

DRAFT
CHECKLIST ENVIRONMENTAL ASSESSMENT
February 11, 1997

Project Name: Edens site

Proposed Implementation Date: 3/1/97

Proponent: Wayne Edens

Type and Purpose of Action: The applicant proposes to mine, stockpile and transport 100,000 cubic yards of sand and gravel from a 7 acre pit located 1 mile southwest of the town of Corvallis. Crushing will not occur at this site since all material will be hauled away as pit run and processed at other locations. The estimated start-up date is March 1, 1997 and will result in a pond approximately 20 feet deep. It is anticipated the project will remove 10,000 cubic yards of material each year for ten years. The pit will be reclaimed to a fishery/stock water pond after grading the slopes to at least a 6:1, replacing all topsoil on the slopes and facility area, and re-seeding back to pasture.

Location: E½SW¼ Sec. 5, T6N, R20W

County: Ravalli

N = Not present or No Impact will occur.

Y = Impacts may occur (explain under Potential Impacts).

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compactible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?</p>	<p>[Y] The proposed mine is located in a flat-lying glacial outwash area that overlies bedrock of the Sapphire Mountains. The area was last inundated by Lake Missoula 10,000 years ago. The deposit consists of stratified layers of alluvium and glacial outwash sand and gravel that covers the deeper bedrock. The slope faces vert gradually north and is fairly well drained.</p> <p>The Bitterroot Valley where the minesite is located occupies an intermountain fault basin between the granitic batholith rocks of the Bitterroot Mountains to the west and the granitic-injected Precambrian sedimentary Sapphire Range to the east. The 70 to 90 million year old Cretaceous granitic rocks of the Bitterroot Mountains to the west were sculpted into their present profiles by alpine glaciers. The Bitterroot River Valley fills the bottom of the intermountain, fault block basin at the south end of the Rocky Mountain Trench.</p> <p>Topsoil, which pinches and swells from six inches to several feet will be salvaged and stockpiled away from the affected land. Following mining, grading and ripping, the soils will be replaced, disced and seeded.</p>

<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>[Y] The nearest pre-mining surface water is the irrigation ditch which drains out to the north of Mr. Eden's property and has been dug down into an open, sinuous pond. It is an irrigation water return canal which flows to the north, eventually back into the Bitterroot. The proponent may be required to obtain a Stormwater Discharge Permit from the Montana Department of Environmental Quality, to assure the protection of nearby surface waters including the irrigation canal.</p> <p>The site will be mined to a depth of 25 feet which intercepts nearly 20 feet of groundwater, estimated to be four to five feet below the surface in places.</p> <p>Groundwater is shallow in the area, and the sands and gravels display high permeability. There are 52 water wells in section 5, mostly less than 40 feet in depth, with very high yields. Special precautions will be taken to minimize possible contamination of the groundwater. All fuel and bulk lubricants will be kept within a lined, earthen-bermed fueling impoundment. Portable equipment with fuel tanks will be in various places within the facility. Any accidental spills or leaks from equipment will be excavated and disposed of. No waste or trash will be disposed of at the site. With these precautions, the quality and quantity of the groundwater should not be adversely impacted.</p> <p>Hydrologic impacts of the proposed expansion are not likely to cause any measurable change in the groundwater quality or water levels on property surrounding the site. This assumption is based on the fact that there will be no de-watering of the pit, and the pond will quickly attain equilibrium with surrounding static water levels due to the high permeability of the sands and gravels.</p>
<p>3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>[Y] Air quality will be degraded and there will be an increase in particulate matter. Scrapers, loaders and trucking equipment typically cause dusty conditions in disturbed soil sites.</p> <p>Cumulative Impacts - There may be many trucks and various highway construction types of equipment on and near the site during the mining project. There is a crushing/asphalt batching project located 3 miles north of Corvallis which will be operating this summer in conjunction with the highway reconstruction project in that area. Trucks hauling material from this site may use the same highway, thereby increasing traffic in the area of construction.</p>
<p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?</p>	<p>[Y] There are no known rare or sensitive plants in the area. Vegetation consists of pasture grasses such as brome, bluegrass and quackgrass which lie on a relatively level pasture. Vegetation covers 100% of the ground and will be removed and planted with species compatible with the proposed reclaimed use. There is a moderate infestation of spotted knapweed in the area, a legally defined noxious weed.</p>

