Guidance Documents	BLM Handbook H-9011-1 (<i>Chemical Pest Control</i>); and manuals 1112 (<i>Safety</i>), 9011 (<i>Chemical Pest Control</i>), 9012 (<i>Expenditure of Rangeland Insect Pest Control Funds</i>), 9015 (<i>Integrated Weed Management</i>), and 9220 (<i>Integrated Pest Management</i>).
General	Prepare operational and spill contingency plan in advance of treatment. Conduct a pretreatment survey before applying herbicides. Select herbicide that is least damaging to the environment while providing desired results. Select herbicide products carefully to minimize additional impacts from degradates, adjuvants, inert ingredients, and tank mixtures. Apply the least amount of herbicide needed to achieve desired result. Follow product label for use and storage. Have licensed applicators apply herbicides. Use only USEPA-approved herbicides and follow product label directions and “advisory” statements. Review, understand, and conform to the “Environmental Hazards” section on the product label. This section warns of known pesticide risks to the environment and provides practical ways to avoid harm to organisms or to the environment. Consider surrounding land use before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas. Minimize the size of application area, when feasible. Comply with herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/landowners. Post treated areas and specify reentry or rest times, if appropriate. Notify adjacent landowners prior to treatment. Keep a copy of Material Safety Data Sheets (MSDSs) at work sites. MSDSs are available for review at http://www.cdms.net/ . Keep records of each application, including the active ingredient, formulation, application rate, date,

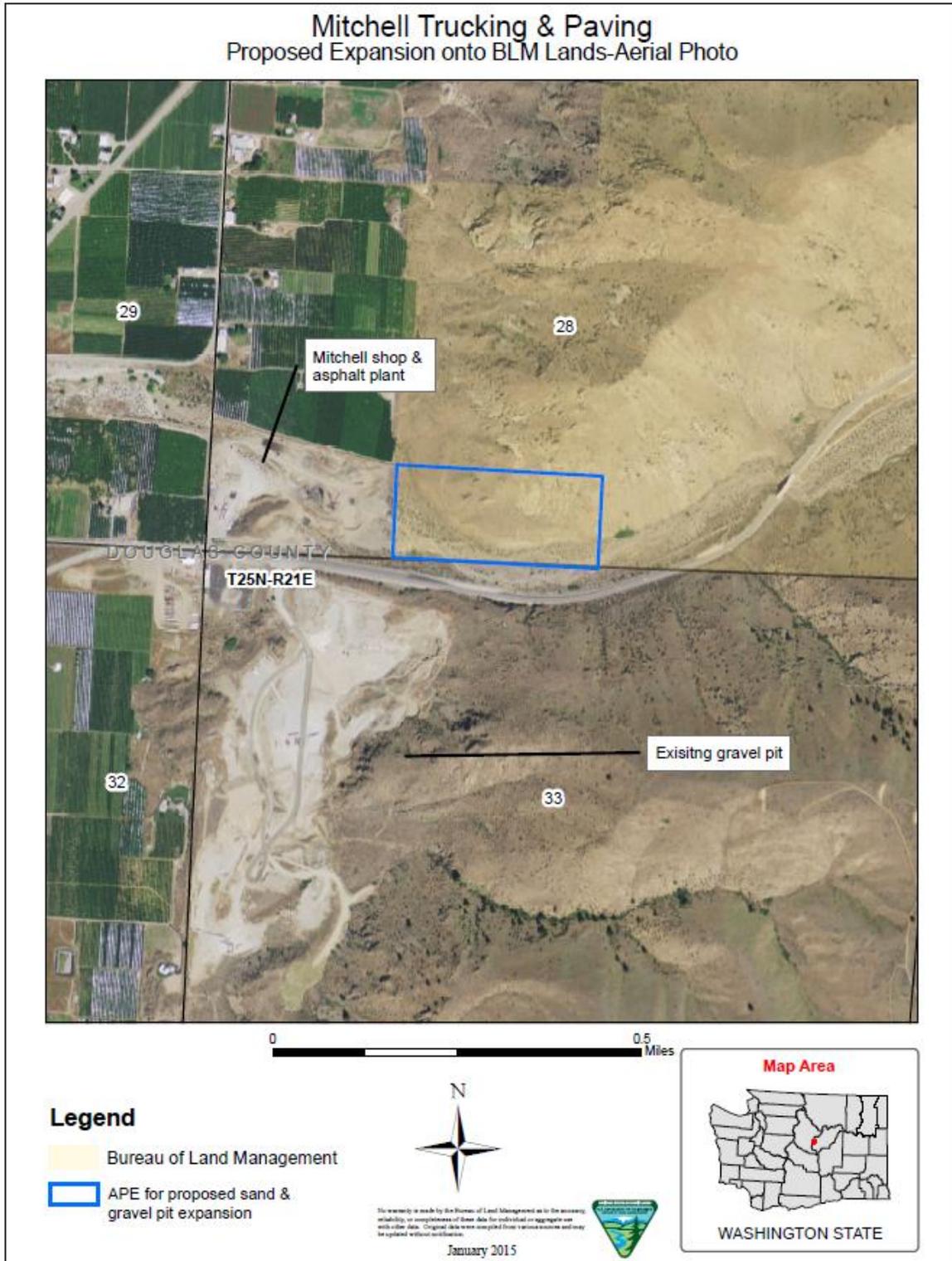
	<p>time, and location. Avoid accidental direct spray and spill conditions to minimize risks to resources. Consider surrounding land uses before aerial spraying. Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence). Make helicopter applications at a target airspeed of 40 to 50 miles per hour (mph), and at about 30 to 45 feet above ground. Take precautions to minimize drift by not applying herbicides when winds exceed >10 mph (>6 mph for aerial applications), or a serious rainfall event is imminent. Use drift control agents and low volatile formulations. Conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas. Consider site characteristics, environmental conditions, and application equipment in order to minimize damage to non-target vegetation. Use drift reduction agents, as appropriate, to reduce hazard to non-target species. Turn off applied treatments at the completion of spray runs and during turns to start another spray run. Refer to the herbicide product label when planning re-vegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. Clean OHVs to remove seeds.</p>
<p>Soil, See Manual 7000 (<i>Soil, Water, and Air Management</i>)</p>	<p>Minimize treatments in areas where herbicide runoff is likely, such as steep slopes when heavy rainfall is expected. Minimize use of herbicides that have high soil mobility, particularly in areas where soil properties increase the potential for mobility. Do not apply granular herbicides on slopes of more than 15% where there is the possibility of runoff carrying the granules into non-target areas.</p>
<p>Water Resources, See Manual 7000 (<i>Soil, Water, and Air Management</i>)</p>	<p>Consider climate, soil type, slope, and vegetation type when developing herbicide treatment. Select herbicide products to minimize impacts to water. This is especially important for application scenarios that involve risk from active ingredients in a particular herbicide, as predicted by risk assessments. Use local historical weather data to choose the month of treatment. Considering the phenology of the target species, schedule treatments based on the condition of the water body and existing water quality conditions. Plan to treat between weather fronts (calms) and at appropriate time of day to avoid high winds that increase water movements, and to avoid potential stormwater runoff and water turbidity. Review hydrogeologic maps of proposed treatment areas. Note depths to groundwater and areas of shallow groundwater and areas of surface water and groundwater interaction. Minimize treating areas with high risk for groundwater contamination. Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body. Do not rinse spray tanks in or near water bodies. Do not broadcast pellets where there is danger of</p>