<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>[N] Although the area is used primarily for grazing, it is also supports populations of whitetail deer, waterfowl, rodents, song birds, coyotes, foxes, raptors, insects and various other animal species. Population numbers for these species is not known. There are rookeries of blue herons and nesting sites of ospreys and bald eagles along the Bitterroot River. The creation of a pond with fish stocked in it will provide increased fishing opportunities for these species. Available open water will be increased for migratory and resident waterfowl.</p> <p>Human use of the area has intensified in the past two decades with the increase in residential and commercial activity. The proposed mine is not expected to significantly degrade wildlife populations. The Natural Heritage Program literature search and site evaluations have not revealed any other endangered or threatened plant or animal species on site that would be significantly impacted. Seed head gall flies have been introduced to the tract to provide biological control of noxious weeds.</p>
<p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p>[N] The Natural Heritage Program and site evaluations have not revealed any endangered or threatened plant or animal species that would be directly affected. Bald eagles are known to range all along the Bitterroot River Valley, but no nesting sites are known on or near the proposed permit area. No adverse effects are anticipated on the eagles as a result of this proposed action.</p>
<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p>[N] Although there are important cultural values in the general area, this site has been previously disturbed by modern man, thus destroying the integrity of resources that may have existed. A surface reconnaissance did not discover any cultural, historical or archeological resources. The operator will give appropriate protection to any values or artifacts discovered in the affected area. If significant resources are found, the operation will be routed around the site of discovery for a reasonable time until salvage can be conducted. The State Historical Preservation Office will be promptly notified.</p>

<p>8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>[Y] The site is located in a scenic, but not unique area. There will be a temporary deterioration of aesthetics while the operation is under way. However, reclamation will return the area to a visually acceptable landscape.</p> <p>The site is visible by homes in the local area and to traffic along the Eastside Highway. Floodlights from dark period operations could increase visibility and awareness of the operation.</p> <p>Noise levels are generally within the range of 60 to 90 decibels measured on-site, decreasing with distance. As a comparison, sound levels for ordinary activities such as close conversation at 60 decibels and music from a radio at 70 decibels are considered to be moderate. Levels above 90 decibels are severe, and prolonged exposure can lead to hearing loss.</p> <p>There is also noise from truck traffic hauling to various projects. These impacts are intermittent and of relatively short duration.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?</p>	<p>[N]</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?</p>	<p>[N]</p>
<p>IMPACTS ON THE HUMAN POPULATION</p>	
<p>RESOURCE</p>	<p>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</p>
<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[Y] Heavy equipment and facilities including scrapers, trucks and loaders will create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator will employ proper precautions to avoid accidents.</p> <p>Excessive and prolonged noise and light could increase stress for nearby residents and induce difficulty sleeping. Both of these effects may be considered harmful to human health if the activities are continuous. This proposed operation should not significantly affect human health. The operator will employ proper precautions to avoid accidents.</p>
<p>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>[Y] The acreage listed in the Type and purpose of Action will be taken out of agricultural/grazing and put into industrial/commercial use. Upon completion of mining, the land will be returned to its previous use and a pond. The pond will provide some additional wildlife habitat.</p>
<p>13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.</p>	<p>[N]</p>

<p>14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?</p>	<p>[N] To this date it has not been shown that this type of operation has resulted in a reduction in taxable value of property and it is not anticipated that this project would alter past assessments. The presence of an industrial site in the midst of an agricultural/rural residential area has the potential to temporarily reduce the desirability of surrounding land as a location to live a rural lifestyle until reclamation is completed, and therefore the marketability of improved and unimproved real estate may be temporarily diminished as some prospective buyers would not purchase these properties.</p>
<p>15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?</p>	<p>[Y] The operation will require periodic site evaluations by DEQ staff until such time as the site is successfully reclaimed to the required post-mining use. However, these evaluations are usually performed in conjunction with other area operations.</p> <p>Cumulative Impacts - The potential for gravel mining and other highway construction to proceed concurrently exists. Road projects requiring pit run, processed gravel or asphalt on the Eastside Highway exists. Signing and flagpersons would be useful in regulating traffic patterns.</p>
<p>16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p>[Y] City/County zoning clearance has been obtained.</p>
<p>17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?</p>	<p>[N]</p>
<p>18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?</p>	<p>[N]</p>
<p>19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?</p>	<p>[N]</p>
<p>20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?</p>	<p>[N]</p>
<p>21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</p>	<p>[N]</p>

22. Alternatives Considered:

A. Denial: The pit would not be permitted and impacts would not occur at this location. Aggregate would be hauled from a greater distance increasing fuel use, gaseous emissions and project costs. The owner of the gravel resource would be denied full utilization of his property at this time.

B. Approval of the application with mitigating conditions: The Plan of Operation has been written with mitigating conditions. Mitigation measures include water protection, fuel containment, and construction of more waterfowl habitat.