	contaminating water supplies. Maintain buffers between treatment areas and water bodies. Buffer widths should be developed based on herbicide- and site-specific criteria to minimize impacts to water bodies. Minimize the potential effects to surface water quality and quantity by stabilizing terrestrial areas as quickly as possible following treatment.
Wetlands and Riparian Areas	Use a selective herbicide and a wick or backpack sprayer. Use appropriate herbicide-free buffer zones for herbicides not labeled for aquatic use based on risk assessment guidance, with minimum widths of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications.
Fish and Other Aquatic Organisms, See manuals 6500 (<i>Wildlife and Fisheries Management</i>) and 6780 (<i>Habitat Management Plans</i>)	Use appropriate buffer zones based on label and risk assessment guidance. Minimize treatments near fish-bearing water bodies during periods when fish are in life stages most sensitive to the herbicide(s) used, and use spot rather than broadcast or aerial treatments. Use appropriate application equipment/method near water bodies if the potential for off-site drift exists. For treatment of aquatic vegetation, 1) treat only that portion of the aquatic system necessary to achieve acceptable vegetation management, 2) use the appropriate application method to minimize the potential for injury to desirable vegetation and aquatic organisms, and 3) follow water use restrictions presented on herbicide label.
Threatened, Endangered, and Sensitive Species, See Manual 6840 (<i>Special Status Species</i>)	Survey for special status species before treating an area. Consider effects to special status species when designing herbicide treatment. Use a selective herbicide and a wick or backpack sprayer to minimize risks to special status plants. Avoid treating vegetation during time-sensitive periods (e.g., nesting and migration, sensitive life stages) for special status species in area to be treated.
Livestock, See Handbook H-4120-1 (<i>Grazing Management</i>)	Whenever possible and whenever needed, schedule treatments when livestock are not present in the treatment area. Design treatments to take advantage of normal livestock grazing rest periods, when possible. As directed by the herbicide product label, remove livestock from treatment sites prior to herbicide application, where applicable. Use herbicides of low toxicity to livestock, where feasible. Take into account the different types of application equipment and methods, where possible, to reduce the probability of contamination of non-target food and water sources. Avoid use of diquat in riparian pasture while pasture is being used by livestock. Notify permittees of the herbicide treatment project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment. Notify permittees of livestock grazing, feeding, or slaughter restrictions, if necessary. Provide alternative forage sites for livestock, if possible.

Attachment 1 – Map displays the general location of the BLM parcel.



Attachment 2 – Map displays BLM parcel in relationship to existing Mitchell operations and closed Old Castle mineral material site (SW of BLM parcel).



Attachment 3 – Photos. Top photo shows current Mitchell operations located to the west of BLM parcel. Bottom photo shows typical vegetation on western end of the BLM parcel with Mitchell pit visible on private lands.



Attachment 4 – Photos. Top photo shows typical vegetation on the BLM parcel (from SE corner - shoulder of U.S. Hwy 2). Bottom photo shows large incised flood channel cut into gravel deposit on western end of BLM parcel during February 2015 flooding event.

